

GAMBLING: A REVIEW OF THE LITERATURE

HOME OFFICE RESEARCH STUDY NO. 42

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HOME OFFICE RESEARCH STUDY NO. 42

Gambling: a review of the literature and its implications for policy and research

By D. B. Cornish

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**A HOME OFFICE
RESEARCH UNIT
REPORT**

LONDON: HER MAJESTY'S STATIONERY OFFICE

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Foreword

HOME OFFICE RESEARCH STUDY No. 42

Gambling: a review of the literature

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I should like to thank Dr M.C. Dickerson, Principal Clinical Psychologist in the Department of Clinical Psychology, Royal Edinburgh Hospital, for permission to refer to his unpublished Ph.D. thesis, 'The Effect of Betting Shop Experience on Gambling Behaviour' (Birmingham University, 1974).

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D.B. CORNISH

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Preface

Gambling has always tended to occupy an equivocal position in national life, attracting both massive public participation and continuous criticism on moral, social and economic grounds. In the last seventy years three major government-sponsored inquiries (one Select Committee and two Royal Commissions) into its effects and the problems of control have reported. Yet, although it is estimated that some 80% of the population aged sixteen or over take part in one form of gambling or another, and although commercial gambling has an overall turnover in excess of £3,500 millions and employs over 90,000 full- and part-time workers, the amount and quality of information available about the activity is, with certain exceptions, poor.

This lack of knowledge has had two effects; first, it has been difficult to develop consistent and defensible social policies in this area; second, it has been and remains hard to evaluate or, when necessary, counter claims about the alleged benefits or adverse consequences of gambling - claims which are constantly being pressed upon policy-makers by the many vested interests operating in this area. One consequence of the lack of informed discussion about gambling is that its critics have often tended to make sweeping condemnations of the pursuit without clearly defining the focus of their concern. The dangers of gambling as an activity *per se* have sometimes been confused with those arising primarily from its commercial development. When, in some cases, adverse social and economic consequences have been found, there has also been a tendency - prompted perhaps by moral concern about the intrinsic worthlessness of gambling - to use such evidence as a blanket condemnation of all gambling, by blurring distinctions between different types of gambling activity, different methods of gambling, and different degrees of involvement.

The need for better information about gambling, both for the purpose of formulating policy and as a preliminary to examining future research requirements, suggested that a review of the research literature should be undertaken. The review has concentrated upon three main areas of enquiry:

- i. an examination of the economic and social significance of gambling and of the evidence concerning the existence, nature and extent of any adverse consequences;
- ii. a review of research to discover which factors determine, (a) the initial decision to gamble, and (b) continuous gambling behaviour;
- iii. a discussion of the implications of the research findings and other infor-

mation reviewed, for the regulation of gambling, for the formulation of policy, and for future research requirements.

A number of introductory comments about reviews of this nature and scope may be in order. Gambling - and in particular those forms which most commonly cause public concern - is a complex activity. It often involves the processes of gathering, and selecting from, large quantities of information before a decision about whether or how to gamble is made. Such decision-making takes place in the context of personal motives for, and beliefs about, gambling - which may be determined by a variety of individual, familial, social, cultural and situational factors - and, often, within a particular gambling setting which the commercial promoter tries to make as conducive to gambling as he can. He is powerfully assisted by the strength of the two principal rewards he offers - the possibility of winning money, and the intrinsic value of the activity itself as entertainment. Because gambling can be absorbing, but primarily because of the dangers of excessive expenditure, it is subject to varying degrees of control from country to country. These controls, in turn, reflect the relative acceptability of gambling in general (and of different forms of gambling) in the country concerned, and the particular problems to which the activity may give rise.

Given the complexity of the subject it is not surprising to find that many disciplines - psychology, psychiatry, sociology, cultural anthropology, law and law enforcement, criminology, economics, history, and political science - have been brought to bear on various aspects of gambling, while the problems of information-processing and selection involved in gambling (considered as a type of decision-making under risk or uncertainty) have attracted the interests of both cognitive psychologists and mathematicians. Because of this, the present review set out to survey material from a wide variety of sources, selecting for further examination and discussion those topics and their treatment which, it was felt, might contribute to the development of a reasonably consistent and comprehensive model of the determinants and development of gambling behaviour with reference to which discussion of the practical issues could proceed.

This review is somewhat unlike traditional literature surveys. Gambling is not a field to which the term 'existing state of knowledge' has much application since both empirical data and empirically-based theoretical viewpoints as yet play a relatively small part in discussions of the activity, although both these requirements are essential for informed policy-making and as a basis for giving future research an appropriate direction. It was felt particularly necessary, therefore, that a discussion of gambling should try to divest it of, or at least make explicit, the numerous concealed assumptions about the activity and its participants which still influence the ways in which it is discussed, investigated and treated.

From the material which has been examined, it has not been easy to draw a line between what to include and what to exclude. Two main criteria have been

used: first, it was felt that the information or research findings should reflect current issues of concern to policy-makers in the gambling field in this country. This criterion has (1) ruled out extended discussion of comparative data on gambling from other countries, except where these appear particularly relevant, (2) limited treatment of the historical development of gambling, and (3) determined that most attention should be paid to those forms of gambling which facilitate continuous play, such as betting and gaming. (Comprehensive reviews of all forms of gambling can be found in Wykes (1964) and Scarne (1975). Second, it was felt that the material reviewed should have practical implications for the formulation of social policy, either directly or through its contribution to theory.

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Part One: The Economic and Social Consequences of Gambling

THE MORAL AND SOCIAL ACCEPTABILITY OF GAMBLING

SOURCES OF INFORMATION ABOUT GAMBLING

THE ECONOMIC SIGNIFICANCE OF GAMBLING —
A GENERAL PERSPECTIVE

THE MAJOR FORMS OF GAMBLING — PARTICIPATION,
OUTLAY AND ECONOMIC CONSEQUENCES

BROADER ECONOMIC CONSEQUENCES OF GAMBLING

THE MAJOR FORMS OF GAMBLING — SOCIAL CONSEQUENCES

THE RELATIONSHIP BETWEEN GAMBLING AND CRIME

EXCESSIVE GAMBLING

THE
CONSEQUENCES OF
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1 The Moral and Social Acceptability of Gambling

General definitions of gambling, which attempt to distinguish gambling from other types of activity while describing those elements which different forms of gambling have in common, have been presented by many authors (cf. Olmsted, 1962; Devereux, 1968; Bolen & Boyd, 1968, amongst others). As Dickerson (1974) has commented, this preoccupation with finding satisfactory definitions has often been pursued without any clear purpose. More interesting in the context of the present discussion are descriptions which attempt to distinguish gambling from other forms of leisure or economic activity in moral terms, since these provide some indication of the implicit ethical framework within which discussions of gambling and its consequences are often discussed.

Fairly typical of this approach were the descriptions of gambling's essential features provided by Perkins (1950) and more recently by Moody (1965). Perkins proposed that gambling could be broken down into the following elements:

- i. the exchange of money which takes place without any equivalent value, material or personal;
- ii. the possession of money determined solely by luck;
- iii. the gain of the winners, made possible solely by the loss of the losers; and
- iv. the risk involved which is unnecessary and often artificial.

Leaving aside the accuracy of these various general descriptive statements as applied to many forms of gambling, such descriptions clearly expose the reasons why gambling is so often seen to conflict with its critics' (and the culture's) prevailing moral code. Claims that gambling involves an unnecessary appeal to chance and an improper use of money have formed the basis of the traditional case against gambling (cf. discussion of these issues in the Report of the Social and Industrial Commission of the Church Assembly, (S.I.C.C.A.) 1950). Gambling, it is argued, involves a deliberate appeal to chance '... which is opposed to the nature and dignity of man as a rational, responsible being and to the basis of ordered human society' (S.I.C.C.A. Report, 1950*). More specifically, by making transfer of money dependent upon chance, it devalues its function as a reward for effort, and opposes the demands of social justice

*This is merely a view the S.I.C.C.A. discussed, and not one it necessarily supported.

that there should be an equitable distribution of available wealth. In doing so, gambling may be said to present the potential player with 'an alternative economic and moral system' (Holloway, 1973) - one, that is, which is fundamentally in opposition to that of capitalism and the protestant work ethic (Thorner, 1956; Bloch, 1962; Devereux, 1968). It may therefore be expected to attract criticism from the upholders of the society's dominant values, particularly since capitalism itself sanctions, and requires, certain forms of risk-taking and speculative activities*.

The case for total abolition on moral grounds is, in contrast to the position in the United States (cf. Starkey, 1964; Coggins (ed.), 1966), now rarely argued seriously in this country. For one thing, as Peterson, A.W. (1957) has pointed out in his discussion of the case for legalising gambling§, forms such as **betting have never** been totally prohibited in this country, while bookmaking **has on the whole** been regarded as a reasonably respectable activity and never **extensively under** the control of criminals. In the United States, on the other hand, the question of whether or not to legalise gambling has - because of its traditional domination by organised crime - always had a rather different implication, and even those not morally opposed to gambling itself (though its most vocal critics usually have been: cf. Peterson, V., 1965) have tended, therefore, to seek its continued prohibition. Until recently, too, discussion of legalisation in the United States has largely centred on activities such as gaming, gaming-machine play, and lotteries - forms of gambling more easily characterised as unskilful and as 'getting something for nothing' than British favourites (such as the pools and betting) which may involve judgement and which are linked to highly-regarded sports.

Lastly, recognition by both the S.I.C.C.A. Report and the Royal Commission on Betting, Lotteries and Gaming (1951) that gambling had some entertainment value, implied that a genuine service was being provided to the gambler in return for money laid out. This gave to gambling a legitimate place in the economic structure of the country and led naturally to the view that '... the State should not interfere with the amusements of its citizens, except so far as it can be shown that these amusements involve serious social consequences.' Yet despite the fact that gambling's critics have apparently modified their ethical position in favour of a more pragmatic approach, seeking '... the wise regulation of gambling' (Preston, 1974; and cf. Moody, 1975), gambling is still accepted somewhat reluctantly as an established feature of national life. Perhaps the suspicion remains that some casuistry is involved in simultaneously maintaining that those moral precepts said to govern conduct in 'the major

*A succinct discussion of this issue, in relation to Devereux's (1949: unpublished) structural-functional analysis of the role played by gambling in American life ('Gambling and the Social Structure') is presented by Downes, Davies, David & Stone, 1976.

§The views expressed by the author, Sir Arthur Peterson, in this unpublished report (written, during the course of a Commonwealth Fellowship, for the Harkness Foundation in the United States) were his own and not those of the Home Office.

concerns of life' (S.I.C.C.A., 1950) can legitimately be suspended in the case of entertainment or relaxation.

It may also be that the feeling is still prevalent that gambling, however trivial, encourages a wrong attitude both to people and to money (Moody, 1965). Downes et al. (1976), discussing the history of gambling as a social problem, and relating its emergence and definition as such to changes in the social structure, have suggested that the present climate of opinion reflects, not so much the struggle between opposed class-based value-systems (the protestant middle-class work ethic vs. working-class culture), as the existence in society as a whole of an opposition between the values of leisure and consumption, on the one hand, and those of work and production, on the other.

Whatever the reasons, gambling still carries its earlier stigmata; the Royal Commission of 1951, describing it as '... a self-regarding and essentially uncreative activity ...', commented that '... no sensible man could but wish that gambling played a less prominent part in the life of the country than it does.' Eleven years later, a document emanating from government sources, entitled 'Social Changes in Britain'*, commented - in the context of the growth in gambling turnover - on the malaise this 'grasping after unearned wealth' betokened. Although more recently, attempts have been made to present a more balanced picture of the positive aspects of some types of gambling (cf. Part Two, Chapter 12; Newman, 1972; Downes et al., 1976), the ambivalence with which it is officially regarded can be measured by the fact that discussions or surveys of leisure-activities (Sillitoe, 1969; Social Trends, 1970-6) commonly either fail to mention it at all, or merely reprint the barest of facts (usually turnover figures) from other sources.

*Virtually the complete text was subsequently published by New Society (1962, 1, (13)).

2 Sources of Information about Gambling

Introduction

Official statistics about gambling are scarce. Although this position is now being remedied by the Gaming Board in relation to those forms of gambling for which it has responsibility, the available statistics are with certain exceptions* recent in origin and exist, not because they have been demanded by those responsible for formulating social policy, but largely as the result of fiscal requirements. Because social considerations have played so little part in directing the collection of statistics, these are not always in a form which makes their interpretation in social terms feasible. Until recently, too, the Churches' Council on Gambling was the only organisation which attempted to gather the available information together in one place for the purpose of monitoring the development of the industry and providing an interpretation of the social implications. Of the three regularly available official sources of information, two - turnover and expenditure - deal with the money involved, while the third - applications or renewals for permits, certificates or licences - gives information about the number of gambling outlets. These, together with some less regular sources, are discussed in turn below.

Turnover

Turnover figures represent volume of gambling and are given by the total number of wagering transactions handled by a particular type of gambling over a specified period of time (usually one year). Until the introduction of the General Betting Duty in 1966 (six years after the passing of the Betting & Gaming Act which legalised off-course cash betting) no official figures for bookmakers' turnover were available, and information about this expanding market was provided annually only by the Churches' Council on Gambling. In contrast, figures for pools and totalisators have been available since well before this date (cf. Royal Commission, 1951). Estimates for on-course and off-course bookmakers' turnover are now provided in Customs and Excise Annual Reports.

With the exception of bingo stakes (available from 1970 onwards) turnover figures for gaming, including those for gaming machines, have also been, and remain, difficult to obtain. In 1973, the Gaming Board produced estimates for clubs and machines, and figures for the former - based on clubs' financial

*Horsrace and greyhound totalisators, and the football pools.

returns to the Board - are now published regularly. Since these estimates are based upon the figures for clubs' total 'drop' (money exchanged for chips), however, they necessarily represent something of an underestimate of turnover, since chips cross and recross the gaming tables rapidly during the course of play. While this figure gives the best available estimate, then, it is closer to estimates of the amount of 'real' money (see later) in circulation, and occupies a position between turnover and expenditure. The most recent official estimates of turnover for all major forms of gambling are those of the Gaming Board (Report, 1973; Evidence to the Royal Commission on Gambling, 1975). Moody (1974) contains a one-page post-printing insert giving estimates for 1973 - including one for premium bonds - with the exception of figures for gaming clubs, machines, lotteries and competitions.

Turnover figures have acquired an importance somewhat out of proportion to their value as a source of information about social trends, merely because in some cases they have for long constituted the only source of data from which inferences could be drawn. While useful to the promoter, however, they are - as will be shown later - less well suited to answering questions about expenditure and participation. As the last Royal Commission (1951) pointed out, much of the turnover may be returned to the gambling public in aggregate as winnings, the remainder being retained as expenses and profits or paid in taxation. Since different types of gambling may return winnings in different ways, however - some awarding large prizes to a few participants, others giving considerably smaller winnings to a large number - the extent to which turnover represents, for the bulk of punters, the staking of new money from their disposable income, as against the re-betting of winnings, will vary.

In the case of betting, for example, winnings paid out from other participants' lost stakes may be re-bet by the winners, thus entering the system (and, hence, **the** turnover figures) again. In this way, added to from time to time by the **stakes** of new betters or fresh stakes of losers, the original stakes or 'real' **money** circulate, each time a stake is made being recorded as a fresh financial **transaction**. Added to this is the fact that in horserace betting the bookmaker **himself** may make 'hedging' bets which he 'lays-off' with a larger bookmaker **in** order to insure a profit or minimize losses in cases where his 'book' is not properly balanced or where a large accumulator bet looks as though it might **win***.

The proportions of old to new money which make up this turnover figure vary amongst the different forms of gambling and the task of estimating the true ratios is complicated by the fact that these ratios may have a particular significance for fiscal or social policy. For example, as the Churches' Council on Gambling pointed out in one of their reports (1968), where tax liability is

*Newman (1972) discusses this practice (p.237) and suggests, on the basis of information from officers of the Customs and Excise, that the money concerned probably represents about 9% of turnover from bookmakers. It is, of course, not applicable to other forms of gambling.

assessed on turnover figures it is in the interests of commercial promoters to minimize the amount of new money which contributes to turnover figures, thus implying that there is a limit to the amount of money upon which taxes can be levied. Promoters, in their turn, might argue that those anxious to regulate gambling would be concerned to inflate estimates of the amount of new money involved - though Moody's (1972) estimates of the original stakes involved in all the important types of gambling appear well-argued on the basis of facts which, in the case of general betting (bookmakers and totalisators) originate from commercial sources.

If it is sometimes difficult to describe the economic significance of turnover, it is even harder to judge its social significance. Turnover is often described as a measure of participation, but it reflects participation only indirectly. Any stated volume of stake-money may be made up in a variety of ways - from large numbers of irregular or new betters; from smaller numbers of more regular ones; from many small stakes or a few large ones. The composition of turnover figures for any form of gambling, then, will reflect characteristics such as the numbers and type of participants to which it appeals, the frequency with which they gamble, and the amount they are prepared to stake. Which characteristic or set of characteristics predominate and so determine the make-up of turnover figures for a particular type of gambling cannot be determined from the figures on their own. For example, although the Gallup (1976) survey of gambling in Britain estimated that 37% of persons aged sixteen and over did the pools, as compared with only 12% using betting-shops or off-course bookmakers, the turnover figures for each form of gambling for the year are £242 millions and £1,791 millions, respectively (cf. Chapter 3). Where other information is also available, it is possible to make fuller use of turnover figures. Moody (1974), for example, was able to relate growth in bingo turnover to increases in the numbers of new clubs being opened, thus making the inference that new participants were being attracted (rather than existing participants increasing their stakes or frequency of play) stronger than it would otherwise have been.

A last point to be made about turnover figures is that their ambiguity has a certain amount of propaganda value. The very size of the figures creates an impression, however inaccurate this may be, of vast and wasteful expenditure. This impression may be enhanced by the careful use of invidious comparison; Holloway (1973), for example, refers to outlay (turnover) on gambling as being ten times the amount given to charity, and it is significant that he relegates the more accurate comparison - that between gambling *expenditure* and donations to charity - to a footnote. Even the Gaming Board by quoting expenditure on cars, alcoholic drink and tobacco in comparison with total *turnover* in all forms of gambling, fail by so doing to 'keep the matter in perspective' (Report, 1973, p.35).

Expenditure on gambling

As has been shown, turnover is an erratic and unsatisfactory guide to expenditure, although in forms such as the pools and bingo - where fresh money

rather than re-bet winnings are used - it may be relatively accurate (Moody, 1972). This being so, considerable effort has been devoted to trying to assess real expenditure on gambling on a national basis - by comparing it with total consumption, and expenditure on selected consumer items - and on an individual level, for the 'average' gambler (cf. discussions of these issues in the Report of the Royal Commission, 1951; Moody, 1972; Newman, 1972). For both purposes expenditure can be defined as the total amount staked less winnings.

Accurate calculation of expenditure has always been a difficult problem. While for some forms of gambling (such as the totalisators and the pools) gross profits of the promoters can be reliably quoted, and national expenditure on that form of gambling calculated with relative ease, in other forms expenditure figures have had to be calculated on the basis of turnover figures (again estimates) and what could be gleaned from official or commercial sources about gross profit percentages. Although the wider introduction of turnover taxes has undoubtedly improved the accuracy of many such estimates, Moody's (1972) conclusion that 'There are few reliable figures to go on' still holds, and is given further support by the gross discrepancies which often exist between his and Newman's estimates of national expenditure on the same forms of gambling. Given that Moody's estimates are made on the basis of data from 1970, while Newman's refer to 1967 and 1968, it is nevertheless surprising how little the two are in agreement over national expenditure on bingo, gaming or gaming machines, though in the case of bingo, Moody had the advantage of Customs and Excise returns. The Gaming Board now appear from information presented in their most recent report (1976) to be in a position to give the best estimates both of national expenditure and of gamblers' average expenditure on gaming and gaming machines - though this information is not yet available.

Bearing in mind the tentative nature of expenditure estimates in relation to the different forms of gambling, the estimates of total expenditure on gambling are clearly open to the same sorts of objections as the individual estimates. Here, however, there are some annual official statistics with which to compare *ad hoc* figures, though their accuracy is greater after 1966 than before. Maurice (1968) gives details of how the total estimates for betting and gaming are achieved, and the report, 'National Income and Expenditure, 1963-1973' gives figures for these years, using similar calculations. The accuracy of such estimates has recently been greatly improved as the result of the imposition of various turnover taxes on bookmaking and bingo. Given the brevity of description of how these statistics are calculated, it is difficult to assess their likely accuracy. Where comparison is possible (those of 1967 and 1968, with Newman's figures for example) agreement is good, particularly for 1968. Moody's figure of £305 millions expended (stakes less winnings) also agrees

very well with the estimate subsequently published* from official sources of £309 millions, for 1970. Such figures are certainly likely to be more reliable than those which can be extrapolated from the annual 'Family Expenditure Surveys' published by the Department of Employment. It is generally recognised (cf. Moody, 1972; Newman, 1972) that, where information about expenditure (or turnover, cf. Downes et al. 1976) on gambling is collected by means of interview and by personal diaries, it is likely to be subject to under-reporting, although whether this is due to reluctance or bad memory is not clear.

Given that some sort of estimate of expenditure can be obtained, the resulting figures may be put to a number of uses. The most characteristic use is that of putting gambling into context, by expressing it as a percentage of some measure of total income or expenditure - of national income (Moody, 1972); of total consumer expenditure (Newman, 1972); or of personal disposable income (Moody, 1974). It may also be compared with selected items (referred to by the Royal Commission in 1951 as 'other forms of entertainment and personal indulgence') of consumer expenditure; alcohol and tobacco are usually chosen for this purpose. Although these sorts of comparisons are useful, however, they fail to take proper account of the fact that gambling is an entertainment or recreation in its own right. Once essential consumer expenditure has been met, then, it may reasonably be expected to vie with other potential uses for the remainder (or, discretionary expenditure), and its success in doing so is not necessarily a cause for alarm.

When relating national to individual expenditure on gambling, the simplest way to arrive at an individual estimate is to derive a *per capita* figure from the total estimate - by relating it, for example, to the total population 'at risk' of gambling. This is usually taken as being the total adult population, over the age of sixteen or eighteen (Newman, 1972). This national average, however, fails to take into account the fact that not everybody gambles, and therefore presents a considerable underestimate of average individual expenditure[§], though this error will be smaller where gambling is widely accepted and will vary according to the popularity of the particular form of gambling under discussion. The problem of assessing individual expenditure is also complicated by the fact that, as the last Royal Commission, Rubner (1966) and Newman (1972) point out, winnings are distributed differently according to the type of gambling which is being considered. This means that, while for some types of gambling -

*It is not always clear (see Part Four, Chapter 26) whether official figures exist at all, or exist but are not published. The latter seems to be the case with betting and gaming expenditure estimates. A ten-year set were made available in 1974. In passing it may be noted that Rubner's (1966) expenditure estimate for 1964, of £275-325 m. is considerably higher than the official estimate - another example, perhaps, of the dearth of statistics before the mid-1960's.

§Although the arithmetic mean is commonly used for expressing the 'average expenditure' or (since expenditure figures are not always available or appropriate) 'average outlay/stake' of the individual gambler, this may sometimes be misleading. Where the distribution of stakes or expenditure is positively skewed - made up, that is, of large numbers of 'small' punters together with a decreasing number of 'heavier' ones - the modal value will give a more accurate (and lower) estimate of what the typical gambler stakes or spends.

such as betting on horses or dogs, or gaming - where the odds against winning are comparatively low, participants are as individuals quite likely (even in the relatively short-term) to receive winnings in proportions close to the average percentage payout for these forms of gambling, for other forms - where there are a few large prizes - the expenditure of the majority is more accurately conveyed by turnover figures than by figures of stakes less winnings. Expenditure estimates for the average participant also conceal differences amongst participants in respect of skills or information relevant to gambling, though these might be expected disproportionately to increase the chances of winning of a small group of professional gamblers (Rubner, 1966).

Lastly, for participants in most forms of gambling there are additional expenses. Overheads, such as newspapers, postal orders, fares, admission charges and membership fees should all be added to expenditure estimates if the most accurate figures are to be obtained. In the case of bingo, for example, not only are there arguments for and against basing expenditure estimates on outlay*, but also for including (whether as additional or as basic expenditure) other regularly-recurring sources such as admission and participation charges.

Numbers and distribution of facilities

As a consequence of the Betting, Gaming and Lotteries Act 1963, bookmakers and betting agencies are required to hold permits and betting offices have to be licensed. The Gambling Act 1968 has made somewhat similar provisions in respect of gaming, bingo and gaming machines. As a result, considerable information about the numbers and distribution of betting-shops is available from official sources on an annual basis, and similar data are given for gaming clubs by the Gaming Board[§]. As far as bingo and registered clubs are concerned, details of geographical location are not given, although certification and registration requirements ensure that this information is available. The Gaming Board give no information about numbers of premises licensed for amusements with prizes, penny, or jackpot machines, though their latest report reprints information on numbers of machines from the Customs and Excise Reports, and the latter contain statistical information on all these items.

Number and location of facilities reflect demand in the sense that commercial considerations quickly dictate the closing of unprofitable premises, though it is also true that the provision of facilities may create or stimulate a demand where none, or an insufficiently strong one, existed before. This phenomenon is, of

*All stakes have, without deduction, to be returned to the players in aggregate as prizes. In this sense turnover does not equal expenditure, which is nil. Gross profits are, in fact, obtained primarily from admission and participation charges. On the other hand, prizes of large value may be few, and not all participants will play long enough to be sure of winning in 'the long run'. For these, at least, outlay on stakes will be pure expenditure, while some commentators have argued that even for winners - since prize-money is 'squandered' on luxuries - the same is true.

§The Customs and Excise Annual Reports publish details of rates of duty and numbers of gaming licences in force, thus giving some information about gaming club sizes in terms of numbers of tables. However, it is not possible to relate this information very directly to that published by the Gaming Board.

course, characteristic of the provision of public libraries, swimming-pools and churches as well as of commercial facilities for gambling and in such contexts terms like 'stimulation' may merely refer to the truism that people will be slow to demand access to activities about which they have little prior knowledge*.

Other information

Information about turnover, expenditure and facilities are the main items for which official data are available. Estimates of participation - in terms of participants' characteristics, frequency of gambling and amount staked, together with other information about types of bet made (where choice is available) and other supplementary information about how people make their bets - cannot be gained from these sources, and for this purpose it is necessary to look at the information provided by *ad hoc* government and commercial surveys, or less commonly by the industry itself.

Estimates of the levels of profits made by some sections of the industry are also difficult to obtain and harder still to verify. Although some commentators (cf. Moody, 1972; Newman, 1972) have attempted to provide estimates for most types of gambling, they have had to base their calculations on such information as could be gleaned from official and commercial sources. The lack of reliable information - or rather of published information, since relatively accurate official estimates probably exist in most cases - varies amongst the different forms of gambling. In some cases, such as pool betting (football, and horse and dog totalisators) substantial information is published, and this enables rough estimates of profits to be made. In others, such as gaming and gaming machines, while information about profits is poor (cf. Moody, 1972), knowledge of permitted profit-margins at least gives some *prima facie* reassurance that the punter is getting value for money§, although (as will be shown later) this also depends on other characteristics of gambling, such as the speed at which the individual bets are laid.

As far as off-course (or on-course) betting is concerned, however, while turnover can now be estimated with a greater degree of accuracy, gross profits in bookmaking are still difficult to determine. In consequence, investigators have been forced either to rely on such figures as were supplied by, or could be inferred from, trade sources, or perform their own calculations using publicly-available information such as Starting-Price data and racing results for particular years. Since such estimates, based upon considerations of bookmaking theory, seem if anything to be less reliable than those supplied by the trade (see Chapter 5), more accurate estimates of profitability are required so that betting can make (or be seen to make, if it already does so) a fair contribution

*As will be shown later, the Gaming Board used the term 'unstimulated demand' not only to hold commercial development at existing levels but actually to reduce it. The implied assumptions that there are 'natural' and 'artificial' levels of demand do not bear close inspection as other than value-judgements: 'unstimulated' could equally well mean 'repressed'.

§Similarly, in bingo, admission and participation charges are regulated by the Gaming Board.

to the community's tax-burden. For while expenditure on gambling may be found to be moderate (see Chapters 3 and 4,) this in itself provides no guarantee that excessive profits are not being made. Nor, therefore, is information about expenditure likely to provide the only index of the economic or social significance of gambling (and, in particular, of betting). Knowledge of gross profits, and of the gross profit-margins involved in different types of betting, both within a particular form of gambling and between different forms - related as appropriate to the levies, taxes and overheads involved in each case - is essential if judgements about what constitutes 'reasonable profit' and 'value for money' on the one hand, or 'excessive profits' and 'exploitation' on the other, are to be attempted. Lastly, as will become apparent later, fiscal policies appear to play an important (and perhaps underrated) part in determining the shape and direction of developments in the gambling industry. For this reason it is in the interests of social policy-makers to have access to information about the real profit-margins current in the various forms of gambling. Only then will they be in a position to anticipate whether, or to what extent, projected taxation may have undesirable economic and social consequences so far as the gambling public are concerned.

3 The Economic Significance of Gambling—a General Perspective

The current economic significance of gambling

Despite the meagre and unsatisfactory nature of existing economic statistics, ingenious use has often been made of this data (supplemented where possible by information from other sources) in order to provide both cross-sectional accounts of the state of the industry and its impact on the economic life of the country (Royal Commission, 1951; Newman, 1972) and on a more continuous basis (cf. Reports of the Churches' Council on Gambling, up to 1968; Moody, 1972; Moody, 1974) for the purpose of monitoring and describing its longer-term development.

It is beyond the scope of this report to provide a detailed analysis of available information for gambling as a whole, or for different kinds of gambling, particularly since many of the most important aspects have already recently been discussed by Newman (1972) and Moody (1972; 1974). Many forms of gambling - such as sweepstakes, raffles and buying premium bonds - are scarcely regarded as gambling at all by participants, and this is partly because they serve other social functions such as providing a way of making donations to charities, giving presents or saving capital. Although included below in estimates of total turnover, they are not dealt with in the present report, with the caveat that it may be important, when determining practical policies towards gambling, to find out how far over the gambling field people's definitions of what is, and what is not 'really gambling' in fact extend.

The most recent estimates, based on Customs and Excise data together with other figures published from time to time by the Gaming Board (Annual Reports of 1973, 1975 & 1976; Evidence to the Royal Commission on Gambling, 1975) indicate that the total gambling turnover for the financial years 1974/5 and 1975/6 was made up as in Table One.

TABLE ONE: ESTIMATED TOTAL ANNUAL TURNOVERS FOR 1974/5 AND 1975/6.

	1974/5 (£ millions)	1975/6 (£ millions)
General Betting		
Bookmakers - off-course.....	1,607	1,791
Bookmakers - on-course.....	160	180
Horserace Totalisator.....	31	35
Greyhound totalisators.....	69	73
Football pools (incl. fixed odds).....	224	242
Gaming		
Gaming clubs (total 'drop').....	351	477
Bingo stakes.....	246	299
Gaming machines.....	260*	358
Others		
Prize bingo, competitions, etc..... (38*	25
Lotteries..... (40
ESTIMATED TOTAL TURNOVER. .	2,986	3,520

(For gaming club estimates, figures refer to the 'drop' - money exchanged for chips - rather than to turnover, for which there are no recent estimates)

While the 1975/6 estimates show a substantial increase (about 50%) over the Gaming Board's estimates for 1972/3, the internal purchasing power of the pound declined by some 36% over the same period (Social Trends, 1976). This suggests that the effects of inflation are concealing something of a downturn in real financial terms, both in relation to overall turnover and, separately, to most individual forms of gambling except - over the last year - for gaming clubs (Gaming Board, 1976). Of the total turnover figures in Table One horserace betting takes up between 47% and 54% of turnover\$. Over 90% of horserace betting is conducted off the course, usually in betting-shops.

Total expenditure for gambling in 1975 was £581 millions. Again, although this represented an increase of about 46% over 1972 figures (National Income and Expenditure, 1965-75), it was something of a downturn in real financial terms. Using Moody's (1972) breakdown of total expenditure on gambling for 1970 into the constituent forms of gambling as a guideline, it appears that horserace

*These estimates are taken from the Gaming Board's estimates for 1972/3, since figures for 1974/5 are not available.

§Bookmakers also handle betting on other events, a factor which has been allowed for in these percentage estimates. Recently (The Times, 31.7.76) it was reported that off-course betting on the dogs accounts for £350 millions of off-course betting turnover. On this estimate, horseracing would take up about 80% of off-course betting turnover. During the rest of this review, however, no further attempt is made to separate off-course betting on the dogs from total off-course turnover.

betting accounts for approximately 44% of total expenditure, 90% of it off-course. Of other forms of gambling, the dog-race totalisator takes up about 3% of expenditure; football pools, about 23%; bingo (admission charges), about 13%; gaming, 7%; and gaming machines, 11%. Such figures, of course, should be related to differences in popularity amongst the various forms of gambling, to differences in frequency and intensity of participation, to differences in the percentage return (otherwise known as expected value) on money staked - the source of the promoter's gross profit - and to differences in the way in which winnings are distributed amongst participants. When gross profits* (or gamblers' expenditure) - expressed as a percentage of turnover for the type of gambling in question - are compared, for example, considerable variations are found. On the basis of Moody's data for 1970, the percentage gross profit for off-course bookmakers appeared to be about 12%; for football pools, about 50%; for gaming clubs, 9%, and so on. Figures for some forms of gambling are inevitably somewhat notional§, owing to the lack of concrete information, and comparisons between different forms of gambling are hindered by the fact that some forms have disproportionately large overheads. The question of profits, particularly in relation to off-course cash betting, will be discussed further in Chapter 5.

In the last chapter it was mentioned that attempts are often made to relate turnover or expenditure figures to some yardstick of total expenditure. Moody (1974), for example, has related variations in turnover for different forms of gambling to personal disposable income for the years 1967-1972. Calculations for 1975 for all gambling suggest the following figures:

- i. Total turnover as % of personal disposable income † 4.8%
- ii. Total expenditure as % of personal disposable income 0.8%

The difference between the figures reflects the fact that for 1975 expenditure represented about 17% of total turnover. The use of total consumer expenditure instead of personal disposable income makes little difference to the above figures (5.6% and 0.9%, respectively). In comparison, about 3.7% of personal disposable income (4.3% total consumer expenditure) is spent on tobacco products and 6.6% of personal disposable income (7.7% total consumer expenditure) on alcohol. The significance of expenditure can be expressed in other ways, too. Newman (1972) calculated expenditure on a *per capita* basis for all those eighteen years old and above: in 1975 this expenditure was running at approximately 29 pence per week. If account is taken of the Gallup Survey on Gambling in Britain (1976) which found that 47% of the

*Defined here as promoters' net profit (or gross assessment to income tax) + his fixed and variable costs + any duties and levies.

§Those for off-course betting appear to exclude betting duty. Figures for the football pools seem about right for 1970, but rising costs and duty have now increased the amount lost by punters to 72% of turnover (Royal Commission on Gambling, Interim Report, November 1976).

† Turnover is for the financial year 1975/6, expenditure for the calendar (1975) year. The discrepancy is irrelevant to the present purpose.

population aged sixteen years old or above took part in one or other of the important forms of gambling (excluding raffles and sweepstakes), then a very approximate figure for the average weekly expenditure of all gamblers can be given of 59 pence per week.

All the above figures are, of course, subject to the qualifications made in Chapter 2, that such overall figures conceal gross and significant differences in the nature of the different kinds of gambling, and the type of participation for which they cater. Nevertheless they serve the purpose of questioning the more alarmist claims about the place of gambling in national life. Viewed in national economic terms, or in terms of individual average disposable incomes, such expenditure is by no means large, though it is true - but a largely different issue - that it is considerably higher than figures for more cultural pursuits. Moreover, since the activity is heavily taxed (Newman, 1972, calculates that as much as 34.7% of total expenditure on gambling in 1967 found its way to the Exchequer) even these figures can mislead if they are taken to imply that all the money so spent is 'lost' or 'wasted'. Whatever the use to which the profits of commercial gambling may be put (cf. Chapter 5), the revenue from gamblers' expenditure is likely directly to benefit the punter himself and the national economy.

Some further indication of gambling's economic significance can be gathered from figures relating to the numbers of principal gambling outlets, and of those employed in the industry as a whole. Although strictly comparable figures are not available - there are small differences in the time-periods over which the various statistics were collected - details for Great Britain are as follows:

Number of betting-office licences in force	13,865 (1976)
Number of licensed gaming clubs	121 (1976)
Number of licensed bingo clubs	1,775 (1976)
Number of licensed gaming machines (penny, amusement-with-prizes, jackpot)	164,607 (1976)

According to the Annual Abstract of Statistics (1976), 93,000 people were working in the betting and gambling (sic) industry in Britain during 1975.

The economic significance of changes in overall gambling turnover

General: to confine one's attention to the current economic significance of gambling is to ignore the impact that commercial developments in the industry may have had upon the economic life of the country over the longer term and, in relation to two points in time - first, the period since the Royal Commission on Betting, Lotteries and Gaming (1949-51) reported on the state of gambling in the country and, second, since the passing of the Betting and Gaming Act 1960, which was instrumental in creating the conditions for the great growth of some forms of commercial gambling during the 1960s. Once again such changes and their significance can only be assessed by using the existing data on turnover, expenditure, numbers of gambling outlets and numbers of those

employed in the industry.

Lack of accurate and comparably-based information is most acutely felt when attempts are made to assess changes in turnover over time. Over the period from the late 1940s to the present, estimates of turnover have almost yearly become more accurate as more information about the workings of the industry has become available, as formerly illegal forms of gambling have become legalised, and as the industry as a whole has become increasingly subject to taxation (and, in particular, turnover taxes) and to official scrutiny of its financial affairs. The net result of all these trends may well have been to exaggerate the extent to which turnover grew during this period, the early years' figures reflecting considerable underestimates* of actual turnover, while later years' figures reflect not only such real growth as occurred as the result of rising standards of living, but also the increasingly strong effects of inflation.

The only comprehensive long-term information on turnover is that produced in its annual reports by the Churches' Council on Gambling (C.C.G.), which has also been concerned with trying to explain individual variations in turnover amongst the different types of gambling as well as recording changes in total volume over time. Official sources (Royal Commission, 1951; Gaming Board, 1973 & 1975) and other commentators (Paley & Glendinning, 1963; Newman, 1972) have also occasionally produced estimates for a particular year or years. When turnover figures are examined over a period of years some growth is usually evident, but when it comes to explaining the meaning and significance of such growth interpretation is hindered by the inadequacy of the original data, and different commentators may in consequence produce accounts which are greatly at variance one with another.

Newman (1972): from his estimates for 1947 (using the C.C.G.'s data), 1962 (using Paley & Glendinnings' data) and for 1967 (his own information), it appears that, although turnover grew by 89% during the twenty year period, the rate of growth of personal incomes (at 253%) and of expenditure upon selected items (housing, clothing, books, alcohol and tobacco) was much greater. Newman comments that by 1967 gambling turnover was taking up only half the proportion of personal income for which it accounted in 1947. Taking only the period 1962-67, turnover grew at less than half the rate of personal disposable incomes§ and Newman concludes that, taken as a whole, the figures clearly disprove the view that growth in commercial gambling has been at the expense of other expenditure, or that it has represented a threat to the average wage-pocket.

*Newman (1972) suggests that, following criticism of their estimates by the Royal Commission, the Churches' Council on Gambling deliberately understated turnover estimates from 1947 onwards.

§In all following calculations personal disposable income rather than personal income is used.

Using turnover figures for 1975/6, Newman's calculations can be brought up to date and show an increase since 1967 in gambling turnover of 135% against one in personal disposable income of about 165%. Newman's conclusion that growth in gambling turnover has been only moderate when compared with other economic indicators is given some support from betting and gambling expenditure figures and their relationship to personal disposable income. When figures for each are compared over the years 1963-1975 (for which estimates are provided annually in the 'National Income and Expenditure' reviews) it appears that national expenditure on gambling over this period has represented a more-or-less stable 0.8% of total personal disposable income - a figure which differs little from the last Royal Commission's estimate, in 1950, that personal expenditure on gambling constituted about 0.8% of total personal expenditure.

Conflicting estimates: while many claim that Newman's figures put gambling into its proper economic perspective, his use of global turnover figures, the questionable accuracy of some of the component turnover estimates, and his choice of years upon which to base his measurement of turnover trends, all render his conclusions somewhat tentative. Newman, for example, uses the Churches' Council on Gambling's 1947 estimates as his starting point, though these figures were subject to criticism from the Royal Commission as being too high as far as off-course cash betting (then illegal) was concerned. His 1962 figures, on the other hand, claim turnover in that year to have been larger than the comparable estimate made by the C.C.G., while there are gross discrepancies between his 1967 figures and those presented by Moody (1972), whose estimate of gaming club turnover, in particular, is thirteen times higher than Newman's (£750 millions and £57 millions, respectively).

It is hardly surprising, then, that differing estimates for gambling turnover in 1967 should lead commentators to produce estimates of the growth of gambling turnover which are at variance with each other. According to the C.C.G. figures, gambling turnover during the years 1947-67 appears to have risen by 180%, rather than the 89% given by Newman, and this result - while still showing growth to have lagged behind that of personal incomes - puts gambling turnover well above the rates of increase of expenditure on alcohol, tobacco, and clothing*. Differences of opinion over the size of turnover in 1967 would also give rise to variations in estimates of growth over shorter terms; while Newman quotes a 16% total turnover growth for the periods 1962-67 (personal disposable income grew by about 35%) Moody's figures would indicate a rise of at least 73% (more if the estimates of Churches' Council on Gambling for 1962 are used). Use of Moody's 1967 turnover estimate also has the effect of lowering the rate of turnover growth between the years 1967-1976 to 58%; if, on the other hand, Newman's estimate is accepted as the more accurate the comparable figure is about 135%, and examples can be multiplied. Discrepan-

*The rate of increase in *expenditure* on gambling has not been so great; though much higher than that for tobacco (the period 1963-75 has seen a decline in real terms), it remains rather less than that for alcohol.

cies like these are particularly important where attempts to gauge the economic and social impact of legislative or commercial changes - such as those brought about by the legalisation of particular forms of gambling or by fiscal policies - are being made. As Downes et al. (1976) point out, in connection with the question of how the legalisation of off-course cash betting affected turnover, the significance of such growth as can be found can be enhanced or reduced according to the years chosen as the basis of 'before-and-after' comparisons, and according to the source of turnover estimates which is being used.

The effects of inflation: on any estimate gambling outlay seems barely to have kept pace with the growth in personal incomes over the last twenty-five years, except perhaps for brief periods. Gambling expenditure, too, has - again allowing for temporary fluctuations - remained a relatively constant percentage of total consumer expenditure. This does not, however, necessarily rob the increase in the volume of money laid out on gambling which has taken place of any significance. It could, after all, be argued that the increases in disposable income could have been used in other ways than to increase outlay on gambling. But it is by no means certain that all of the apparent growth in turnover, expenditure (or income) over the last twenty-five years represents a corresponding growth in real value. Newman, for example, has asserted that between 1950 and 1968 inflation (presumably running at between 3% and 4% *per annum*) effectively more than halved the value of the pound. A more recent estimate*, quoting Treasury sources, has put the rate of inflation between 1950 and 1975 at an average of 5% *per annum* - an amount which would make the 1950 pound worth only 28 pence by 1975. Figures like these suggest that once proper allowance for inflation is made the extent of real growth in turnover is very much smaller than expected.

Leaving aside gaming - phenomena of the 1960's for which no earlier estimates exist - a comparison of appropriately§ 'deflated' turnover figures for 1975/6 with those for 1950 (calculated as being £414 millions: Royal Commission, 1951) indicates turnover to have grown in real terms only by about 57%. A study of individual turnover figures shows that this increase is accounted for almost entirely by off-course betting, which grew by nearly 200% in real terms. On the other hand, pools turnover increased by only about 30% over the 25-year period, while the value of on-course betting halved; the horserace totalisator's turnover fell to only 60% of its original value, and the greyhound tote fell even further, to under 30% of its original volume. Since it was the size of off-course betting turnover which, in 1950, was most disputed, even these corrected estimates of real growth may be too high. The C.C.G.'s own overall turnover estimate of £625 millions † for 1950 - which includes a much higher

*John Madeley, in 'The Guardian', 20.11.1976.

§It has been assumed that the pound lost over 70% of its value between 1950 and 1975. Since turnover estimates for the later date cover the financial year 1975-6, this may be something of an underestimate.

†A sum of £25 millions has been deducted from the C.C.G.'s estimates for 1950 to cover turnover relating to other forms of gambling.

estimate in respect of horserace betting than that given by the Royal Commission - suggests that between 1950 and 1975/6 overall turnover derived from traditional gambling activities remained more-or-less static in real terms, the rather smaller real growth in off-course betting turnover being largely counteracted by a decline for most other forms. It takes the inclusion of additional turnover figures for the newer forms of gambling available by 1976 to re-establish a real growth of about 52% over the 25-year period (138%, if the Commissioners' estimates are accepted).

The above analysis of the economic significance of changes in overall gambling turnover has been beset not only by lack of accurate information (particularly in relation to turnover estimates for the anchor-years of any time-span) but also by the problem of trying to take account of changes in the real value of such turnover. Nevertheless, it seems to lead to two conclusions. First, the analysis raises the question of whether in fact outlay on gambling has risen over the last 25 years, either as a proportion of disposable income, or in real terms. This, so far as it goes, provides something of a corrective to the more alarmist observations that Britain is a nation of gamblers: either this is not true, or it has been true for a considerable time. Second, while providing reassurance on the one hand, the analysis also implicitly questions the usefulness of overall turnover figures as a measure of the economic significance of changes in the volume of gambling over time. This is because general estimates clearly conceal (and lead to the neglect of) changes in the fortunes of the component forms of gambling - changes which are likely to have an economic or social importance of their own.

Changes in turnover for some different types of gambling

It might be thought that these sorts of difficulties could be solved simply by consulting turnover figures for the individual forms of gambling. Unfortunately, however, in the cases of those forms of gambling which cause most public concern, estimates are again very unsatisfactory. Attempts to gauge the impact of the legalisation in 1960 of off-course cash betting - arguably one of the most important of recent issues in the gambling field - have generated the same sorts of problems met with in relation to overall turnover figures. The stability of the C.C.G.'s estimates for on- and off-course horserace betting turnover between 1947 (£400 millions) and 1960 (£385 millions) conceals a downturn in real financial terms over the period prior to the legalisation of off-course betting. From 1960 to 1967, however, turnover appears to have increased by nearly 200%. Even if the Royal Commission's more conservative 1950 estimate is used as the basis for measuring pre-legislative growth (this yields an increase of about 65% in turnover - scarcely greater than inflation during the 1950's), post-legislative growth was considerably faster. Not only did it far outstrip the growth in personal disposable incomes up to 1967 (about 50%), but little of this growth could be accounted for by inflation. It is perhaps possible to pinpoint the period of most rapid turnover growth more precisely by referring to three further sources of information. First, although the

Churches' Council on Gambling provided the only available estimates of horse-race betting turnover - apart from that of the Royal Commission - until 1962, at that time a careful estimate was provided by Paley and Glendinning; comparison between their figures and those of the Churches' Council on Gambling for 1960 indicates an increase in turnover of 154%*. That this was a period of very rapid expansion is supported by Paley and Glendinning's (1963) report that Wm. Hill's Trade Department, which handled bets laid off by other book-makers, had increased its weekly turnover from between £75,000-£90,000 in 1960/1 to £250,000-£300,000 in 1962/3. Hill himself is quoted as saying that the business of the trade department reflected more accurately than any other barometer significant changes in the volume of wagers handled by the new cash betting-shops.

Lastly, it is clear from data on the issuing of betting-shop licences during this period that expansion was very rapid indeed. Granting of licences began in 1961 and by June 1st there were 8,800. By the same time the following year there were 13,340 licences in operation. The annual statistical report, 'Betting, Gaming and Lotteries Act 1963: Permits and Licences', for 1973 - later reports have been renamed 'Betting Licensing Statistics' - which gives betting-shop licence figures for 1963-73, indicates that demand flattened off substantially after 1962, remaining at about 15,500 for most of the 1960's. The 1970's have seen some decline from this level and the present figure, of 13,865 for June 1976, represents a 12% drop in relation to the peak year of 1967. In the last three years just over a thousand betting-shops have closed: thus, while the period 1967-76 shows a considerable increase in off-course betting turnover it seems likely that the accelerating rate of inflation is largely responsible for this apparent growth. In particular, licensing figures indicate the operation of retrenchment measures by the industry in the face of conditions of relative stagnancy or even of a recent downturn in the real value of turnover.

The chequered progress of horserace betting turnover over the years provides just one example of the way in which overall turnover figures may conceal important and independent variations in volume of gambling in relation to component forms. Changes in football turnover present another, and have been documented by the Churches' Council on Gambling (Annual Reports) and by Moody (1974). It has already been seen that over the 25-year period, 1950-75, there has been little evidence of a substantial increase in real terms. Growth was perhaps steadiest in the 1950's; during the 1960's it declined, though the extent of the decline was masked by inflation, while from time to time there were temporary remissions as promoters changed their prize structures. Since 1969 there has been a strong upturn though - coinciding as it does with the period of most rapid inflation - it is unlikely that the present turnover (about £241 million) marks any improvement in real terms over the previous

*Newman (1972) also points out that the two years 1963/4 and 1964/5 showed the highest rate of manpower growth in the betting industry.

highest figures of £125 million (for 1967/8) or £111 million (for 1960/1), but rather something of a decline.

According to the 'Report on Enquiry into Gaming under Section 2 of Finance Act, 1963' (1964) there were 486 gaming clubs in operation at the time of the enquiry, though in only 189 cases were the premises used mainly for gaming. By the beginning of 1967 there were nearly 1,000 clubs. It is not surprising, therefore, that at this time the C.C.G. estimated turnover to be in the region of £750 millions per year. Although earlier figures than this one are not available for gaming clubs, bingo or gaming machines it seems likely that 1967 represented something of a highwater mark in growth for all these forms of gambling. In the case of the gaming clubs, the drastic reduction in their numbers by the Gaming Board must have severely damaged total turnover figures in this area. The Gaming Board's 1975 Report indicated that, having settled at a much lower level, turnover (or, rather, 'drop' - money exchanged for chips) was doing little more than keep pace with inflation. Since then there has been something of an upturn in the figures, largely - it appears - as the result of some increase in attendances and, in London, heavier gaming by foreign visitors (Gaming Board, 1976).

The picture which emerges of the industry as a whole is one dominated by the sporadic growth (and decline) of individual forms of gambling, and - where growth occurs - of comparatively modest levels of increases in the volume of gambling, once appropriate adjustments for the effects of inflation are made. It suggests little evidence of increases in either outlay or expenditure, but if more is being spent on gambling (and this is questionable) it is because people have somewhat more to spend, and choose to spend it in this way.

Two important caveats have, however, to be made. First, while appeals to economic factors like inflation appear to explain away ostensible increases in turnover and, hence, allay anxieties that people may be increasing their outlay and expenditure, this by no means disposes of the possibility that the process of maintaining existing 'real' levels of turnover in times of inflation - particularly where the ability to raise prices is limited - may itself have harmful social and economic consequences for some gamblers. This might, for example, be a danger where - given that punters have to be persuaded to wager more of their inflated currency in order for the promoter to secure the same returns - the individual punter is resistant to increasing the size of his individual stake. In this case the promoter would have to pay relatively more attention to increasing recruitment of new punters and increasing the frequency of participation of existing ones. While turnover and expenditure figures can by themselves be used to answer simple questions about the broad effects of gambling, much more detailed information about participation, and individual outlay over time is required if the implications of fluctuations in the turnovers of particular forms of gambling are to be properly explored. Some of this information is presented in the next chapter.

The second caveat concerns the extent to which gambling can properly be regarded as a single type of activity. The fact that gambling turnover seems to have grown relatively little in real terms despite the growth of particular forms of gambling is, as has been shown, partly because expansions in one area have been accompanied by contractions in others: the reduction in the popularity of greyhound racing in the post-war years, for example. But although such 'compensatory' fluctuations may appear to account for the restrained nature of overall growth in gambling turnover, they do not necessarily indicate the existence of a limited gambling market for which individual forms of gambling have to compete. In fact it will be argued later that the most important forms of gambling are not in direct competition for the same punters, since they offer distinct and different experiences to their clients. It may be more accurate to treat individual fluctuations in turnover as being due largely to factors unique to that form of gambling, and independent of the fortunes of other forms. If this is the case, there is no room for complacency about the moderateness of the overall trends to date, for although in some cases (notably gaming and bingo) social policies have undoubtedly helped to hold down turnover and expenditure, in others no such restraining influences have been present and their impact has probably only been offset by the happy accident of waning popularities of other forms. Moreover if some forms are potentially more dangerous than others in terms of the facilities they offer for excessive gambling, a knowledge that the growth of total turnover or expenditure figures is not increasing may help to disguise the fact that changes with important social and economic consequences may nevertheless have occurred. For these reasons, and for those given in relation to the previous caveat, it is necessary to go on to examine individually the available data on participation and outlay for the major forms of gambling.

4 The Major Forms of Gambling—Participation, Outlay and Economic Consequences

Introduction

Until recently little information has been available from official sources about patterns of individual and socio-economic class participation and outlay in the more important forms of gambling*. Considerable attention has, however, been paid to these matters over the years by a number of commercial survey organisations. A summary of many of their earlier findings has been provided by Newman (1972). The following discussion draws mainly upon later work - such as the 1972 and 1976 Gallup Polls, 'Gambling in Britain' - for basic statistics of participation, and uses the results of other surveys for the purposes of comparison and confirmation.

Although data are available for practically all forms of gambling, attention has been largely confined in this review to football pools betting, off-course cash betting on horseracing, gaming in gaming clubs, and bingo. Other forms of gambling might seem to make equal claims for attention: greyhound racing, for example, attracts over six million spectators a year, accounts for about half the on-course bookmaking turnover, and yields over twice as much from its totalisator operations on-course as does the horserace tote. Again, both greyhound and horseracing provide vehicles for continuous gambling in an atmosphere of excitement and spectacle. Nevertheless, while it is true that greyhound racing as a social phenomenon has been grossly neglected by commentators, it was decided that - in the absence of evidence to the contrary - on-course betting as a whole could not be regarded as a sufficiently important source of potentially adverse economic or social consequences and, hence, meet this criterion for inclusion. Neither have particularly large turnovers and, in the case of horseracing, participation tends to be occasional rather than regular, and is in any case limited by the opportunities for, and convenience of, attending particular courses (see Chapter 8). Dog-racing attendance figures probably represent more regular participation on the part of rather smaller numbers of followers, but average stakes per punter-visit are much the same as for horseracing, according to Downes et al. (1976). Lastly, neither form has attracted either the breadth or intensity of participation characteristic of the major forms of gambling, or the same degree (and longevity) of public concern. It might also

*In 1950, however, a Government Social Survey, 'Betting in Britain' (Kemsley & Ginsburg, 1951), was carried out as the result of consultation between the Royal Commission and the Central Statistical Office. The Gaming Board now provides a little basic information about bingo and gaming clubs.

be added that, partly as a consequence of this concern, more information is inevitably available about the latter activities.

The results of sample surveys have to be treated with some caution; they may use different sample sizes and methods of selecting their sample; the format of questions on similar topics may differ, and subsequent analyses of results may not be the same for all*. These factors reduce the reliability of comparisons amongst surveys so that - particularly when these are being made from one period of time to another - it is not always easy to determine whether any changes or differences noticed are genuine or the result of different survey techniques. Sometimes too, within single surveys, tabulations involving more than one or two variables may become based upon very small sub-samples of the total sample; in these cases the resulting percentages which are quoted must be viewed in the light of the cell-frequencies to which they refer§.

The football pools

Of Gallup's (1976) total sample of respondents - representative of the population of Great Britain aged sixteen years or above, and stratified by region and town size - 37% did the pools, a substantially similar proportion to that of the 1972 survey (40%). Participation was characteristically on at least a weekly basis (89% of participants in 1976, and 92% in 1972) and men (46% of total sample in 1976; 56% in 1972) are more likely to participate than women (29% and 26%, respectively). Doing the pools is the most popular form of gambling and participation, both overall and for men and women separately, has remained relatively stable since 1950†, when the total taking part was 40% (Kemsley & Ginsburg, 1951). The proportion of regular participants, however, appears to have increased considerably: 23% of the total survey sample did the pools weekly in 1950, while by 1972 37% of respondents (33% in 1976) were taking part at least once a week.

In the 1950 survey it was reported that those under the age of 21 or over 65 years old were less likely than others to take part in pools betting - a consequence, perhaps, of their relatively lower income. The 1972 and 1976 Gallup surveys, which used a slightly different set of age-categories, appear to show some increase in rates of participation so far as the elderly are concerned (in 1976, 31% of the over-65's did the pools, as against only 22% in 1950) and -

*This is particularly likely to be the case where rates of participation are being investigated in relation to income, social class, or a combination of the two. Not only do different surveys use different measures; even when deriving their measures from the same source they may use different numbers of categories. Downes et al. use both income groupings and social (also termed 'socio-economic') classes.

§Even in the 1976 Gallup survey, which used a rather larger overall sample than its 1972 counterpart, detailed questions on casino gaming are based upon a subsample of participants numbering only 21. Gallup do, however, specify the sample size of any particular breakdown so that the reader can judge the stability of the findings for himself.

†Details of surveys carried out in the intermediate years can be found in Newman (1972).

though less conclusively - for the youngest. Otherwise, however, the results still confirm the earlier pattern of participation (cf. also Downes et al., (1976).

In 1972, participation was comparatively evenly spread amongst the different social classes (a Chi-square test conducted on the actual numbers involved revealed no statistically significant differences in rate of participation among the four socio-economic groupings). The lowest rate (36%) occurred amongst those of the upper-middle classes (Class AB), but the highest rate was only 44%, and this was not that of the lowest socio-economic group (class DE: unskilled manual, pensioners, unemployed) but of the C2 (skilled, manual) group. Comparison with 1950 findings is hindered by the earlier survey's use of income-levels rather than social class (both of which are useful and appropriate groupings according to the circumstances being investigated), but a similar pattern of participation seems to have obtained then and, according to Downes et al., in 1968.

By 1976, rates of participation for the AB and C1 groups had fallen by about 8%-10%. Likelihood of pools-betting now appears to be related to socio-economic class (Chi-square: $p < .001$; d.f.3), though inspection of the proportions participating from each class indicates that this is not a simple inverse relationship: members of the DE group, for example, while more likely to participate than the two highest classes, were less likely (probably because of low incomes, both in 1976 and 1972) to bet than c2 members. The comparative stability of participation-rates for C2 and DE groups over the two Gallup surveys - in contrast to those of the higher classes - indicates that the pools may be losing their breadth of social appeal and falling into line with those forms of gambling, such as bingo, which have always reflected a distinctly class-based pattern of participation. Punters from the AB group are also considerably less likely than others to do the pools more than once a week. Whether or not the former are tending, for financial reasons, to gamble less is not clear, though changes in their levels of off-course betting and of gaming make this a possibility.

No recent information is available on the relationship between stake and social class membership though Downes et al. noted that stakes rose with income. Gallup (1972) reported the average (weekly) stake on the pools to be 32 pence*. For 1968, average weekly expenditure was put at 25 pence for a 35-week season (Downes et al., 1976), while earlier - in 1950 - the average stake was 2/6d. Newman (1972) has suggested that, taking the decline in monetary values over this period into consideration, stakes are if anything rather smaller than 1950 - a conclusion which is borne out by the estimate of current average stake which can be derived from recent turnover and participation information. The figure, of 46p over 35 weeks, is very much in line with earlier ones and indicates little

*A Mass-Observation omnibus survey of 1970, conducted on a sample of 1,000 women, mainly married ones, reported that 84% of women staked less than 25 pence per week.

increase in the real value of stakes over the years*. From the available information it is not easy to assess whether the fluctuations in pools turnover which have taken place are determined primarily by variations in participation or staking. What little reliable evidence there is, however, suggests that promoters have had difficulty in persuading people to do more than increase their stakes in order to keep pace with inflation, while the nature of pools betting has itself limited their ability to exploit the alternative strategies of persuading non-gamblers to bet, or existing punters to bet more frequently.

Off-course cash betting on horses

Both recent Gallup surveys give gambling in betting shops (where it is predominantly on horse racing: cf. Downes et al., 1976) as the next most popular form of gambling. In both years 12% of the total sample (about 20% of men and 5% of women) made bets off-the-course and of these, 54% (6% of the total population) placed bets at least once a week - though a substantial percentage of participants (27% in 1972, and 35% in 1976) bet less often than once a month, probably only on major races. In 1950, when such betting was illegal, 29% of the government social survey's sample (36% of men, and 22% of women) bet off-course. 38% of these (between 10% and 13% of the total sample) placed bets on a regular (approximately weekly) basis. From these figures it seems that there are fewer people betting off-the-course now than in 1950, considerably fewer women participants (a Mass-Observation survey in 1970 reported only about 3% of women gambled, though some may be betting by proxy: cf. Downes et al., 1976), and a little over half as many regular punters. On the other hand, it appears that, of those who do bet, a greater proportion now bet on a regular basis.

These results are at variance with Newman's conclusions - based on National Opinion Poll, Gallup, and Research Services Ltd., surveys - that '... no fewer than 25 per cent of the entire adult population now bet on horseracing off the course with a reasonable degree of regularity', a conclusion which is also quoted by Dickerson (1974) in connection with his detailed examination of gambling in betting-shops. Downes et al., reporting on the 1968 situation, present a picture of remarkable stability in both regular or less frequent off-course betting: the percentage of their sample betting off-course appears to be about 26% - made up of 37% men and 16% women - as compared with the 1950 figure of 29%. Regular bettors constituted about 10% of the sample. The authors tentatively conclude that participation by men has increased very little, while that of women may have actually decreased.

*In the Royal Commission on Gambling's recent Interim Report (Cmnd. 6643: 1976) a modal, rather than average, stake-value of 22½ pence is given. Whether or not these two figures are discrepant cannot be determined in the absence of information about the frequency distribution for stakes. Although for some purposes the modal value is a more satisfactory one (see Chapter 2) the available information on outlay for the major forms of gambling tends to quote the arithmetic mean stake.

While these figures are somewhat nearer to the Gallup (1972 and 1976) findings in respect of regular participation, they are still over twice as high as the latter's so far as participation overall is concerned. There seems little way of reconciling the two except by suggesting that the Gallup survey may have been less successful than previous studies in tapping the full extent of either occasional or regular off-course betting. Use of questions such as 'Which, if any of the following (a list of different forms of gambling), do you ever do these days?' may be seen by the respondent as an invitation, given an ambivalent attitude on the part of the public towards certain forms of gambling or certain gambling settings, to understate his current involvement, or to express his good intentions for the future. Alternatively, it is possible that the increase in general betting turnover, and the increasing share in this taken up by off-course betting, during the years 1968-1974/5 took place at a time when the numbers of participants was declining. But if so, it would have to be accepted either (or both) that a substantial proportion of this diminishing group of punters was betting more frequently than once a week, making more bets per visit (whether weekly or more often), and/or betting with larger stakes. As will be shown later, the difficulties of investigating which if any of these hypotheses is correct, provides further evidence of the limitations of current information about participation.

Some further information about intensity of participation is provided by the 1950 survey (Kemsley & Ginsburg, 1951), which suggests that regular punters bet on just under three races per week, and Newman (1972) has summarised subsequent survey results, which seem to show an increase in the frequency of placing off-course bets amongst those who gamble in this way. Little further can be made of Newman's analysis because of the lack of comparability of source material, particularly with regard to the questions asked and populations sampled*, though he suggests that, in comparison with 1950, the average punter now makes 2-3 bets on 3 separate days per week. Apart from these estimates some further information is presented by Downes et al. for those of their 1968 sample of respondents who used betting-shops. From this it appears that a majority of men (51%) and women (81%) who used the shops monthly or more often placed only one bet per visit[§], though a further substantial percentage of men (32%) placed two or three bets per visit, while 18% placed four or more. As might be expected, a relationship between length of visit and number of bets made was found, though the strength of the association is not recorded. Dickerson (1974), using structured interviews with a sample of Birmingham betting-shop customers, has also produced some detailed information about the betting-habits of groups of participants at various levels of

*Some questions applied to both horse and dog-racing, or to both on- and off-course gambling; others to particular samples - all off-course punters, or just those interviewed outside betting-shops. The variety of methods involved makes generalisation difficult.

§It seems that Downes et al.'s results are for bets per visit, though this is not clear; nor do they give details, for their regular (at least once per week) respondents of the percentages who went more often. Such information is necessary if average numbers of bets per week are to be calculated.

frequency and intensity. Both studies are illustrative of the sort of material which can, and should, be collected by means of surveys: as will be shown later, without knowledge of betting-frequency, both within a session or visit and over longer time-periods, it is difficult to make estimates of personal outlay and expenditure.

According to the recent Gallup surveys, participation is relatively similar (at between 11-15%) over the ages sixteen to retirement. Downes et al. support these figures so far as the young and old are concerned, but report considerably greater involvement by the middle-aged. The 1950 survey showed a rather similar pattern of involvement, bearing in mind slight differences in the age-classification used and the greater overall participation, compared with 1972 and 1976. On the basis of his review of a number of surveys, Newman concludes that married men are more likely to bet (and take part in all other forms of gambling except gaming) than single men of the same age. This may in part be related to income factors in the case of the lower socio-economic groups, however.

In 1972, participation in off-course betting was comparatively similar amongst the three lowest socio-economic groups. A rather lower percentage of AB members bet off-course, but differences amongst the groups did not reach statistical significance, while the range (from 7% - 13%) was considerably narrower than that reported (for 1968) by Downes et al., whose rates ran from 4%, for the upper middle class, to 32% for the lower working-class. Analysis of the 1976 Gallup results indicates the existence of a statistically significant association between off-course betting and socio-economic status (Chi-square: $p < .01$; d.f.3), and inspection* of the participation-rates for each shows the relationship to be an inverse one: in particular, nearly twice as many members of DE group (at 15%) bet off-course as did those from the AB group (at 8%). Too much emphasis, perhaps, should not be placed upon the differences between the 1972 and 1976 results; for one thing the percentage participation-rates recorded for each are necessarily subject to some sampling error. The 1976 survey also used a considerably larger sample than that of 1972, and this factor alone has some influence on the likelihood that a given set of differences in the underlying pattern of data will achieve statistical significance in the chi-square test. So far as the earlier survey is concerned, for example, AB members there tended to be less likely to bet than other socio-economic groups.

Comparisons with the 1950 survey are again difficult, though Newman suggests that it confirms the tendency for participation to be relatively greater amongst the lower income groups of manual workers, though less for the lowest (a finding which Downes et al. also confirm). Various studies (see Chapter 13) have pointed to the relationship between betting-shop density and socio-economic characteristics of their surroundings, but although this may reflect

*The Chi-square test is insensitive to order-effects for degrees of freedom greater than one. For the present purposes it was not thought necessary to resort to partitioning the overall chi-square.

demand factors it must also be remembered that it increases opportunities to bet (Dickerson, 1974).

Turning to the question of stake, Gallup (1972) quotes 71 pence as the average, though the form of their question ('When you ... (activity concerned) ... how much do you stake on each occasion?') fails to distinguish between stake per bet and total staked per betting session - where, that is, more than one bet is made per visit. This, like other aspects of the survey, indicates the difficulties of using the same format for questions relating to participation in forms of gambling with very different behaviour-patterns. For this reason it is difficult to compare the Gallup results with figures given by other investigators, though Downes et al. give a figure, for 1968, of about £1 as the average stake per visit to a betting shop, and an average stake per slip* of 15/4d (quoting Mark Lane Group figures). The only other recent trade estimate is for an average stake-size, in 1975, of 67½ pence (Consultation on 'Compulsive' Gambling, 1975), but here again it is not clear whether this refers to stake per betting-slip or stake per race.

Estimates for stakes per race are, of course, considerably lower; Dickerson (1974), observing the placing of 1600 bets, calculated that about 80% were at £1 or less, and 58% at 50 pence or less, while Newman (1972) quotes a 1968 Research Services survey finding that the average off-course stake was as small as 27½ pence per race, similar to the average of less than 5/- which Downes et al. report. Comparisons with 1950 indicate that people are placing smaller individual bets now; the average size of off-course bet according to the Government Social Survey was between 5/- and 6/- per race and, while in terms of real values this represents double the 1968 average stake-size, it relates quite well to the average stake per slip at the later period.

It is, perhaps, possible to arrive at weekly outlay estimates for the average punter which will agree reasonably well with those derivable from figures relating to annual off-course betting turnover and to some, at least, of the estimates of numbers of off-course punters. To do this it is necessary to assume that although average stake per race has fallen in real terms over the years this has been counteracted by changes in punters' betting habits, such that they now make more (though smaller) bets per visit than previously. Newman, who discusses this issue in detail, claims that - given similar numbers of calls per week on the bookmaker in 1968 as in 1950, but a rate of two to three bets per visit at the later period, as against only one bet at the earlier one - the average punter's outlay (at just over £2 per week in 1968) has changed little in real terms over the years, since the monetary value of his individual bets has fallen by half. So far as more recent trends are concerned, annual turnover figures, together with an estimated participation-rate of 25% of the adult population, suggest a

*More than one bet can be written on a betting-slip and the bets may be for different races.

weekly outlay in 1968 of about £1.80 per punter* (rather similar to Newman's estimates), rising to about £3.40 in 1976 - a figure which indicates that turnover and individual outlay are now failing to keep pace with inflation.

Such a conclusion, if properly substantiated, would have considerable significance so far as the social and economic consequences of off-course betting are concerned. Punters, it has been shown, are very resistant to increasing the size of their individual bets. Indeed, perhaps because of the greater average frequency of betting in horseracing as compared with the football pools, they appear to have been reluctant to increase their stake per individual bet even to the extent of keeping pace with inflation. Given this resistance by the consumer, it might be expected that promoters would try to take steps to increase either the numbers of people participating and/or the frequency of their participation, in order to generate sufficient growth in the money-value of turnover to counteract the fall in its real value\$. While, then, a measure of real growth may have occurred in the early 1960s, it may be more accurate to look on this as the reversal of a previous decline. On this analysis, the legalisation of off-course betting, and subsequent developments in the growth and direction of growth of the industry (see Chapter 5) should be seen primarily, not as increasing turnover in real terms, but of re-attaining and subsequently maintaining earlier levels. Since there is little evidence of any increase in the number of those who bet, it seems as though changes in the organisation of the betting industry and in the nature of the 'gambling experience' they offer over the last fifteen years or so have been intended, and have served, both to facilitate and to handle more frequent betting on the part of existing punters - a policy which could be expected to encourage the growth of continuous and, in some cases, excessive gambling. The influence which the special (or 'structural') characteristics of off-course betting and other forms of gambling can have upon punters' patterns of betting will be discussed in more detail in Part Three.

While information about the growth in manpower and mechanisation within the betting industry, together with observation of its development in the direction of increased efficiency, suggest that promoters have been concentrating their attention on creating and processing a turnover made up of small but frequent stakes, considerably more information is needed before this hypothesis can be fully substantiated, given the discrepancies over participation-rates (cf. the Gallup findings), difficulties in assessing outlay on an individual basis, and lack of reliable information about frequency of betting. For the time being, the most reasonable conclusion would seem to be that - inflation notwithstanding - turnover has been maintained, and perhaps even temporarily

*This assumes all off-course turnover represents outlay on horseracing, and so constitutes something of an overestimate.

§It is, of course, true that even in circumstances of static or declining turnover profits can be maintained to some extent by increasing efficiency or reducing value for money. Both strategies have been adopted by the betting industry over the years, particularly in response to increases in taxation.

increased for short periods during the last 25 years, but that this has been produced by a stable, if not declining, group of punters, the more regular of whom are staking considerably more frequently (and perhaps more heavily in absolute terms) than their counterparts in 1950 and, in general, before the legalisation of off-course betting.

Gaming

Gaming has become a significant form of activity only since 1960 and there are in consequence few if any accurate figures for participation before then*. Newman notes that a 1963 N.O.P. survey put participation at about 4% of the adult population, a figure which had arisen to 6.5% by 1968. That the inadvertent legalisation of gaming clubs had increased participation is given some support from a 1969 N.O.P. survey of gaming clubs: 47% of those in London clubs reported having been playing for over ten years, but the bulk of players had been playing for less long. Since only 65% of the London club sample were British, a more accurate picture can be gained from respondents in provincial clubs, 94% of whom were British and a further 4%, Irish. Here only 23% had been gaming for more than ten years. Overall figures indicate a growth in participation throughout the early 1960s - a finding reflected in the growth of the gaming industry during those years, and especially before the establishment of the Gaming Board (cf. Moody, 1972; and earlier Churches' Council on Gambling's annual reports).

Downes et al. found that, of their 1968 sample, only 3½% of men and 1½% of women participated at least occasionally and very few (0.1% of men and 0.3% of women) played regularly. Of Gallup's 1972 national sample, a total of 3% attended a 'gambling club or casino', and this had fallen to 1% by 1976. The 1975 Report of the Gaming Board estimated that the core population (members only, excluding guests and overseas visitors) was only about 0.75% of the adult population and this agrees very well with the latest Gallup figures. Frequency of attendance was estimated as an average of fifteen times per year by the Board, while Gallup (1972) found 53% of players (65% by 1976) went less than once per month, 31% once a month, and 16% more regularly. In this respect, and in relation to the proportions of men to women players, the two recent Gallup polls give some support to Downes et al.'s findings for their 1968 sample, though Gallup responses are based upon very small samples of players.

Downes et al. comment that the younger age-groups are more likely to participate than the older ones. This is confirmed both by Gallup and by Newman (1972) - who stresses the greater involvement of young single men - though in the latest (1976) Gallup survey this trend is no longer so evident. The N.O.P. Gaming Club Survey (1969) indicated that, of those attending, 85% were under 55 years old, though this concealed London vs. provincial club differences, players in the provinces tending to be between the ages of 21-34 (54%) while

*The 1950 Government Social Survey excluded gaming both from its main survey and from its questions about other forms of 'betting'.

those in London clubs were older (74% were aged 35 years and above). In the case of the N.O.P. population, this difference may be due to socio-economic factors, so that provincial clubs' greater proportions of younger players relate also to their greater proportions of C1 and C2 customers (about 84%), disposable income being greatest amongst the younger men in these groups. In London clubs, on the other hand, 75% of players came from the AB group.

In the general population*, Gallup (1972) found gaming to be mainly an AB group activity (7%), falling to 1% in the lowest class. Participation was found to be significantly associated with socio-economic status (Chi-square: $p .01$; d.f.3), and inspection of the respective participation-rates suggested that likelihood of taking part was related to high socio-economic status. These figures are similar, though slightly lower, to those of Downes et al., who also reported a positive relationship between income-level and 'at-least-occasional' gaming. By 1976, AB participation-rates had dropped to 2% (a considerable rate of change). Smaller falls occurred within C1 and C2 groups, but the rate for DE remained stable between 1972-6. These percentages are based on small frequencies; division of the data into 'upper' and 'lower' socio-economic groups shows that socio-economic status is still related to likelihood of gaming (Chi-square: $p .05$; d.f.1) though, bearing in mind the larger sample-size, this association seems a rather weak one. The majority of AB gamblers went more than once a week.

There is little data on the amount of money characteristically staked by players. Gallup (1972) quote a figure of 507 pence per visit for their sample of 29, while Downes et al. suggest that, for many players, gaming is occasional and play of short duration; about half of their sample had stayed for two hours or less on their previous visit, played ten or fewer games, and staked 50 pence or less on each game. They suggest that the majority are prepared to lose about £5 per visit. Assuming that the Gallup respondents took the question on stakes to refer to losses, these two estimates relate well to each other. The N.O.P. survey of gaming club customers, however, found that while the majority (55%) were prepared to lose only up to £10 per evening, many others (31%) said they were willing to lose up to £50. It is likely that customers' actual behaviour would be somewhat more cautious, and in this context it is interesting to note that the clientele of provincial clubs were less prepared for large losses: only 23%, as against 57% of London club players, were willing to lose about £10 in an evening. This discrepancy may go some way towards explaining the fact that London clubs accounted for 75% of the total gaming club 'drop' in 1975/6 (Gaming Board, 1976).

*Results from national samples cannot, of course, be directly compared with those of special sub-groups, such as studies of the clientele of gaming clubs. This is because although smaller percentages of lower socio-economic group members may participate the total numbers of individuals in these groups is larger. The results of the 1976 Gallup survey indicate that while, of the total sample, 2% of each of classes AB and C1 participated, when the sub-sample of gaming-club players is examined these proportions become 24% and 38%, respectively.

Independent verification of expenditure estimates is difficult to obtain. Percentage deduction from stakes in gaming is considerably smaller than the figure of about 20% for betting. Moody (1972) suggested that the overall percentage for banker's games was, even in 1970, unlikely to have been above 5%, though lack of information made it impossible conclusively to rule out margins of up to 9%. The disproportionate popularity of American Roulette (Gaming Board, 1974) indicates that the lower figure is the more likely one. Because of this it takes a greater amount of turnover to generate similar profits to those in betting, though this lower percentage return is offset by a considerably higher rate of play: Downton & Holder (1972) have quoted a speed of ninety wheel-spins per hour for roulette, a game which returns an average of 2.7% (except on 'evens' bets) to the banker. Little is known of average turnover per player, however, except that given these sorts of profit-margins, it will be very considerably higher (by at least about eleven or twelve times) than that of expenditure.

Although there are no turnover figures from which to calculate personal expenditure, the average individual 'drop' per player-visit can be estimated. Figures for the national 'drop', for numbers of players and frequency of their attendance (Gaming Board, 1975) suggest that the average amount of money exchanged for chips per player-visit is about £60. While this figure, which simply represents money laid out on chips before or during play, cannot be equated with personal expenditure - for this purpose one would also have to know how many chips were cashed in at the end of the gambling - and while the figure is undoubtedly affected by the influence of the numbers of heavier London gamblers (many of them foreign visitors) in this national sample, it would nevertheless seem to argue for rather higher frequencies of play per session than those quoted by Downes et al. Whether it also indicates higher levels of expenditure is more difficult to determine since profit-margins are probably rather lower now (cf. Downton & Holder, 1972), while rates of play and minimum stake-levels are probably higher as a consequence of this, and of the effects of inflation. The rise in the amount of 'drop' over the last few years suggests that, as in betting, gaming clubs are successfully maintaining the real value of their profits - given little evidence of any rise in the numbers of those gaming - either by encouraging existing players to stake more, or more often (Gaming Board, 1976).

Bingo

Like gaming clubs, bingo became a significant form of gambling only after 1960 and, according to Newman (1972), by 1963 an N.O.P. survey estimated that about 12% of the adult population participated. Growth probably increased over the next few years; for 1968 Downes et al. (1976) report that participation in bingo at commercial and working men's clubs was running at about 16%, though by 1972 the Gallup Survey was reporting only an 11% rate, (12% in 1976). Downes et al. suggest that the discrepancy between Gallup's and their own figures may be a consequence of the former's omission

of working men's clubs from the survey (Gallup's (1976) figures for women (15%) are similar to Downes et al.'s (at 16%) for 1968 - and to Mass-Observation's (1970) figure of 13% - only those for men (9%) being considerably lower than the corresponding results (17%) from the 1968 survey). Various Gaming Board surveys (1972, 1974 and 1976) provide a similar picture: 14%-15% of the adult population participate 'with some degree of regularity', and 84% of these players are women. It can be concluded that, for commercial bingo clubs, the game is a predominantly female activity participation in which has, after an initial period of rapid growth, remained relatively stable.

Gaming Board surveys indicate that only 9%-11% of those attending clubs are under thirty years old. This is supported by national figures: Gallup (1972) note that participation is concentrated amongst those twenty-five years old and above, though the trend is not a very strong one and is smaller still in 1976. Gallup also show participation by single people to be small. The Mass-Observation (1970) study, which dealt mainly with married women, showed similar trends and Newman (1972) reported proportionately more players, male or female, as coming from the middle age-range of married people*. As far as married women are concerned, Mass-Observation reported marked variation in participation according to social class, from only 3% in class AB to 17% in DE. This finding agrees well with results from the 1972 and 1976 Gallup surveys, both of which reveal statistically significant associations (Chi-square; $p .001$; d.f.3) between socio-economic status and participation in bingo. Examination of the actual participation-rates for the two surveys indicates that this relationship is an inverse one, though the very low rates for AB members (2% vs. 17% for DE members, in 1976) exert a disproportionate influence. Overall, the findings support Downes et al.'s delineation of bingo as being a predominantly working-class pastime. In addition, Newman notes that during the period of most rapid commercial growth, recruitment was greatest from the working-class, the participation of higher socio-economic groups remaining small and stable.

According to Gallup (1972) 48% of participants (56% by 1976) played bingo at least once a week, and this figure rose to 68% (80% by 1976) for those playing once a month or more often. In addition to considering the number of visits made to the club, information about the numbers of games played per session, and the number of cards played per game is necessary if unambiguous estimates of average outlay are to be made. Downes et al. report that the vast majority of their respondents staked only 25 pence or less per game; since most played five games or less per visit, and since the majority were regular (at least weekly) players, an outlay of between 75 pence and £1 seems a reasonable estimate.

*As mentioned earlier, Downes et al.'s results differ on a number of counts from other survey findings, possibly because of their inclusion of a wider variety of clubs. They found proportionately more young than middle-aged people playing, especially among women.

§Frequency tended to be higher among lower socio-economic groups, except for the case of two class AB members who went more than once a week (Gallup, 1976).

This compares fairly well with the Gallup (1972) figure for average stakes of 65 pence per occasion, with Gaming Board estimates of between 80 pence and £1.10 in 1972, and £1.13 - £1.25 in 1974, and with what can be gathered from information given by the Mass-Observation Survey of 1970 given the effects of inflation*. Average stakes for 1976 vary from £1.37 to £1.58, according to size of club. The Gaming Board note that stake-levels have - as in other forms of gambling - not risen as rapidly as inflation.

Promoters have no direct financial interest in encouraging players to raise their stakes. Since the Gaming Board restricts their freedom to increase admission and participation charges, however, promoters do have an interest - especially during times of rapid inflation - in speeding up play and shortening the duration of sessions, though Gaming Board vigilance may well make the recruitment of new members and increasing people's frequency of attendance more practicable ways of maintaining profitability. These practices are all likely to have a direct effect upon average personal outlay, though it is not clear from existing information whether they or other factors, such as increased charges or players' own decision to increase their stake-levels, are responsible for the small increases of outlay in recent years.

Gambling: all forms

On the assumption that different forms of gambling all have certain basic features in common, people often quite reasonably want to know about the relationship between participation in 'gambling' - regardless of type - and selected characteristics of gamblers, such as sex, age, income, social class etc. The simplest composite measures are those which allow samples to be divided into gamblers and non-gamblers on the basis of participation in any of a pre-determined number of gambling activities. Likelihood of participation is then examined in relation to other variables. More complex measures, which take into account both frequency of participation and number of gambling outlets used, have also been devised (cf. Downes et al. for discussion and examples of these) in an attempt to improve the sensitivity and conceptual satisfactoriness of such global measures. While admitting that problems are involved in their construction[§], Downes et al. claim that these measures are desirable for theoretical purposes - that is, for testing general sociological theories of gambling. This topic will be discussed further in Chapter 12 of Part Two.

*As noted earlier, outlay is returned to participants in aggregate as prizes of prize-money. Players' expenditure can be calculated in terms of admission and participation charges alone (in 1976 the average costs were between 32 pence and 40 pence) or with the addition of outlay - though the latter practice is of arguable validity.

§Decisions about which forms of gambling to include and which to omit have to be made, as do assumptions about the equivalence of different types. When, for example, it comes to scoring the extent and intensity of an individual's participation, ways must be found of satisfactorily combining frequency information relating to different forms of gambling - or even, on occasion, of combining this with information about the numbers of different types of gambling in which an individual takes part.

So far as the social distribution of gambling is concerned, composite measures of, or inferences about, overall gambling differ slightly in their findings according to whether they are measuring participation alone (results from Newman, 1972; Gallup 1972 and 1976) or frequency of participation. Downes et al., for example, use a measure of mean 'total' gambling frequency, incorporating information about numbers of gambling sessions over a 12-month period for the pools; on-course and off-course betting; pub, club and private gaming; gaming-machine gambling; and bingo. As might be expected, results inferred from Newman and Gallup show a strong similarity to those for pools-betting, which is the most popular and most regularly-played form of gambling: men were much more likely to gamble than women; participation was more likely for those between the ages of 25-64 years, and particularly for those over 35 years old; married people were more likely to gamble than single ones; and gambling participation was inversely related to socio-economic status.

In terms of 'total' gambling frequency, Downes et al. also found considerable differences between the sexes, with men gambling very much more frequently. Younger men were found to be more prone to gambling, particularly those from the upper working-class and the poor (Downes et al. used four categories of income - poorest, poor, affluent, most affluent). So far as income was concerned, the clearest finding was that the poorest men were far less involved in gambling than the rest. While the poor appeared, from the unadjusted figures, to gamble the most frequently of all, adjustment for the influence of other factors* reduced the mean frequency to one slightly below that for the most affluent. Socio-economic status was negatively related to mean gambling frequency and though adjustments to the figures reduced the differences, working-class men still gambled with a higher mean frequency than the middle classes. Interesting interactions between income and social class, and between age and social class, were found: the researchers singled out the '... a-typically high gambling by the young, single, skilled working-class men in the poor but not the poorest income-group ...' (p.95)§.

Conclusions

While information about extent and intensity of participation in gambling overall may be interesting (and useful for other purposes) it is, nevertheless, an indirect and inefficient method - compared with that of looking at the major forms of gambling individually - of trying to assess the likely social and economic impact and consequences of gambling. From the discussion of parti-

*For men, the other factors might be - as appropriate to the particular analysis being undertaken - area, social class and income, for example.

§Downes et al. also looked at social variations in gambling, using the more complex composite measures of multiple gambling referred to previously. As might be expected, results from these alternative measures present a rather different picture in some respects of the social distribution of gambling (it appears more uniform). This indicates one of the drawbacks of composite measures - that choice of measures may influence the shape of the findings and that it is not always easy to decide, in the end, which to go by.

cipation and outlay for the four major individual types of gambling, however, it was possible to conclude that for the majority of gamblers participation was moderate, whether viewed in terms of outlay or of the time involved. There was, nevertheless, some indication that in off-course betting (and to a lesser extent in other forms of gambling over the years) commercial pressures - themselves the effects, perhaps, of inflation and fiscal policies - might be bringing about changes in the patterns of participation of existing punters, which led them to bet more frequently. For the average gambler, of course, these strategies would merely maintain the real value of his outlay and, hence, the promoter's profits: the economic consequences, as has been shown, would be unlikely to be of any significance. In certain forms of gambling, however, these changes to the nature of the activity may be leading a minority of gamblers to take part too frequently and spend too much money as a consequence. Off-course betting, it will be shown, is particularly likely to be implicated in such consequences, though other forms - gaming and bingo, for instance - have, if unrestricted, a similar potential. Since only a minority of gamblers is affected, however, further consideration of this topic will be postponed until later.

Returning to the majority of gamblers once more, Downes et al.'s discussions of stake-sizes and use of winnings for the individual forms of gambling also provide little evidence to support the view that the bulk of participants squander money recklessly, whether on stakes or from winnings. There is, for example, some evidence that for the pools (Peterson, A.W., 1952; Downes et al., 1976) and for horserace betting (Herman, 1967; Weinstein & Deitch, 1974; Downes et al., 1976) size of stake rises with income; it also appears to fall with increasing age, and this itself - given the socio-economic distribution of most forms of gambling - may reflect income factors*. As far as the pools are concerned, there is evidence that many people budget for their expenditure, that participants both intend to use any large win thriftily and sensibly (Gallup, 1972) and in fact do so if and when that event occurs (Smith & Razzell, 1975; Downes et al., 1976), spending the money on 'home-centred' items as their first preferences. In horserace betting, too, small wins are re-bet more often than large ones, while re-betting itself is largely confined to regular punters - though of these, three times as many save their wins or spend them on household goods as re-bet them§ (Downes et al., 1976).

Such evidence, patchy and tentative though it is at present, seems to show that most punters, regardless of which form of gambling they engage in, are able to exercise considerable self-control over their involvement. Although there is evidence that outlay is positively related to disposable income - this can be seen

*Downes et al. identify the more affluent, skilled working-class men - young, but not the youngest - as most likely to wager high stakes in horserace betting.

§Studies of on-track punters in the United States (Herman, 1967) confirm the conservative betting patterns of most participants - where stakes were large, bets tended to be on favourites (high probability of winning), and although re-betting of winnings occurred, usually only a fixed proportion was re-bet.

in a general way from the details of weekly gambling expenditure as recorded in the Family Expenditure Surveys - it is more difficult to assess whether expenditure is directly proportional to income. Two issues are involved in making such an assessment; first, if the participation of the lower income-groups in gambling is disproportionate to their numbers in the general population (which, for gambling overall, and for the pools, bingo, and off-course betting it appears to be at present), then there is a *prima facie* likelihood that their expenditure will be too. But, secondly, considering only those who participate, lower income-groups (though they may be more likely to gamble than higher ones) may spend less when they do so than the better off, and it is this second comparison which highlights the crucial issue. While Tec (1964) has commented that, so far as Swedish football pools are concerned, stakes are proportional to income, findings from the United States (Weinstein & Deitch, 1974) suggest that the degree to which outlay or expenditure approaches proportionality may vary from one type of gambling to another. Although they were unable to assess the position with regard to off-course betting on horses, they reported some evidence that sales of lottery tickets might represent a slightly higher proportion of income expenditure on the part of the lower socio-economic groups.

When it comes to evaluating the likely significance in social or economic terms of such slight evidence of disproportionate outlay or expenditure (where it can be shown to exist at all), the traditional view is to criticise lower income-groups for wasteful expenditure, and commercial gambling operations for exploiting this market. It will be argued later (Part Two), however, that it is equally valid to relate both differential participation and disproportionate expenditure to the ability of certain forms of gambling to satisfy the particular needs of certain individuals and socio-economic groups. By looking on gambling as an entertainment or hobby which appeals to particular segments of the population disproportionate expenditure can be explained, though it is clearly a more valid explanation for some sorts of gambling than others - namely those where increased expenditure is related to frequency of play rather than amount staked. Weinstein & Deitch, discussing at what point expenditure can be regarded as excessive, comment that since people vary in their use of discretionary income, some may devote a considerable proportion to one object rather than spread smaller amounts over several. Although this expenditure - or that on any other hobby or interest - may not meet with the approval of the gambler's family, it is hardly an issue for the state unless and until it makes inroads into essential expenditure.

Another set of objections made by those concerned with the gambling expenditure of lower income groups is that of the potential regressivity of gambling when used directly as a method of revenue-raising, or when subject to substantial taxation. As Weinstein & Deitch point out, any tax which rests on general consumption is regressive as far as the lower income groups are concerned because they have to use proportionately more of their income than the rich on purchasing the same consumer items: such taxes are not geared to ability to

pay. Insofar as it is in the same position as items of consumer expenditure such as alcohol or tobacco, there seems to be little reason for making special case of gambling where questions of regressivity are concerned. When it comes to the introduction of new forms of gambling, such as local authority or national lotteries, primarily as revenue-raising measures (albeit voluntary ones) then the question whether it is defensible deliberately to introduce a regressive form of taxation in this way arises. As Weinstein & Deitch comment, however, lotteries are usually substitutes for other taxes, which might be just as regressive, and the revenue from taxation is, in the final resort, used not only for the benefit of all but, to a disproportionate extent, for the benefit of the lower socio-economic groups.

A concept with some affinity to regressivity is that of value-for-money. There is plenty of evidence that some forms of gambling - regardless of differences in the probabilities of winning they offer or the size of potential winnings - give a better percentage return than others. Lotteries and pools, for example, give a rather poor return over time on money invested, because over half of the original stakes are swallowed up in overheads and taxes. Within different forms of gambling too, some types of bet may provide a better average percentage return than others. The implications of these variations will be discussed - especially in relation to horserace betting - in more detail later (cf. Part Four, Chapter 24), but at this point it is worth pointing out that if the types of bet with an inferior percentage return are those favoured for one reason or another by members of lower income groups, then these punters will in effect have to spend more than richer punters (with different betting patterns) in order to secure the same return. The possibility that lower income groups might be differentially involved in these forms of betting (longer-odds straight bets in horseracing, for example, or the various accumulator and combination bets) has been put forward as an explanation of the allegedly greater profitability of betting-shops in working-class areas and as evidence that a major economic consequence of gambling is that it promotes the shift of wealth via betting from lower to higher socio-economic groups. Although the mechanism behind this is often not spelled out it appears to refer to more than the fact that, as John Banks (cf. Stevenson, 1971) put it: '... it's his bookie who goes on the sunshine cruise, not the punter.'

5 Broader Economic Consequences of Gambling

Some general considerations

That the participation, outlay and expenditure of the average gambler appears moderate, severely damages the position of those who seek to claim gambling has far-reaching and adverse social and economic consequences. Attempts have, however, been made from time to time to link gambling, or changes in its volume, to other indications of economic malfunctioning. It has, for example, been suggested that gambling saps work effort and increases dissatisfaction. Not only is there no evidence that gambling disrupts or distracts work efforts (cf. discussion in Royal Commission Report, 1951; Tec, 1964) but, as Weinstein & Deitch point out, the fact that gamblers seem as aware as non-gamblers that gambling is not a profitable activity would reduce its power to compete with the normal sources of income and ensure the latter's continuing importance to the gambler. Although some relationship between dissatisfaction with work and gambling has been claimed in relation to the pools (Tec, 1964) and to frequency of betting and amount bet (Downes et al., 1976) this is not necessarily to say that gambling engenders job dissatisfaction. While the direction of the relationship is not yet clear, it is just as likely that gambling is engaged in as a compensatory activity which serves to reconcile the gambler to his dull job.

Others have tried to relate increases in the volume of gambling which occurred during the early 1960's to reported increases in the incidence of bad debts, to increases in court actions for their recovery, and in bankruptcy proceedings (Paley & Glendinning, 1963). The problem with all these alleged consequences of gambling is that they could just as easily reflect other economic influences such as the growth of hire purchase as a means of acquiring consumer durables; the authors provide no evidence of any overlap between the populations of defaulters or bankrupts and that of gamblers. Alternatively, both gambling and the prevalence of defaulters and bankruptcies might reflect more general economic conditions; Mowrer (1950) commented that gambling declines during depressions but tends to increase in periods of prosperity, during war-time or other periods when individual conduct has become disorganised. Others, however, have asserted that gambling should be expected to increase during depressions, either because it provides a distraction and escape-valve, or because its economic attractiveness is temporarily increased. On a similar point, Moody (1974) attempted to relate the rise in popularity of the football

pools during 1971 to the parallel increase in the cost of houses at that time*. Perhaps the safest conclusion is that economic conditions may affect different forms of gambling in varying ways, those forms delivering large prizes for a small outlay becoming relatively more popular than others during economic recession or remaining more resistant to its effects. As has been shown in previous chapters the effects of inflation may often disguise the extent to which broad economic factors, together with others - such as fiscal policies and saturation of demand - whose impact is greater in some sectors of the gambling industry than others at any one time, are affecting participation and outlay. This is particularly the case at present.

Paley & Glendinning's contention that expenditure on gambling causes a decrease in retail expenditure, especially in the food trade, is more difficult to answer without more detailed knowledge of the determinants of increases and decreases in essential expenditure. It could be, rather, that increased prices alone were serving to limit growth in this area§, independently of the effect of gambling, to a pace slower than that hoped for by retailers and there seems in any case no obvious reason why gambling, rather than tobacco or alcohol consumption, or car ownership, should be singled out for blame. In a more general way, it can be argued that a growth in the volume of gambling may result in a loss of revenue - in the form of consumption taxes - to the state, and a loss of expenditure on small consumer items, to the retailer and businessman. Weinstein & Deitch point out that spending money on lottery tickets can be expected to replace other small expenditures, while large wins may not always be returned to the spending stream, but be saved instead. Apart from the fact that this is not a highly-preferred mode of using winnings (cf. Smith & Razzell, 1975), it is difficult to see why saving should necessarily be regarded as an adverse economic consequence.

Arguments such as these characteristically proceed without the support of empirical data. In the absence of more reliable information, the most that can be said is that, so far as can be seen from the relationship between expenditure and disposable income, participation in, and expenditure on, gambling reflect the general economic circumstances of the individual and of the country quite well although - within this overall relationship - there may be room for some variations in popularity amongst different forms of gambling as they reflect or fail to reflect people's current aspirations or needs. This implies that the majority of people are quite capable of defining expenditure on gambling as more or less wasteful according to the prevailing economic conditions and the amount of discretionary income which is available to them. Similar arguments apply to the claim which is often made that the gambling industry competes for scarce manpower resources. Quite apart from the fact that many employees

*Moody offers a number of alternative - and perhaps more plausible - explanations, specifically related to the management of the commercial pools operation, for this rise.

§Once a reasonable standard of living has been achieved in respect of essential expenditure, there is a case for expecting further growth in this area to be limited (it is in any case self-limiting), and for increasing proportions of further earnings to be spent in other ways.

work part-time, this argument is one which could be applied to practically any industry not directly concerned in the production of goods. For it to be substantiated one would need to see evidence of competing demands for the skills utilised by the gambling business, together with evidence (a) that market forces such as the offering of higher wages in times of labour shortage failed to limit the numbers the gambling industry were able to employ and (b) that the economic worth of the gambling industry was in each case less than that of its competitors for labour. Since gambling provides employment, liberates capital and income for recirculation in the economy - money is often reinvested as gambling enterprises diversify into other fields (Moody, 1972) - and provides a ready source of revenue to the state, its contribution to the economy may well be greater than is often supposed.

Weinstein & Deitch have even suggested that direct state organisation of forms of gambling such as lotteries may have a positive economic effect since they seem to tap new taxation sources. While these may not be extensive ones, they may often present politically the easiest way of extracting marginal tax increases from taxpayers. There are also, of course, powerful arguments against this method of raising funds, not the least of which is that the state (wearing its fiscal hat) has an interest in expanding and increasing participation in order to maintain its revenues while at the same time (wearing its caring hat) it attempts to prevent excessive involvement (cf. Chapter 25). Given the lack of knowledge about the effects of encouraging one form of gambling upon recruitment to other potentially more dangerous forms, it might be wisest for the state to confine itself to taxing the turnover created by others, on the principle *non olet pecunia*, rather than to invest its reputation - with inevitable difficulties of subsequent extrication should the need arise - in providing the means for generating such turnover itself. The subject is, however, beyond the scope of this review; further discussion of the merits and problems of state participation can be found in Peterson, V. (1965), Rubner (1966), Moody (1972 and 1974) and Weinstein & Deitch.

Profit-margins and profitability in off-course betting: preliminary issues

At the end of Chapter 2 it was mentioned that information about expenditure on gambling is by no means the only way of determining its economic consequences. Knowledge about gross profits current in the various forms of gambling also has a bearing on this issue, and attempts have continuously been made not only to estimate the amounts of money involved, but to express gross profits as a percentage of turnover. Information about gross profit-margins has clear relevance both to discussions of value for money and to judgements about gross figures enough; a thorough analysis would require information latter concept tends to conceal the fact that the relationship between profitability and value for money is not a straightforward one. Nor is information about gross figures enough; a thorough analysis would require information about the individual profit-margins for different types of bet, about taxes and levies and how they were met, about overheads incurred, and about net profits and profit-margins.

Given the uses to which such information could be put, it is not surprising that for few if any forms of gambling are sufficient data available on which to make the necessary calculations. In the case of commercial bingo (excluding prize bingo) where admission and participation charges, rather than stakes, provide the turnover from which gross profits are derived, the necessary information would seem relatively easy to obtain in order for questions about profit-levels and value for money to be satisfactorily answered. But it is for just those forms of gambling towards which criticisms are most often directed that information is poorest. In the case of the pools, although gross profits (deductions from stakes) are published, commission charges do not have to be declared so long as they remain no more than 3% of the total stakes. In gaming, taxation is related to the rateable value of club premises and numbers of gaming tables. As a consequence, although information may be available about profit-margins for individual bets in games, such as roulette, or in a more general way for other games, little direct information is available about turnover (other than the 'drop') to which figures about declared profits (net or gross) can be related. In the absence of social policy requirements that turnover should be made known, it is hardly surprising that fiscal policy should concentrate on feasible and cost-effective methods of gathering taxes, even if these cannot be directly related to profitability.

The position as regards estimating gross profits and profit-margins in betting illustrates some of these problems. The Royal Commission on Betting, Gaming and Lotteries, discussing the position in 1950 when off-course cash betting was still illegal, estimated bookmakers' gross profits in this area to be about 10% of total stakes wagered - a figure which seems to have been accepted by trade sources up to 1965 and which was employed by Moody (1972) in default of better information as the basis for his estimate of off-course bookmakers' 'take'. Since 1966 the imposition of a general betting duty on turnover, following the earlier (1961) introduction of a much smaller horserace betting levy, has further complicated the interpretation of later figures.

Other investigators, however, have tended to place estimates considerably higher. In an appendix to their report, the Royal Commission (1951) described an alternative method of arriving at an estimate of the gross profits of starting-price bookmakers. For this purpose a number of races (usually a more-or-less complete record of a season's flat racing) are analysed so as to categorise all runners into a predetermined number of starting-price-odds groups. Records of the results of the races in which these horses ran are then consulted to determine the number of occasions on which horses in each odds-category failed to win, and this figure is then compared with that for the number of occasions upon which - assuming that the odds provided no profit to the bookmaker - they could have been expected to win. Discrepancies between the two (the actual number of winners in a particular category is usually less than the expected number) supply information about bookmakers' likely gross profit-margins at each odds-level. Results of the 'Picture Post' survey of 1,163 races

during the 1950 flat-racing season indicated that profit-margins became larger as the odds became longer, and that overall profitability was of the order of 20%.

This early attempt at estimating was criticised on the grounds that it failed to take into account the very different amounts of money wagered at different odds; as the Commissioners pointed out in their discussion of these results, a much greater proportion of the total stakes is wagered at short odds. Since the analysis made no attempt to compensate for this imbalance it was possible, the Commissioners thought, that the overall figure of 20% considerably overstated the real effect of the larger profit-margins in operation at longer odds. In consequence, subsequent investigators (Figgis, 1951 and 1974; Dowie, 1975) while continuing to use similar techniques have made one important modification. In order to achieve a more accurate representation of real-life staking practices, a simple weighting system was devised to reflect the fact that the amounts of money wagered on horses running at different odds vary according to the estimated probabilities of the horses' winning. Whether the resulting analysis uses a model which accurately reflects the relationship between stakes and odds has been a matter of controversy (cf. Dowie, 1975), though it has been claimed in its defence that since the model merely represents an application of the principles of efficient bookmaking to published information about starting-prices (which have themselves been determined by supply and demand in a competitive betting market) the figures derived for cumulative gross profit-margins have some *prima facie* validity.

Application of this method to starting-price returns from 2,218 races in the 1950 flat-racing season (Figgis, 1951) suggested that bookmakers at that time were working on an overall gross profit-margin of about 20%, and subsequent analyses for 1965 (about 17%) and 1973 (20%) by Figgis indicate that gross margins have changed little over the last 23 years. Dowie's (1975) analysis, which differs slightly from earlier methods, yields a gross profit-margin of 23% for the 1973 season. All such methods effectively consider only straight bets 'to win' and do not take into account the profit-margins afforded by other ways of betting. This led to some criticism of Figgis's 1973 findings at the time of their original publication*. But although in the past - as Figgis himself has shown (1951) - inclusion of place-betting might have lowered overall profit-margins, later adjustments to the place betting rules make this less likely now. As for combination betting, this has always yielded considerably higher profit-margins than other forms of betting (cf. Chapter 24) and would be likely, if included, to inflate overall estimates.

*cf. the letter by Waugh in 'Sporting Life', 14.3.74.

§This would reduce somewhat the discrepancy between Figgis's and the Royal Commission's estimates, though the latter have described street betting - perhaps the nearest in clientele and operation to off-course betting today - as having the highest profit-margins of all forms of book-making.

Superficially these sorts of estimates might seem to agree very well with the estimates provided by the trade over the last few years. In his discussion of Figgis's results, Michael Rolfe ('Sporting Life', 14.3.74) put off-course betting-shop profit-margins at about 17% of turnover. In the following year (Consultation on 'Compulsive' Gambling, 1975) another trade source put the figure at 18%, while - in his evidence to the Royal Commission on Gambling* - Phil Bull of 'Timeform' estimated gross profit-margins to be 19.9%, on the basis of confidential information supplied to him by Corals, Hills, Ladbrokes and Mecca. The apparent unanimity of estimates derived from statistical and trade sources is misleading, however, and has been brought about by the exclusion of general betting duty deductions (6% of turnover for 1973; 7½%, for 1975) from gross profit-margins derived from statistical analyses. Inclusion of this duty, 80% of which is usually collected by the bookmaker as a deduction from winnings, raises Figgis's and Dowie's estimates of gross profit-margins to 24.8% and 27.6%, respectively.

Figures quoted by the trade, on the other hand, state that betting duty and levy payments are made out of the 20% of turnover retained by the bookmaker. If this is so, it indicates that punters in aggregate would be receiving in the order of 88% of their outlay back in the form of winnings - a figure which gives bookmakers a gross profit-margin of only 12%, made up of about 9% expenses and 3% of pre-tax profits - were it not for the betting duty, which lowers this figure to 80%. The figure of 12% as the price of the betting service agrees very well, bearing in mind rising costs, with the estimates of 10% for street betting, made by the Royal Commission in 1951, and with a similar figure from Moody (1974) more recently.

The discrepancies in the estimates for gross profit-margins which flow from statistical analyses and trade sources are clearly irreconcilable, depending as they do on fundamental differences of opinion about the right expected value to be attributed to the average bet. Despite this basic difference of opinion over the level of percentage return received by bookmakers, however, both sets of data indicate that 'take' has been relatively consistent - at either about 10%-12% (trade figures) or 20% (statistical estimates) - over the last 25 years. This indicates that the main source of loss of value for the punter has been the imposition of a general betting tax, rather than manipulation of prices (by, for example, the offering of 'cramped odds'§) by bookmakers in order to improve their profit-margins. The statistical analyses certainly show little evidence of any overall loss of value, although the provision of a wider information service and its inevitable effect in creating a much more sensitive market† is likely to

*This submission was serialised in 'Sporting Life' from 12.2.77 - 26.2.77. See also the Betting Office Licensees Association's recent evidence to the Select Committee on the Totalisator Board (1977: Appendix 4).

§cf. Baerlin, racing correspondent of the 'Observer' and 'Guardian' newspapers, in Ewart (1974).

†cf. Butchers, 'Newsboy' of the 'Daily Mirror', in Ewart (1974).

have reduced value at those odds-levels where insider information used to benefit a minority of professional gamblers. In fact, figures derived from trade sources in 1950 (Royal Commission, 1951) and 1975 (Bull, 1977) suggest off-course bookmaking's pre-tax profits have remained at about 3% of turnover. Expenses have probably increased somewhat (though the overheads of street betting were quite high) in the intervening period, but much of this increase may have been absorbed by the promotion of more profitable kinds of combination betting or by increasing turnover, rather than by appreciably reducing the value for money given by straight betting.

In summary, statistical and trade sources of information are in disagreement about levels of profit-margins, but in agreement in indicating that these have changed little over the last 25 years. A study of the Tote's finances and comparison of these with turnover breakdowns for bookmakers (Bull, 1977), however, suggests that - unless accounting errors on a massive scale* are being made - trade sources of information have given, and continue to give, a very much more accurate picture of profitability in the betting industry than those achieved by statistical analyses of starting-price returns - a conclusion which throws some doubt upon the validity of the assumptions used to justify the simple weighting-system upon which such models of betting behaviour are based.

Given these difficulties in the way of making accurate estimates of profit-margins and net profits it is inevitably difficult to decide whether profit-levels in the industry are to be regarded as excessive. Moreover, judgements may reflect considerations which are only indirectly related to profitability *per se*. Information about the size of a business's turnover, or gross or net profits may alone be sufficient to create the presumption in some people's minds that excessive profits are being made, or that reasonable value for money is not being offered. Others may be influenced by their political opinions about the extent to which profits should remain in private hands, their judgements about the social acceptability of the business concerned, the ease with which the profits are apparently earned (comparisons being made, more or less justifiably, with other types of business or industry), or the uses to which these profits are put.

More often than not it is not clear whether the critic's primary concern is with consumer-protection or efficient taxation, though it is obvious that - since value for money is more likely to be at risk under conditions of high, than of low, taxation - strategies for preventing exploitation may well differ from those concerned to regulate profits. Attempts to reduce profits by raising taxation of turnover, for example, may serve to increase rather than diminish exploitation of the punter. In betting, where profit-margins can be adjusted relatively

*In such financial breakdowns, betting duty is represented as a deduction from the promoters' 20% retained from turnover. If, in fact, it was deducted from the figure (80% of turnover) given for returns to punters, this would bring trade figures much more into line with statistically-derived estimates. Errors of this magnitude are, however, almost inconceivable.

unobtrusively, increases in rates of taxation may - where they are not simply passed on directly as a levy on the punter's returns - be reflected in an overall shortening of prices, in selected price revisions, or in other ways. It would seem possible for such forms of gambling to maintain more-or-less constant levels of profit in the face of successive fiscal demands - though at the cost of an erosion in value for money.

When the probabilities involved in wagers are subjective estimates, as in betting, covert reductions in value may be easier to achieve than in other forms of gambling (cf. Chapter 11). Where probabilities are determined by construction of equipment (roulette, for example) or rules of play, profit-margins are easier to regulate - a factor which makes it easier both to keep profits at reasonable levels and to protect the gambler against exploitation (cf. Gaming Board Reports, 1969 onwards). But excessive profits are not necessarily limited simply by control of profit-margins, since unless turnover is also regulated the promoter may increase it by speeding up play, manipulating stake-limits, encouraging heavier staking, or by increasing the numbers of players or their frequency of participation. Not only would such measures (if permitted to occur*) tend to counteract controls on profit-margins for individual bets; they would also be open to the criticism that they reduced value for money, by changing the 'essential nature' (cf. Chapter 23) of the activity, or that they exploited the public by stimulating demand and increasing the risks of excessive involvement. Unless both turnover and profit-margins can be regulated, efforts to reduce either profit-levels or likelihood of exploitation will probably achieve only moderate success, or the success of one aim may be achieved at the expense of the other§.

Growth and direction of growth in the gambling industry

While the difficulties of regulating profits have themselves contributed to anxieties that profit-levels in the industry may be excessive, there is also a more substantial basis for these beliefs, and this is the evidence of the speed with which the betting and gaming industries grew during the 1960s. Following the legalisation of off-course betting and before the imposition of a general betting duty, for example, it is likely that profits in betting-shops were at their highest; businesses multiplied and expanded rapidly and new betting-shop owners appeared quickly able to accumulate sufficient capital to reduce their need to lay off their larger bets with the trade departments of bigger credit bookmakers such as William Hill (Paley & Glendinning, 1963). Later information (cf. Moody, 1972; and Dessant, in Downes et al., 1976) suggests that although

*In fact, the Gaming Board have been able to restrict promoters' ability to increase turnover by a number of methods, none of which depend upon direct taxes on turnover - a course which is often considered impracticable.

§Whether profits are controlled or not, the promoter cannot escape criticism: if his profits are high he will be accused of profiteering, while if they appear low he will be taken to task for having to stimulate demand in order to stay in business.

consolidation, through the growth of betting chains, rather than continued expansion in the numbers of betting shops, has been the trend latterly, profitability has still been high. Evidence from the Churches' Council on Gambling's annual reports, and from the Gaming Board's early investigations suggests that profitability was, if anything, rather higher in the gaming field until regulation of the grosser abuses and establishment of reasonable profit-margins and rules was achieved towards the end of the decade*.

The growth and direction of development of the gambling industry during this period is a subject of considerable interest from economic and financial points of view and - particularly in relation to its determinants - deserves a more thorough description and analysis than it appears to have received. While the rapid and no doubt substantial return on capital which characterised the earlier period of growth in the gambling industry was one of the main factors to encourage the development of companies controlling chains of gambling outlets, two further influences may also have contributed to the growth of larger, at the expense of smaller, gambling businesses: taxation, and the regulation of gambling. Both Hood (1972) and Dessant (cf. Downes et al., 1976) have commented on the greater economic viability of larger chains of betting-shops as compared with medium-sized or - to a lesser extent - single-man operations. The larger companies not only act as price leaders, but often control the hedging market which smaller firms have to make use of in order to lay off their larger commitments. The bigger firms, dealing as they do with much larger numbers of gamblers, are able to make certain risk-bearing economies. Thus, they usually possess sufficient financial reserves§ to cushion them against the effects of short-term losses, to reduce the need for frequent laying-off, to finance the more exotic combination bets and settle them at more favourable terms. These advantages, according to Hood, owe much to fiscal policy. The double taxation of hedging bets up to 1970 tended to push out bookmakers with insufficient capital to cover risks - a process which was no doubt assisted by the imposition of a rateable value tax on betting-shop premises. Such increases in taxation† raised the break-even point of businesses and needs for economies of scale tended to encourage growth of larger at the

*Statistical analyses of some of the casino games played before the Gaming Board drew up its regulations - particularly for blackjack played according to pontoon rules (Holder & Downton, 1972) and La Boule (Downton & Holder, 1972) - indicate that, in those authors' words, 'Those were indeed 'boom' times'.

§Chains were not only formed by the expansion of existing businesses (i.e. by horizontal integration) but also by penetration of the off-course cash betting market by companies which already had large interests in credit betting, or in other forms of gambling, and which bought up smaller chains of cash-betting outlets - a process which suggests that the industry grew first by internal means and only latterly by mergers as the larger credit-betting companies sought to gain a greater share of the market.

†Inflation and punters' reluctance to raise their stakes appropriately may - as we have seen - also have contributed to the shape and direction the industry took in the 1960's. Like increased taxation, inflation attacks profit-margins and profits through increased costs, and creates pressures towards increasing frequency of betting, improving efficiency and reducing value - all of which favour industrial concentration.

expense of medium-sized businesses. Although the single-man operation was also affected, Hood makes the interesting point that - apart from his ability to evade the full rigours of taxation - the small bookmaker may be prepared to accept relatively poorer economic returns in order to keep working for himself.

At the same time as fiscal policy was, in betting, encouraging economies of scale - a process which the Customs and Excise had originally helped to set in motion by their preference for betting-shops rather than 'pitches' (Hood, 1972) - so, in relation to gaming, the introduction of tighter regulation seemed to be having a similar effect. In its 1970 report, the Gaming Board itself suggested that the establishment of a proper system of controls in this area may have contributed to the concentration of businesses in a few hands, by giving '... a new impetus to the need for professional management and financial control'. This impetus was provided not only by the Board's regulations relating to the establishment and running of clubs, but also by its ability to determine the profit-margins for most forms of gaming, for bingo and for gaming machines*.

However this concentration of business has come about, and whatever its benefits so far as ease of tax-collection (Hood, 1972) or regulation are concerned, it is paradoxical that the same developments may have made the task of imposing further taxation or other requirements upon the industry more difficult. Recently, attention has shifted from concern with profit-levels to anxiety about other consequences of the growth of chain-ownership within individual forms of gambling, of companies with interests in many different forms of gambling§, and of conglomerates with interests not only in gambling but in other areas of the leisure industry (cf. Gaming Board Reports, 1970 onwards). The domination of the betting market by a few large companies, for example, might easily encourage the growth of restrictive practices amongst members of the oligopoly who would in any case, so far as the betting public were concerned, be more in the position of price-makers than of price-takers. The consequence of such *de facto* monopolies - particularly in betting, where the value of the commodity is from its very nature difficult to establish (see Chapter 11) - might be gradually to erode the value for money the punter was able to obtain. It could also be expected to increase promoters' powers of directing consumer expenditure into types of betting with the highest profit-margins or, more generally, into types of gambling which might encourage excessive expenditure and involvement.

*The Board prefers to obtain prior agreement for the profit-margins it recommends, but where this cannot be reached it can recommend that the Home Secretary impose a minimum figure (Gaming Board Report, 1975).

§Including, apparently, examples of vertical integration, as promoters also come to control equipment-manufacturers in the gaming-machine business, or as bookmakers begin to own or manage racecourses - or dogtracks (cf. 'The Times' 31.7.76). See also the Jockey Club's Memorandum to the Select Committee on the Horserace Totalisator Board (1977).

Whether or not these fears have much foundation at the present time is difficult to tell, although the existing information (Moody, 1972; Reports of the Gaming Board) suggests that the dangers of oligopolistic or monopolistic controls so far as the national market is concerned are as yet comparatively small. A common economic measure of monopoly or oligopoly power is given by the 'concentration ratio', a concept based on the relationship between the numbers of leading firms (usually five) operating in a given market and the size of their joint share in that market. Applying Walshe's (1974) criterion of a monopoly or near-monopoly - a five-firm concentration jointly sharing 90% or more of the market - to Moody's (1972) information on ownership of betting-shop licences, results indicate that the five major companies in 1971 owned no more than 14.8% of the total. This finding, of course, takes no account of the relative turnovers of those shops run by the big companies and those run by smaller chains or independent firms: Moody suggests that the former may have nearer 25% than 15% of the total off-course cash betting business*.

Before dismissing fears about the development of monopolies in betting as alarmist, it is worth examining the results of a study by Dessant (cf. Downes et al.) of the growth of the betting shop industry in Glamorgan during the years 1961-1967. While his findings tend to confirm national trends, the increased concentration of betting-shop licence ownership, by expansion and merger, which Dessant discovered gave rise to considerably higher five-firm concentration ratios. Of the total number of licences granted in Glamorgan in 1961, 47% went to the five largest firms. By 1966 this had only risen to 49%, but this apparent stability concealed local differences. In Cardiff over the same period the proportion of betting-shops owned by the big five rose from an already high 56% in 1961, to 69% in 1966. Such concentration ratios indicate that, while nationally a monopoly may seem far off, at a local level in certain areas it may be considerably nearer.

Leaving aside the inevitable local monopoly created when a market is only large enough to support one betting-shop in a particular area, it may be - as Dessant himself suggests - that there are in any case narrow limits to the degree to which true competitiveness can exist '... in an industry in which all the firms offer the same product at an identical price'. Although some scope for competitive pricing existed[§], Dessant found that in general bookmakers tended to avoid competition amongst themselves. He explains this by pointing out that most betting shops draw their customers from a very local catchment area.

*Comparative figures for 1975 have been roughly estimated, using data supplied by the Totalisator Board to the Select Committee (1977), and treating the Tote's own off-course betting-shop chain as one of the larger ones. In 1975, the five major companies owned nearly 24% of the total, and their share of the market had reached about 34% - substantial increases but still far short of an oligopoly.

§Limits on payouts could be raised, payouts for place betting improved, and a smaller proportion of the betting tax passed on to the punter.

Cutting profit-margins in order to attract the marginal punter would under these circumstances be unlikely to increase trade substantially, while the cuts would have to be passed on to regular customers as well.

From the consumer's point of view, betting-shop ownership may not be the best way of measuring at either national or local level the share of the market controlled by particular companies, since the SP betting market is determined by credit as well as cash betting, and the major credit betting companies, as well as having large chains, probably control a considerably larger proportion of the total betting turnover through the credit facilities they offer their clients and other (smaller) bookmakers. The potential power of price-making given to them by their total share of the betting market (on- as well as off-course) would in this case probably be very much larger - especially if, as Walshe points out, collusive oligopolies can operate satisfactorily* even in less concentrated markets than those defined as monopolistic by his fairly stringent criterion. Against this, it must be said that the Tote, particularly now that it has improved its competitiveness in terms of the numbers and types of off-course betting facilities it can offer, may increasingly be seen to provide an acceptable substitute to the bookmaker for certain types of horserace betting§. To the extent that it can provide effective competition, the Tote may become a useful means of regulating the influence of the larger bookmaking companies.

Rather similar questions arise when attempts are made to examine concentration ratios in terms of gaming and bingo club ownership. Aware of the potential dangers of monopoly power in gaming (as well as those implicit in the drive towards integration throughout the gambling industry), the Gaming Board in 1970 declared its intention of keeping a close watch on the growth and direction of growth of individual companies. From later reports, which give details of numbers of clubs together with information about their ownership, some rough assessment of monopoly power can be attempted. Figures from the 1971 and 1972 reports suggest that the five largest owners of gaming clubs together control between 26% (1971) and 23% (1972) of all clubs. For gaming, however, differences in turnover from club to club - particularly in relation to their geographical position, since the 24 London clubs together account for 72% of the total 'drop' (Gaming Board, 1975) - make concentration ratios based upon ownership alone especially unreliable indicators.

*Some economists have suggested that the mere existence of a trade association is sufficient condition for such restrictive practices to occur.

§This is particularly true since the passing of the Horserace Totalisator and Betting Levy Boards Act in 1972. It is not clear whether it was the intention that, in addition to securing a viable future for itself, the Tote should enter into direct and unrestricted competition with the bookmakers. If so, it remains to be seen whether the powers given to assist its entry into starting-price betting will be sufficient: the recent report from the Select Committee on Nationalised Industries (1977) - which contains a history and analysis of the Tote's operations and performance - suggests that they will not.

For bingo, five-firm club ownership concentration ratios in 1971 and 1972 were similar, at 25%. By 1973*, however, the figure had risen to 29% mainly as the result of expansion by Mecca and Ladbrokes. Bingo clubs, like gaming clubs, vary considerably in size, location and profitability so that in both cases consideration of ownership concentration ratios alone is likely to understate the extent of effective market control exercised by the largest companies. Given the close surveillance under which clubs have to operate, the Gaming Board's supervision of profit-margins, and their sophisticated awareness of promoters' strategies, it seems unlikely that the levels of concentration which exist at present offer serious cause for concern.

A more extended discussion of the implications of industrial concentration - a subject of considerable complexity and controversy (cf. Utton, 1970) - is beyond the scope of this review. There is, however, a further reason for paying careful attention to growth in the gambling industry. If the need to secure an adequate return on investment provides a strong motive for maximising turnover and profit-margins, it also provides good reasons for opposing social and economic measures which might jeopardise these goals. During the 1960s, trade associations, such as the Casino Association, and individual club owners themselves were prepared to hire distinguished professional consultants and to engage in expensive litigation in order to safeguard their interests. The formation of further trade associations with influential top officials (cf. Gaming Board, 1973) together with the growth of conglomerates has increased the pressure which the commercial gambling lobby, conscious of its economic power, is able to bring to bear on government. A good example of its strength inside as well as outside parliament is provided by Moody's (1974) documentation of the progress of the Horserace Totalisator and Betting Levy Boards Bill through the two Houses§.

Evidence that commercial developments in the gambling industry are having harmful effects is, not unnaturally, sparse bearing in mind the relative failure to investigate these questions. Given that these changes offer reasonable cause for concern, however, they draw attention to the lack of established facilities (in betting, if not in gaming) for monitoring and perhaps, should it be necessary, for regulating such growth for the benefit of gamblers-as-consumers as well as of other sectional interests such as promoters, shareholders, the blood-stock industry, quasi-governmental agencies, landlords, equipment manufacturers, newspapers and other communication media. This apparent deficiency will be discussed further in Chapters 25 and 26.

*More recent information, for either bingo or gaming, has not been published.

§This is particularly true of the debate on the Second Reading (Parliamentary Debates: House of Commons Official Report, 5th Series, 830, Session 1971-2, column 698 ff.).

Attendance and betting at the racecourse

One of the few apparently clear instances of a particular economic effect of the growth of gambling is the often quoted relationship between falling attendances at horseracing tracks and the advent of the off-course cash betting-shop - a phenomenon reported both in this country, after the passing of the 1960 Act, and in the United States, after the introduction of legal off-track betting facilities in New York (Weinstein & Deitch, 1974). Where the association is noted, it is usually treated as having an adverse effect both in economic terms (loss of revenue) and in social terms, because of the loss of support for an elegant spectator-sport, and because declining attendances can be interpreted as meaning that betters are not really interested in horseracing except in so far as it provides the vehicle for gambling.

It is undoubtedly true that attendance has declined; it is not so clear, however, that the provision of off-course facilities did much more than accelerate an already growing trend. In the United States, the attractiveness of racegoing was already being eroded by its lack of competitiveness with other entertainment, low capital investment, awkwardness of access, poor amenities, and poor promotional activities. Although off-course facilities - and the fact that the enabling legislation was rushed through without evaluating the likely impact on racing, and before arranging satisfactory compensation - contributed to this decline, Weinstein & Deitch's discussion of the factors involved suggest that there is little chance of assessing its contribution in quantitative terms. The situation in Britain presents a similar picture (cf. B.B.D.O. Report, 'Increasing Racecourse Attendance', in the Third Report of the Horserace Betting Levy Board; the Committee of Inquiry Report, 'The Racing Industry', 1968; Moody, 1972) of an industry in decline before the legalisation of off-course betting, being dealt further blows not only by betting-shops, but by the greater convenience of television, which had started direct coverage of racing in 1946, and by more general post-war changes in social and economic conditions to which racecourses and their managements either could not, or would not, accommodate themselves.

Added to these factors have been the subsequent difficulties faced by the Horserace Betting Levy Board in reaching agreement with bookmakers over fixing appropriate levels for the partially-compensatory betting levy, used to maintain a wide variety of services connected with racing and the bloodstock industry, as well as to finance racecourse improvement schemes and prize-money (The Racing Industry: Report, 1968). Fiscal policy itself must also apparently bear some of the responsibility for hastening the decline of the on-course betting market and endangering the existence of the Tote, by having failed in the past to impose differential rates of taxation on on-course and off-course betting turnover* (Hood, 1972). But although racing has been able to

*The fact that those whose job it is to formulate social and economic policies with respect to gambling often appear to have no control over the content of fiscal policy is one of the anomalies which will be discussed in Part Four.

recoup its losses from falling attendances by careful use of proceeds from the levy, its continuing economic viability as a shop-window for the bloodstock industry - a national economic resource which, it is claimed, depends upon the existence of a healthy and competitive racing industry - has been achieved to some extent at the expense of the sport itself. Where races are run and meetings held, not because they provide spectacle for racegoers or profits for courses but '... in order to sustain public interest and provide a daily betting medium for the collection of the levy' (The Racing Industry Report, 1968) the considerations involved are clearly commercial ones. This is not surprising when it is considered that not only the profitability of the bookmaker and totalisator, but the existence of the horserace and bloodstock industries as a whole are dependent upon how much the punter can be persuaded to spend. The effects upon horseracing (and upon hobby aspects of betting) have been, according to many observers, far-reaching, as the commercial gambling business brings its influence to bear upon the sport and the punters. As far as the former is concerned it has been commented (cf. Whitcomb, in Ewart, 1974) that the increasingly large numbers of runners, racing days and race meetings suggest that more and more of the horses which take part must be merely mediocre* and the majority of races held as a betting medium rather than to present genuine sporting contests. To the extent that this involves even the better horses in being raced more often (and perhaps more often than is good for them), this may mean that growing proportions of horses in any particular race are less prepared or able to compete to their best ability than they should be.

As far as the hobby-punter is concerned, the pressure to define his participation in financial terms - that is, in terms of amount of outlay and frequency of betting - is, as will become clearer later in this review, a strong one. Even the more vociferous and knowledgeable critics of the current racing scene may collude with commercial interests in creating these pressures. For example, while lip-service is still paid to the exercise of skill in betting, its use tends to be emphasised in relation to the limited objective of choosing which horse to bet on, rather than whether to make a bet at all. Here, the activity of newspaper tipsters is a case in point. Robert Findlay, Sports Editor of the 'Daily Mail' (Ewart, 1974) has commented:

'Readers demand a selection for every race because they want to know what the experts think and perhaps use it as a background to their own judgement. Often a tipster would rather not tip in a race because he fancies nothing - but he's got to!'

But while the punter may demand this service, it is also likely that he would like to be told more clearly when the tipster fancies none of the runners. Since there is nothing to prevent the tipster from providing advice about whether or not to

*'We have such a lot of racing in Britain that it is almost inevitable the majority of horses taking part are extremely moderate animals ... nothing but makeweight, providing fields big enough to permit a betting-mad public to keep bookmakers in the style to which they have become accustomed'. (Noel Whitcomb, President of the Daily Mirror Punters' Club: in, Ewart, 1974).

place a bet as an additional information service, it may be that his reluctance to do so is partly influenced by commercial constraints. At any rate the relatively poor showing made by the majority of tipsters in the 'Sporting Life' league table - based though it is upon their most favoured (i.e. 'nap') daily selections - shows the limited usefulness of prediction skills when they have to be applied with less discrimination than the racing experts might otherwise use.

Conclusions

From this survey of the economic consequences of gambling, it can be seen that there is little evidence, so far as the average punter is concerned, of any adverse effects. The same seems true so far as broader economic considerations go, with the provisos, (i) that this conclusion applies only to the current economic situation, and in the context of existing forms of gambling carried out under the present rules and regulations and (ii) that more reliable information and more careful monitoring of commercial developments is required in order to anticipate and forestall unwanted economic consequences. Lastly, even if there are some adverse consequences it must be remembered that, unless total prohibition is feasible, the existence of such effects does not necessarily find against the activities in question except to underline the need for more efficient regulation of the industry. Where gambling is illegal, all the defects and abuses which may exist in a legal system already exist in the former but with the additional disadvantages that profits are more difficult to tax. Besides making no direct contribution to revenue they may be used for financing further illegal or anti-social operations. When the inevitably high expenditure in terms of police time and manpower necessary to prevent large-scale illegal gambling is taken into account - not to mention the associated dangers of police corruption - it is unlikely that prohibition, even were it politically feasible, could provide sufficient economic and social benefits to outweigh these other costs.

6 The Major Forms of Gambling—Social Consequences

Introduction

The distinction between social and economic consequences is a somewhat arbitrary one, and the Royal Commission of 1951 subsumed discussion of economic consequences under the general heading 'Social effects ...'. Nevertheless, since adverse economic effects almost inevitably entail adverse social consequences, some criticism of gambling appears to be directed, not at the financial outlay involved, but at the time which is taken up with the activity, and its allegedly debilitating effects upon an individual's character, values and morals, or upon the values of a society in which gambling takes place.

One important difference between discussions of economic and social consequences is that, in the former case, critics have been forced to take account of quantifiable information about amounts laid out or spent in order to make their points. Even so, total figures for all types of gambling (especially in the case of turnover estimates) have tended to be used, without qualification by reference to number of participants or frequency of participation, in order to generate a climate of 'moral panic'. So far as social effects are concerned, information is both harder to come by and less easily quantified, partly because the sorts of criticisms which are made on social grounds are less accessible to empirical proof, and partly because they seem less dependent upon the existence of particular levels of expenditure or participation. Peterson, A.W. (1957) has commented that questions of morality are best left to moralists, while the State should concern itself only with the social consequences of gambling. This is not a clear distinction, however, since moral judgements tend in practice to be based upon assumptions about the likelihood of undesirable consequences: what appear to be moral crusades may, upon inspection, be found to incorporate assumptions which reflect theoretical viewpoints, and this is a question which will be discussed in more detail in Part Four. For the present, it is sufficient to note that one of the arguments against gambling which the Royal Commission (1951) found most appealing was the general criticism that all forms tended to encourage, in greater or lesser degrees, attitudes and values which - if not necessarily individually or socially harmful in the short term - have an insidious cumulative effect upon community and cultural values generally.

This general question is one which is extremely difficult to answer on the basis

of existing information*, except to point out that participation in gambling or in any other leisure activity is naturally limited for the majority by financial constraints which determine in what ways they apportion their income. This being the case, it is reasonable to assume that the effects of the sorts of levels of participation open to the gambler are in the vast majority of cases far outweighed by the effect of his experiences in other areas of life. It is also clear that gambling is as reasonably considered to be an effect of prevailing social conditions as a cause. Motives for gambling will be discussed in Part Two; as a general point, the last Royal Commission commented that the fact that people gambled might simply reflect the great speed and success with which commercial - rather than educational - facilities were able to fill the growing leisure vacuum.

Criticisms about the general effects of gambling are, as has been pointed out, usually made without references to particular forms of gambling or degrees of involvement therein. More specific criticisms, however, are usually made, and tested, in relation to particular types of gambling and/or certain groups of participants, such as the young, or women. For this reason, the principal types of gambling which have been criticised will be examined separately from the viewpoint of their potential social consequences.

The football pools

The only substantial investigation into the social consequences of the football pools (or indeed of any form of gambling) is that conducted by the Swedish research worker, Tec, in 1964. Although there are important methodological defects in her work (cf. Weinstein & Deitch, 1974, and Part Two of the present report), the study is important for trying to test for hypothesised differences between gamblers and non-gamblers on a number of factors - attitudinal and behavioural - which might be expected to indicate degree of social adjustment, responsibility and maturity.

In brief, Tec could find no evidence that, in comparison with a 'non-gambler' control group, her group of male weekly pools punters showed greater dependence of immaturity; were less likely to be married; neglected their family duties; or gained less satisfaction from their sexual activities. Nor was there any difference between the samples in the extent to which the two groups liked to stay at home, bet recklessly or save money. Both had similar work patterns, training and degrees of initiative. Punters, as was shown earlier, did not appear to spend more than they could afford. In Part Two (where the positive aspects of the pools will be examined), the differences which did emerge between the two groups will be discussed in relation to gambling motivation, but from the study as a whole it is clear that gamblers fulfilled their various roles and duties in just as satisfactory a fashion as non-gamblers. Moreover, the results of

*It might be possible, as Weinstein & Deitch (1974) suggest, to undertake research to establish whether a relationship existed between permissive behaviour and participation in gambling - by means of attitude questionnaires, perhaps - although the problems of interpreting results would be formidable.

Gallup (1972) and of Smith & Razzell's study of pools winners also indicate considerable commonsense and maturity in choosing how to use winnings, and little evidence amongst winners of feelings of uselessness or anomie. In fact, the latter's study points rather to opportunities which such wins gave many for expanding their horizons, starting up in business on their own, or fulfilling other previously thwarted ambitions - a rather conclusive rebuttal of the claim that gambling necessarily has adverse consequences, and an indication that those seeking to prove the existence of adverse consequences would be better to confine their attention and criticisms to losers, who in any case constitute the majority of those who gamble.

Little further of any consequence had been alleged against the pools although the Churches' Committee on Gambling, whose then chairman - the Rev. Benson Perkins - was a fervent anti-gambler, advocated their abolition at the time of the last Royal Commission*, principally because, since participation took place in the home, it placed young people at risk of involvement and, perhaps, escalation to other forms of gambling. This objection was not considered serious enough - especially since it was hard to see how participation in the home could be prevented - to provide a reason for abolition and, when the Family Law Reform Act (1969) became operative, the minimum age at which coupons could legally be circulated to young people was lowered from 21 to 18 years old (Moody, 1974).

Off-course cash betting

In its report, the Royal Commission (1951) commented that they thought it unlikely that the legalisation of off-course betting would have important adverse social consequences, provided that it was done in the right way. It would - as was only socially just - put the lower socio-economic groups on a footing equal to those who could afford to bet on-course or bet on credit off-course; it would clear the streets of hawkers and save police time; it would save the law from being persistently brought into disrepute and thereby improve the public image of the police; it would also remove the occasion for, and temptation to accept, bribes.

As will be shown later, these expectations were largely fulfilled, though not by a means of which the Royal Commissioners would have approved, since the Act which legalised off-course betting also allowed betting shops to develop in a way which - apart from the prohibitions on advertising and live television - enabled them to provide all the facilities and services necessary for continuous gambling over long periods. This obscured the distinction which, on the basis of 'important psychological differences', the Commissioners had drawn between on- and off-course betting. In so doing, the general public was given

*The Royal Commission of 1933 had also recommended the abolition of the football pools.

virtually unrestricted access* to a type of activity elsewhere on offer only at the racetrack or in gaming clubs.

Since it is forms of gambling which offer opportunities for continuous play which are most likely to be the occasion of excessive gambling§ - and are, in fact, those for which such behaviour is most often reported - it is these forms for which serious social and economic consequences are most often alleged. Excessive gambling will be discussed in a separate chapter later, because it raises special definitional problems and affects a minority of participants, while a large part of the remainder of the report will attempt to explain how and why some people become excessive gamblers. Although there is little doubt that off-course betting is the prime medium in which excessive gambling occurs, this is not to say that for the average, moderate participant adverse social consequences are likely to occur. Claims have, on the contrary, been made by some (cf. Zola, 1964; Newman 1972, and discussion of motivation in Part Two of this report) that off-course betting provides important social and intellectual rewards for participants and thereby, indirectly, to the communities of which they are members.

Perhaps because attention has been concentrated specifically upon the excessive off-course punter, fewer undesirable consequences have been attributed to punters in general. Disregarding the comments of those whose conclusions are based upon collation of newspaper reports, or comparison of growth in turnover volume with measures such as increases in the divorce rate (cf. Paley & Glendinning, 1963†), there is no research on off-course betting which examines - as was the case with Tec's study of the pools punter - the relationships between betting and the discharge of family, occupational and social duties, although the data on participation and expenditure presented earlier support the conclusion that the effects are unlikely to be very important. Like the pools punter, participants may well devote some time to the study of 'form' and subsequent handicapping activities, though - as Weinstein & Deitch comment - such activities have considerable entertainment value. As mentioned in Chapter 5, the authors also make the point that expenditure is likely to be limited by the realistic pessimism of punters about their chances of winning. Some support for this view is provided by the Gallup (1972) survey which indicated that, thinking back over the previous year's bets, many off-course punters (44%) reckoned that they had lost money overall. This is not necessarily much of a guide to their likely future expenditure of time in handicapping, however; asked how they felt about winning at the time they placed

*Betting shop opening hours, though limited, provide little restriction of opportunities to bet before existing racing hours, and none during them. Current hours of closing do, however, present something of a financial barrier to the further expansion of racing into the evenings or to Sundays. They also prevent off-course betting on dog-racing during the evening.

§As will become clearer later, forms of gambling which offer these facilities have particular structural characteristics which maximise the relationship between expenditure and involvement.

†Weinstein & Deitch comment on the futility of using such measures as divorce, subject as they are to a wide variety of influences.

their bets, 33% of respondents to the 1976 Gallup Poll felt optimistic about winning, while a further 47% felt that they had a fair chance.

Fears that the existence of off-course betting facilities lead to widespread absenteeism from work and from the workplace is a common theme running through the history of gambling: the Betting Act 1853 was directly concerned with the alleged prevalence and severity of this problem, which it attributed to the existence of 'betting houses'. By the 1950s, bookmakers had established agents in most places of work and, according to the evidence presented to the Royal Commission, this facility interfered little with production. Such agents - some duly registered, others operating illegally - still provide these services (cf. Moody, 1972), though little if any research has been done on this interesting part-time entrepreneurial service provided by one workmate or neighbour for another. Later it will be indicated that betting shops may present special attractions to certain occupational groups who spend much of their time delivering goods or people from one part of town to another and providing other mobile services, or - perhaps - to the unemployed or those in need of company from time to time during the day; debates at the time of the 1853 Act suggest that the move to suppress betting houses was particularly directed against people whose work, for one reason or another, often took them outside. Again, little besides anecdotal evidence and the occasional case history has been given to support the supposition (though it remains a hypothesis) that off-course betting facilities might materially affect the productivity of certain occupations.

One positive effect of the 1960 Act was that it protected the young against the dangers of premature introduction to off-course betting in two ways. First, it made it more difficult for persons under the age of eighteen to place bets for themselves, and second, it reduced the formerly prevalent practice of sending young children out to place bets on behalf of parents (Royal Commission, 1951). It is often the case, however, that age-related legislative measures taken at one point in time with a view to protecting juveniles are later criticised by some commentators for their alleged encouragement of the behaviour in question. Specifying minimum age-limits for drinking, for example, has been claimed to define the behaviour as desirably 'adult'.

Gaming

Since the Gaming Act 1968 enabled the Gaming Board to reduce the numbers of gaming clubs and to bring them under strict control, little further evidence has been offered about their supposed adverse social consequences. Even during the earlier 1960s, however, when both the anti-gaming lobby and commercial gaming went through a period of rapid growth, attention was focussed mainly on the running of the clubs, where the dangers of unrestricted profits and the attraction they presented to organised crime (see Chapter 7) were the primary objects of concern. Very little attention has been paid to collecting evidence about the likelihood of other adverse social (or economic) consequences, not because these are not considered important, but because the population at risk is a small one (about 400,000: Gaming Board, 1975), access

is restricted to members and their guests, the number and geographical location of clubs are subject to regulation, and because it is generally considered that the Board's control over gaming has achieved as great a degree of official intervention as is practicable. There is certainly little evidence of the prevalence of excessive gaming, although whether this is because those involved have greater resources, or come less immediately to the public's attention, is not clear.

Bingo

Apart from information about participation and stake-levels, there is little information about the potentially adverse social consequences of bingo. The Mass-Observation Survey (1970) confirms the evidence that, overall, women do not squander substantial amounts of their housekeeping on bingo and, even if higher stake-levels had been reported, these could have been accounted for by the participation of working wives, or those to whom husbands gave some form of disposable income allowance. Apart from the usual early criticisms of bingo on the grounds of the allegedly sterile and uncreative nature of the activity (Churches' Council on Gambling: Annual Report, 1963) general recognition quickly came that, to a marked extent, bingo merely provided a setting and a means for socialising with friends and neighbours. By 1969, the characterisation of bingo as 'a neighbourly game played for modest stakes' (Gaming Board, 1969) was accepted by most commentators, and informed the Gaming Board's policies towards the activity.

Apart from sporadic criticisms about expenditure on bingo which - considering the amounts laid out by men on other forms of gambling - are somewhat gratuitous, the only other criticisms made are those relating to child neglect by bingo-playing mothers (cf. Paley & Glendinning, 1963). A Mothers' Union questionnaire, drawn up by the Churches' Council on Gambling and administered in Birmingham (Churches' Council on Gambling Annual Report, 1964) alleged, on the basis of answers received that:

'Bingo also leads in too many cases to the neglect of children who are left to look after themselves at night. Strain arises between man and wife, partly because of neglect of the home, shortage of money and necessities, but chiefly because of the deceit that follows loss of money by gambling. Trust disappears and separations too often follow.'

The absence of basic information about the prevalence of this state of affairs makes further comment difficult: what is presented is clearly a thumb-nail sketch of the popular conception of the bingo-addict* - a 'rake's progress', like that of the victim of the nineteenth century demon, drink.

*In 1972, Moody suggested (a) that there were 'bingo addicts' - although he did not state how, in terms of frequency and expenditure, he defined this group and whether they should be regarded as 'compulsive' gamblers (see later) - and (b) that there were 100 for every club, making 200,000 at that time.

But moral fables are a poor substitute for factual information, which suggests both that this is very much minority behaviour and that, where it occurs, bingo is not so much the cause of child neglect and excessive expenditure as the more or less fortuitous occasion for them. Attention is more usefully centred on what bingo might become, in terms of changing into a potentially dangerous game (cf. Gaming Board Reports, 1969-76) or being used as a way of introducing people to harder forms of gaming (Churches' Council on Gambling, Annual Report, 1965; Gaming Board, 1969) rather than with what it is at present. This issue is discussed in greater detail - in the context of the regulation of gambling - in Part Four of this report.

Slot-machines

Unlike the cases of the four major types of gambling mentioned so far, discussions of slot- or gaming-machine gambling are usually not concerned with the effects of participation upon the player, though there is some evidence that playing the slot-machine can, in a minority of cases, become excessive (Barker & Miller, 1966). Where excessive involvement is reported - as in the United States - this is probably a reflection of the lack of restrictions on the numbers and types (jackpot vs. other types; machines which provide inducements to continue play, etc) of machines permitted in general, and allowed to operate in single settings, such as casinos. In this country, types and locations of machines are stringently controlled by the Gaming Board so that the most potentially dangerous are situated, in small numbers, in closed clubs.

Much more attention has been paid, in the United States at least, to the problems of law-enforcement with respect to detecting and prohibiting gambling on the machines (Bilek & Ganz, 1965). As such, the problems to which they give rise provide interesting illustrations of the difficulties of drafting legislation, detecting rigged machines, controlling inter-state traffic, and blocking the activities of organised crime (for which the machines provide substantial income), but have little direct relevance to the question of the social consequences of playing. In this country, too, less attention has been given to the act of play than to the surroundings in which play takes place. Taylor's (1974) study of amusement arcades (incidentally, the first piece of substantial documentary evidence about numbers and locations of arcades to be published), was concerned less with the dangers to the young of gambling on penny or other amusement machines*, and more with the possibility that such arcades acted as magnets for truants and other disaffected young people. It was not possible to prove whether or not the opportunity to 'gamble' provided the attraction, or whether arcades merely acted as convenient and congenial meeting-places. (It became clear from public reaction to the 'Playland' scandal of September 1975 that it was the latter aspect which gave rise to most disquiet.)

*Downes et al. (1976), however, have shown that participation is greater for the younger age-groups.

There are obvious moral dangers inherent in settings such as big city arcades (Royal Commission, 1951). There, strangers, young and old, can congregate without supervision for extended periods, while the presence of the machines facilitates social interaction through the shared experience of watching or playing, and provides both the opportunity and inducement to offer and accept financial 'treats' - all of which may provide a basis for other transactions later*. Apart from these consequences, however, even Moody (1972) has been unable to provide any evidence that arcades or leisure centres constitute any material danger to their customers so far as the primary service they offer is concerned.

Some further tentative evidence of the relative innocuousness of slot-machine playing, this time in the pub or bar-room setting, is provided by Opp & Sack's (1966) study of male slot-machine gamblers and non-gamblers in a number of German cities. Intensity of gambling was reported as being low, and in other respects the expenditure of gamblers and non-gamblers was similar. There was no evidence that a relationship existed between frequency of gambling and feelings of frustration with certain sorts of social relationships, nor between deviant behaviour or anomie and gambling on the machines. Younger or unmarried men played more frequently than older or married men, and those who felt at home with the pub-culture tended to gamble more than those who did not.

Conclusions

It can be concluded from this discussion of the possible adverse consequences of selected forms of gambling that these are unlikely to be a significant potential danger to the average participant. As will be shown later, the structural characteristics of forms of gambling such as lotteries or pools, which take place on a weekly basis, provide a natural limit on participation, while even in those forms whose characteristics seem designed to facilitate the most intensive degrees of gambling, most people appear able to restrict their betting to levels which suit their incomes. In these cases constraints are provided by financial and familial obligations which place limits on both time and expenditure. Much of the criticism to which gambling has been subjected has, in fact, come from the failure (a), to make distinctions between the different forms of gambling, and their potential for allowing continuous gambling to occur; and (b), the disingenuous attribution (by some critics) to moderate participants, of a variety of adverse social and economic consequences which are likely to occur only in a small minority of cases and only as the consequence of far higher levels of involvement.

*Other settings, such as parks, swimming pools and public lavatories provide some of these features, but none have as simple a social facilitator as the slot-machine, while most tend to operate, either deliberately or adventitiously, restrictions on the opportunities to strike up relationships. Most important of the barriers are those of time, visibility, and reasonable excuse for making an approach.

7 The Relationship between Gambling and Crime

Introduction

Apart from excessive gambling, the alleged link between gambling and criminal activities* has, over the years, been one of the principal single issues raised when the social or economic consequences of gambling have been under discussion. The common criticism that gambling leads to crime, however, tends to conceal the fact that its implication in criminal activity occurs in relation to a number of distinct phenomena, some of which have less to do with gambling *per se* and more to do with its organisation and setting. Though, as will be shown, gambling provides its own peculiar opportunities for fraud, that it should be open to exploitation does not make it unique.

Gambling as a cause of individual criminal acts

General: where gambling is illegal, either (or both) promoter or gambler may be committing a crime. This is unlikely to be a serious source of crime in Britain, however, while even in the United States, where prohibition of the major forms of gambling is still widespread, gambling itself is often considered to be a victimless crime (Gitchoff, Ellenbogen and Ellenbogen, 1973). More important is the argument that gambling and - in particular - gambling losses are a cause of criminal behaviour as the gambler attempts to obtain money in order to continue gambling, pay debts incurred by previous play, or maintain appearances in order to conceal his behaviour and its consequences from family, friends or employer. Although large debts might in theory be incurred as the consequence of a single session's gambling, the hypothesis that gambling is a cause of crime characteristically implies chronic involvement at a heavy (by definition, 'excessive') level. Thumbnail sketches of the gambler's career (Livingston, 1974) usually depict criminal activity as entering at a comparatively late stage in the development of excessive gambling.

The problem of giving gambling special status as a cause of crime is that the bulk of criminal acts are committed in order to obtain money or its fruits either directly, through the theft of cash, embezzlement of funds or deception, or less directly, through the sale of stolen property or its retention for personal use. Gambling is only one out of a virtually endless list of potential uses to which stolen money can be put and, while it might be argued that there is no sense in allowing the unnecessary proliferation of activities which may in some

*See, for example, von Schovingen's (1967) discussion of the relationship between gaming clubs and crime, and Gross (1965) in relation to this and other forms of gambling.

cases become the occasion of social or economic problems - an argument which has in the past been used as a justification for criticising a wide variety of mass leisure-pursuits - it is not immediately clear why gambling, rather than other items of inessential consumer expenditure, should be singled out for special attention as a cause of crime.

Two reasons are commonly given for regarding gambling with particular concern. First, it is often claimed that gambling is especially likely to expose its participants from the outset to the dangers of incurring substantial debts. It is certainly true that it is easy to overspend on gambling - easier, perhaps, than is the case in relation to many other objects of consumer expenditure. But since in this country at least - except for credit betting facilities, and those extended by some gaming clubs to their wealthier clients* - gambling tends to be conducted on a cash basis, where debts are incurred they will usually represent borrowings from sources extraneous to gambling, made in order to continue gambling, rather than the unwise acceptance of credit facilities extended by a commercial promoter to the novice. This, in turn, implies that gambling is likely to feature as a cause of crime not so much because of its ability to encourage participants to squander money (perhaps earmarked for more important uses) on single occasions, as because of the longer-term commitment which it generates in some players.

Second, if it could be proved that for some people gambling represented not only a cause for, but a mitigation of their criminal activity in the sense that drug-addiction and alcoholism might be considered causes of crime in terms of the physiological and psychological states of need and compulsion they create, then this would alter the status of excessive gambling, considered as a social problem, and improve the chances of securing appropriate (non-penal) treatment, and the diversion of funds and research resources for this purpose. It would also tend to raise more strongly the question of the place of gambling in society, given that its apparently harmful effects on a minority of participants caused not only social and economic problems to themselves and their immediate families, but directly compelled its victims to commit criminal acts in society at large.

It will be argued later in this review that those who base their arguments for regulating gambling on the existence of excessive gamblers have so far failed to make out their case sufficiently strongly to justify further measures of control. In part this has been simply due to a lack of information about the numbers involved, but it has also been as a result of a failure to provide the sorts of evidence which might back up statements about the seriousness to society of any adverse consequences of gambling. This has been most apparent when the association between gambling and crime has been considered. The 1951 Royal Commission, which considered evidence from a wide variety of sources, concluded that:

*Some of whom subsequently turn out not to be credit-worthy (cf. Gaming Board, 1976).

'... gambling is of no significance as a direct cause of serious crime, and of little importance, at any rate at the present time, as a direct cause of minor offences of dishonesty. We do not doubt that there is not uncommonly a connection to be found between dishonesty and excessive gambling in persons of a generally dissolute character, but we should not regard this as evidence that gambling is, in itself, a cause of crime.' (p.52).

Offender surveys: in the past, surveys of the gambling habits of populations of offenders (usually prisoners) have been carried out in order to try to establish whether offenders gamble more than non-offenders, and whether their gambling can be considered to be an important determinant of their criminal behaviour. On the whole, existing information on these issues is still fragmentary and unreliable. One piece of evidence by which the Royal Commission (1951) set some store was the report of a study carried out by the Principal Medical Officer of Wakefield Prison (at that time primarily reserved for the less serious offender). Out of 800 consecutive admissions examined in 1948, Dr Roper reported that in only 2% of cases was gambling 'a factor in the offender's downfall'. In nine of the 16 cases, gambling was considered to be merely one aspect of their 'generally slack and dissolute life', while it was only in the other seven cases (of embezzlement by white-collar criminals) that betting was a significant factor.

Similar studies of criminal populations have been carried out more recently. Sewell (in Moody, 1972) conducted a survey to determine the prevalence and intensity of gambling for a sample of receptions to Pentonville - a prison for short-term recidivists. There was little evidence that prisoners were any more likely to bet than comparable social groups from national samples, such as those provided by Gallup, either from Sewell's study or Borrill's (1975) replication*. Both studies, however, reported that a minority (10% of Sewell's sample and 7% of Borrill's) of prisoners claimed to be heavy or excessive gamblers. Given the inevitable limitations of these two surveys, particularly with respect to more detailed information about type and frequency of gambling for their excessive-gambler groups, it is difficult to determine whether such rates represent significantly greater gambling activity on the part of these prisoners than might be found for comparable national samples§.

*For example, 47% of Borrill's sample claimed never to gamble. The corresponding national rate for socio-economic groups C2 and DE combined is about 48% (Gallup, 1976).

§The phraseology of Sewell's questions, and the information which Borrill gathered about her prison sample's favoured types of gambling both suggest that betting on horses and/or dogs were the major forms of gambling for these offenders - or, at least, the forms most successfully tapped by the two Pentonville surveys. Assuming this to be true, it might appear that prisoners as a group are more likely to bet heavily than national subsamples of socially-comparable non-prisoners. Only about 4% of the combined membership of social groups C2 and DE bet more frequently than once a week on horses or dogs, as against 7% of Borrill's sample, and these figures almost certainly understate the differences in intensity of betting between the two samples. Such a conclusion is qualified, however, by the fact that the greater prevalence of heavy betting within the prison sample reflects to a large extent the very much greater popularity of betting as a gambling activity in this group, compared with its prevalence in the national subsample.

Results are similarly somewhat inconclusive when it comes to the question of determining, for those prisoners who gamble heavily or excessively, the extent to which gambling may have played a part in their offending. Out of a small sub sample* of her heavy or excessive gamblers, Sewell claimed that 22% had never been convicted of a crime connected, directly or indirectly, with gambling. However, 59% had been convicted of at least one crime due to gambling, while a further 18% had been convicted only of such crimes. Sewell comments that it is these 18% (who account for less than 1% of her total Pentonville sample) who most closely represent 'those who are in prison solely as a consequence of their gambling habits, although some of their offences are only indirectly related to gambling.' Looking at the relationship between heavy or excessive gambling and nature of current offence, Sewell found that 44% of the gamblers, compared with only 13% of the general population of Pentonville, had committed the offence of false pretences. Results from Borrill's survey, however, failed to confirm this latter finding, but indicated instead that excessive gamblers had significantly more current convictions for breaking and entering than the rest, but fewer for theft.

The studies so far reported can bring only the sketchiest of information to bear on the question of whether any significant relationship exists between gambling and criminal behaviour. Although there was some evidence that, for those prisoners who admitted gambling, betting was considerably more popular than it was among their peers in the outside world - a reflection, perhaps, of differences between criminal and non-criminal life-styles - it was impossible to conclude either that excessive gambling was an important cause of crime or that criminals who were excessive gamblers tended to commit certain types of offences rather than others.

In an attempt to gain fuller information about these questions, Brown (1976: personal communication) has recently approached the problem from a different point of view, by devising a questionnaire on criminal behaviour which he has circulated to members of various excessive-gambler treatment groups. One of the objects of the questionnaire is to gather information which will further the cause of securing the most effective treatment for excessive gamblers who are in prison. This being so, it may be that the explanation of their purpose which accompanies the questionnaires may have the effect of inviting respondents to ascribe their offences - if any - to gambling rather than to other less acceptable motives. If those parts of the questionnaire designed to elucidate the relationship between gambling and crime are of limited value, the information about types of offence may be of more use - though even here respondents may well respond to the aims of the exercise by selectively reporting certain types of offence only.

*Despite the size ($N = 1,058$) of Sewell's total sample, she was only able, for administrative reasons to study a group of 32 heavy gamblers in detail.

§Where comparisons are being made between excessive gamblers who have committed crimes and other criminals some attempt to control for the possibility of differences in sociological background factors also needs to be made as these may also influence type of offence.

There are also more general problems associated with attempts to examine groups of criminals for evidence that excessive gambling was implicated in their crimes - or of studying excessive gamblers in order to determine whether their gambling led them to commit crimes (as implied, for example, by Seager, 1970). First, spurious causal relationships are easily read into the data, where the simultaneous presence of both gambling and offending behaviours may merely indicate a characteristically disorganised and feckless life-style*. Second, where gambling does appear to function as a cause of crime, it may sometimes do so by reason of its unrealistic use as a means of solving pre-existing financial difficulties. In these cases, while gambling may exacerbate such difficulties, its instrumental use can hardly be regarded as a cause in the sense that discussions of compulsive gambling use the term - that is, as a motive for committing crimes. Lastly, if the evidence which is available is difficult to interpret, this problem is overshadowed by the very much more salient practical implications of the lack of evidence - conclusive or otherwise - that gambling constitutes an important cause of crime; if the question were asked, 'how much crime would be reduced by doing anything for compulsive gamblers, or by introducing further restrictions on commercial gambling?', the answer would had to be, 'Very little'.

Gambling and embezzlement: the Pentonville samples were made up largely of short-term recidivists, and it might therefore be argued that it would be more profitable to examine more serious types of offending - especially those where funds are embezzled over long periods - of a kind particularly likely to be favoured by those in need of ready money as a way of regularly supplementing their income. Although such offences might not be very common, or be committed by substantial numbers of excessive gamblers§, it might be expected that for those who did commit the offences excessive gambling should feature among the most important causes.

While some discussions of embezzlement make no mention of gambling as an important cause (Riemer, 1941), traditional crime prevention explanations of the offence (cf. Hoover, 1933; Peterson, V, 1947) concentrate heavily on - as Nettler (1974) succinctly describes the theory - the 'babes, booze, and bets' hypothesis. Peterson, V., for example, reporting on the results of a statistical analysis of mercantile embezzlements committed by 963 men, commented that 'gambling and/or drink' together with 'speculation' were claimed by the study's authors to account for some 26% of the embezzlement cases under study, though other surety companies contacted by Peterson pointed out that

*Gambling may, for example, be part of a delinquent way of life. Recently, West & Farrington (1977) showed heavy gambling to be more common among their sample of delinquents (who were also, however, more likely to have highly-paid but unskilled manual jobs) than non-delinquents. As with Sewell's study, there were no differences between the two groups in their likelihood of gambling.

§Since embezzlers occupy positions of considerable trust and have previously unblemished records, the offence is usually the first offence; those who are excessive gamblers do not usually become holders of positions of trust, but those who hold such jobs may become excessive gamblers.

gambling was often involved only subsequently to the commission of the offence and as a way of trying to replace embezzled funds.

In contrast to this presentation of embezzlers as moral defectives intent upon living beyond their income, Cressey (1950; 1953) claimed, on the basis of his analysis of 333 cases of embezzlement, that the connection (where one existed) between gambling and embezzlement was more indirect than that of simple cause and effect. In essence his argument is that, since gambling behaviour conflicts with peoples' - and particularly employers' - expectations about the sorts of behaviour appropriate for those who hold positions of trust, financial problems such as gambling debts often constitute 'unshareable problems' which the offender has to sort out on his own. Cressey suggests that embezzlers are ordinary people who get into financial difficulties for numerous and often unexciting reasons which they are unable to divulge and which may, provided the offender sees that his position gives him the opportunity to embezzle, lead to the offence.

Nettler (1974), while apparently sympathetic to Cressey's motives for this explanation, has criticised this analysis on the basis that the concept of an 'unshareable problem' is the product of hindsight - a procrustean hypothesis to which practically any data can be fitted. Basing his discussion on an analysis of six major Canadian embezzlement cases, Nettler concludes that the simpler traditional explanations usually suffice: 'Desire and opportunity generate theft more frequently in these instances than does a financial difficulty kept privy ... Consistently, there was desire - things one could do with the money. Consistently, there was opportunity - ways to take the money with little apparent risk'. Although Nettler does not deny that unshareable financial difficulties may be one possible cause of embezzlement, he stresses that in many other cases no prior problem may be involved, unless the term is stretched to cover the general state of wanting more than one has. So far as gambling, considered as a cause of embezzlement is concerned, one can only conclude that although its involvement may sometimes be direct (embezzling in order to satisfy the compulsion to gamble), in other instances the connection may be much more tenuous. The offence may be committed to support a higher standard of living which includes gambling, or gambling may be involved after the offence itself has been committed.

The legalisation of some forms of gambling, and its effects upon illegal gambling

Amongst the reasons given for legalising off-course betting in this country was that such a move would reduce, if not eliminate, illegal bookmaking. Essentially it was a decriminalisation of the activity since it moved street bookmakers from their 'pitches' into neighbourhood betting-shops - though it also encouraged the large credit betting organisations to set themselves up in the cash betting field. From a crime-prevention point of view this policy (which has since been carried out, in a rather more rigorous way, for gaming) has been

remarkably successful, and a whole area of previously illegal activity has become subject to regulation and taxation. Although there is some evidence from annual reports of H.M. Customs and Excise (from 1968 onwards) that rates, or increases in rates, of taxation on off-course betting may influence the amount of illegal betting which takes place*, the statistics on adults and juveniles found guilty of non-indictable betting or gaming offences (Annual Abstract of Statistics, 1976) show considerable reductions following the implementation of the 1960 Act, and convictions now appear to have stabilized at well under 2000 per year. Figures for indictable offences (Criminal Statistics for England and Wales) have been very much lower; though they reached double figures in 1972 and 1973, by 1975 there were only eight convictions. So far as London is concerned, the Metropolitan Police reported issuing only ten warrants for unlawful betting in 1975, and 80 for gaming - 50 of which concerned cards and a further 16, pai-kau. These statistics suggest that the legalisation of off-course betting in 1960, together with the greater measure over gaming which is now provided (cf. Reports of the Gaming Board, 1969-76) may have at once removed the need for, or increased the difficulty of, committing many of these offences.

These favourable results may well have been largely due to the way in which the various forms of betting and gaming were legalised in this country. In the United States (cf. Samuels, 1973; Weinstein & Deitch, 1974) off-course betting, for example, has been provided on a legal basis by official city corporations operating their own betting-shops on a *pari-mutuel* basis, in direct competition with illegal bookmakers. This confrontation policy has undoubtedly been influenced by the strong links which exist in the United States between illegal gambling and other forms of organised crime - a factor which would make it politically difficult to legalise gambling except where conducted by bodies linked either directly or indirectly to state governments or local authorities. Nevada is the only state which has conducted the 'experiment' of allowing both funds earned from criminal activities together with members of criminal organisations to set up in the gambling business on a legal basis. As Peterson, A. (1957) remarks, a policy of decriminalisation was always more feasible in Britain, where bookmakers had long been regarded as relatively respectable members of the community, than in the United States.

So far as the New York off-course betting experiment is concerned, there is some evidence that one of its main aims - that of crippling the illegal book-making industry - has had some effect (though not as much, perhaps, as had been hoped). An unofficial New York City police department report (quoted in

*Moody (1972), pointing out that the numbers of bookmakers' registered agents fell progressively - it halved between 1966/7 and 1969/70 - after the imposition of a general betting duty, argues that the small registration fee necessary is unlikely to have been a deterrent to their employment. He suggests that a more likely explanation is that many of these agents set themselves up in their places of work as small illegal bookmakers.

Weinstein & Deitch, 1974), however, has claimed that the 'sanctioning' effect of legalised gambling has brought about a parallel growth in turnover in the illegal sector. Whether or not this allegation has any foundation is questionable*; what it does indicate is that, unless legal forms of gambling can compete adequately with similar, but illegal forms, there is a danger (which should be investigated) that the former will become, to some extent, recruiting agencies for the latter as people discover the increased advantages - in terms of better odds, less taxation, more varied types of bets, new forms of gambling - which illegal channels may provide.

Gambling environments as criminogenic settings

It has already been indicated (above, and Gross, 1965§) that the gambling environment is often claimed to act as a place where criminals consort, conspire and corrupt other hitherto law-abiding (and usually young) persons. If, as Chapman (1968) claims, it is both true that crime as currently defined is a predominantly working-class phenomenon, and that working-class people tend to live more 'in public' than higher socio-economic groups, then it might be expected that criminals, like their non-criminal peers, would spend much of their time in public places, such as betting-shops and public houses. But except in the case of amusement arcades, of which there are only about 400, and which may in certain cases be used for the purposes of procuring victims, it is unlikely that betting-shops or gaming clubs constitute significant social dangers in this respect†. Evidence from Dickerson (1974) and Downes et al. (1976) suggests that betting-shop customers go to the shops to bet rather than converse, and that the majority bet on their own.

Gambling as a medium for criminal activities

As is the case with other forms of commercial transaction, the gambling operation provides plenty of opportunities for cheating and fraud, both on the part of the punter, and of managements of gambling enterprises or their employees (von Schowingén, 1967). In betting there is ample opportunity for the usual forms of company fraud, together with those which directly involve the public, such as failing to pay winnings or settling at less than the correct odds. These forms of 'short-changing' are common to all retail establishments in one form or another, and to other forms of gambling such as gaming (Gaming Board, 1973) and bingo - in the latter instance in the form of making improper levies on stake-money (Gaming Board, 1975). The rigging of equipment and machines, often during the course of play, are given most scope in gaming and

*The Gaming Board, in their 1971 Report, did not think that the Gaming Act had led to an increase in unlawful gaming - usually card-gaming such as poker.

§Gross claimed that gambling 'halls' - as meeting-places of the unemployed, vagrants and offenders - engendered crime, attracted young people and made law-enforcement difficult.

†There is evidence that 'illegal' clubs offering certain forms of gaming to particular ethnic groups may be used as meeting-places by criminal elements within these groups (Guardian, 12.1.77) but this is a limited and exceptional problem. The Gaming Board are currently (Evidence to the Royal Commission on Gambling, 1976) looking at the problems of authorising some of the games involved.

where machinery of one sort or another is an important part of the gambling operation. Scarne (1975) gives a comprehensive account of some of the principal forms of cheating used in casino and carnival games, while the McClellan Committee on Gambling and Organized Crime (1962) gives a detailed description of some of the crooked gambling equipment in use at that time. In this country the Gaming Board (1971; 1974) have uncovered uses of marked cards, loaded dice, and the rigging of a roulette wheel.

It should be emphasised, however, that - owing in large measure to the vigilance of the Gaming Board Inspectorate, and the deterrent effect of the strict supervision provided by the Board - such cases are at present few and far between. The screening of potential managers and employees of gaming clubs before certificates of consent or approval are given* has undoubtedly helped to contain offences to this level (cf. discussion in Report, 1971). In the cases of betting disputes, some of which appear to be the result of improper practices on the part of a minority of bookmakers, the remedy has to be sought from the appropriate trade organisation or other organisations such as the Daily Mirror Punters' Club.

Gambling and organised crime

In the United States practically all forms of gambling were, until recently, illegal in most states and run by organised crime. Much of the reason for the sometimes hysterically moral tones in which arguments against further legalisation of gambling are conducted is explained by this pervasive criminal infiltration, both in terms of finance and manpower, which - free of satisfactory legal controls - has enabled gambling in the United States to act as bank and fund-raiser for other criminal operations. Further discussion of the position in the United States is beyond the scope of this report, but accounts of the history and structure of the industry can be found in Peterson, V. (1951), McClellan (1962), Turner (1965), Gardiner (1967), Gardiner and Olsen (1967) and King (1969) - the last three of whom also deal with the associated problems of official and political corruption (non-feasance and malfeasance).

The establishment of gaming clubs in Great Britain, without proper control, during the early 1960s provided a potential target for criminal infiltration similar to that of the Nevada 'experiment' which had in 1931 enabled bootleggers to transfer resources, administrative methods and manpower straight from the liquor business to commercial gambling (Turner, 1965). The rapid expansion of gaming made recruitment of suitably trained employees difficult and the lack of operator knowledge and of money to support expansion seems to have come to the attention of transatlantic interests by about the middle of the decade. As the Gaming Board later commented, '... gaming, with its quick and heavy cash flow, will always have an appeal to international criminal elements' (Report, 1971). By 1967 (Churches' Council on Gambling Annual

*In the case of bingo clubs, this requirement applies only to managers.

The extent of the potential danger of infiltration by organised crime - particularly on the part of criminals operating out of the United States (cf. The Wall Street Journal, 1968: Roberts, 1969) - is, at this distance in time, difficult to determine, though it is suggestive that the then Home Secretary was already using his powers for declaring certain persons to be prohibited immigrants. Such measures as these were used temporarily, pending the passing of the Gaming Act in 1968. Latterly, the Gaming Board's policy so far as the problem of discouraging infiltration by criminal elements - whether 'organised' or not - has been three-fold. First, the Board was concerned to establish the *bona fides* of all those financing, organising or running gaming clubs. Second, in order to reduce the lure of gaming as a source of easy and excessive profits, it was concerned to regulate the percentage returns on each form of gaming to what it considered to be reasonable amounts (Report, 1969). Third, it has continued to emphasise the need for continued vigilance as the price for maintaining satisfactory control; recently (1975), for example, it has pointed to the fact that sales of the share-capital of companies holding gambling licences can effectively transfer such licences to new owners, without the latter having first to be screened for fitness by the Board. Subsequent remedies for this state of affairs are at present cumbersome, and the Board has suggested the need for a review of the law in its evidence to the Royal Commission on Gambling.

8 Excessive Gambling

Introduction: defining excessive gambling

The survey and analysis of evidence relating to the economic and social consequences of gambling undertaken in the previous five chapters has failed to confirm that moderate gambling is a significant source of harm, either to the gambler himself, those in his immediate environment, or to the community at large. Those untoward effects which in the past have been attributed to gambling are, perhaps, more properly reserved for those who gamble to excess. There can be little doubt that people who spend disproportionate amounts of time and money on gambling are unlikely to have sufficient left of either to meet their other obligations. Problems arise, however, when one tries to define more closely the factors which govern membership of this group of gamblers, and which determine its size. First, the extent to which behaviour constitutes a social problem is a function not only of the behaviour itself but of its nuisance-value or its social and economic costs to the community in other ways; similar behaviours when manifested by different individuals or social groups may vary in their level of 'visibility'. Given similar levels of alcohol-consumption the vagrant alcoholic is more likely to attract attention and intervention than the suburban housewife.

Secondly, an individual is more likely, or likely more rapidly, to define his behaviour as constituting a problem in some circumstances than others. The heavy gambler with plenty of money and spare time, and few other commitments, will be considerably less ready to view his behaviour with anxiety than a similar person less fortunately placed in these respects. While for alcoholics some sort of estimate for the minimum size of the problem group is provided by the health hazard which chronic alcohol consumption entails - though mortality rates from alcohol-intake related diseases may reflect the operation of other factors in addition to those of alcohol *per se* - for gambling no statistics with even that degree of objectivity exist. Thus, the decision whether to classify a person as an 'excessive' gambler or not depends to a great extent on the problem his behaviour presents to himself, to others and to society at large.

Traditionally, definitions and diagnoses of excessive gambling (cf. Bergler, 1958) have tended to emphasise the importance of the gambler's subjective feelings of compulsion or 'loss of control' rather than to attempt operational definitions of the behaviour based upon frequency and duration of gambling (Report, 1967) organised crime seemed poised for serious attack, while less publicised homegrown protection rackets were clearly already in full swing.

and amount of money spent. This stress upon the pathology of the gambler, and use of terms such as 'pathological' or 'compulsive' as labels for this behaviour is, of course, made in the context of other presenting symptoms such as the excessiveness of the gambling behaviour, so that there is necessarily some rough correlation between definitions of excessive gambling derived from clinical observation and those derived from considering the behaviour itself and its consequences. When it comes to attempting epidemiological investigations of the prevalence of excessive gambling, however, it is - as with alcoholism (de Lint, 1973*) - difficult to work in terms of non-quantitative definitions, and more satisfactory to try to establish quantitative levels of gambling involvement which are likely to be related to those clinical conditions held to constitute 'compulsive' gambling.

Estimating the number of those at risk

In the absence of accurate epidemiological information one is forced to examine existing evidence to see whether maximum and minimum prevalence-rates can be established within those limits the actual size of the excessive gambling group may be expected to lie. From the total population of gamblers, a smaller sub-sample of people can be selected who are more likely to be 'at risk'. Excessive gambling - as was briefly indicated in Chapter 4, in relation to off-course betting - is much more likely to occur in the context of certain forms of gambling - those, that is, which provide opportunities for, and entertainment from continuous participation. While excessive amounts may be spent on any form of gambling, the combination of heavy and habitual expenditure together with the investment of time and energy which characterises excessive gambling is most likely to occur in relation to forms such as off- and on-course betting and gaming. The population at risk can be narrowed still further by considering the opportunities for participating in the various forms of gambling, the numbers of regular participants - and particularly those who participate more than once a week§ - and their socio-economic status. Those most at risk will tend to be regular participants in easily-accessible forms of continuous gambling who have relatively little personal disposable income.

Unfortunately, there is insufficient information available at present to allow one to narrow this risk-group down much further - by, for example, considering age and marital status in relation to socio-economic group participation-rates - but some approximate upper limit to the likely size of such groups for the important forms of gambling can be given. Because polls vary in their findings it is not possible to give a conclusive national estimate of the numbers of participants and, of these, the most regular gamblers for the different forms

*...epidemiologists working in the alcoholism field have found it more useful and meaningful to try to establish rates of excessive alcohol use and rates of alcohol-related mortality rather than rates of 'alcoholism'. (de Lint, 1973).

§Intensity of participation is likely to be closely related to amount of expenditure so that - in general - those who spend more will tend to be those who participate more often, and *vice versa*.

of gambling. Using the results of the latest (1976) Gallup Poll*, however, and relating these to the estimated population of Great Britain aged 16 years or over (a little over 40 millions in 1971), a rough estimate of the numbers of gamblers, in millions, at increasing intensities of participation can be made. Figures in respect of the major forms of gambling, including on-course betting, are given in Table Two.

TABLE TWO: ESTIMATED NUMBERS OF PARTICIPANTS IN THE MAJOR FORMS OF GAMBLING

Type of Gambling	All Gamblers	At least Weekly	More Often	More Often & C2 or DE
Football pools	14.909m	13.269m	2.087m	1.153m
Bingo	4.835m	2.708m	1.064m	0.918m
On-course betting	2.418m	0.121m	0.024m	0.021m
Off-course betting	4.835m	2.611m	1.305m	1.091m
Gaming Clubs	0.403m	0.077m	0.077m	0.016m

The structural characteristics of certain forms of gambling (as at present constituted) provide some natural restraint on participation and expenditure. This is true of the pools, while for other forms of more continuous gambling, such as bingo, safeguards are provided by regulation and supervision of the game. Problems of access provide some brake on regularity of participation in the case of on-course betting (less in the case of dog racing) while membership requirements create additional obstacles in the case of gaming. The Gallup (1976) findings for on-course betting, for example, indicate that overall participation is quite low (at 6% of population) and that 85% of the participants go less than once a month, while it has already been shown that rates of overall participation in gaming (at 1%) are even lower, though in this case a rather higher percentage of participants attend regularly. Since such constraints can to some extent be overcome by those with more time and money, it might be expected that not only should these forms of continuous gambling have lower rates of participation, but that participants should be drawn in disproportionate numbers for the higher socio-economic groups and hence those less likely to be at risk from the dangers of heavier levels of participation.

*Although in certain cases (cf. Chapter 4) Gallup's estimates of participation-rates tend to be rather lower than those from other sources, they are the most recent and the most complete. For these reasons they were chosen to form the basis of Table Two.

For gaming, the Gallup results suffer from the defect that very small numbers are involved. Overall rates show some bias in favour of the two highest socio-economic groups, while 69% of AB participants played more than once a week. As shown (Table 2), however, the pro-rated national estimates for the numbers of C2 and DE members who are likely to participate more than once a week reflect the Gallup findings that a substantial proportion (26%) of participants in the lowest socio-economic group were found to attend casinos very regularly. Before concluding that gaming constitutes a significant danger for the lower income-groups, however, it must be borne in mind that the pro-rated national estimates are based upon a very small Gallup sample (three) of respondents aged 35 years or above from the DE group, who may have little in common with the average member of this group. The possibility that the Gallup figures may reflect the behaviour of a special and untypical group means that, in this case, little reliance can be placed on the national estimate as representing the maximum size of those likely to be specially at risk of excessive gambling and its consequences.

Similar considerations apply to the on-course betting figures; in this case, overall participation is again rather higher for the better-off, but it is from the DE group that the most regular participants are exclusively recruited. While the Gallup findings do not distinguish between horse and dog racing, it seems likely from other information that this merely reflects longstanding and regular attendance on the part of another special group - in this case, of old-age pensioners at the dog-track. It is unlikely that their regularity of attendance reflects heavy betting patterns, and so once more the pro-rated national estimates (Table 2) for numbers of participants especially likely to be at risk are both conjectural and exaggerated.

In contrast, the figures for those participating in off-course betting enable a closer estimate to be made of the outside size of the sub-sample of participants most likely to be at risk - those, that is from whom excessive gamblers are most likely to be recruited. The figure of just over one million which has been arrived at is, needless to say, merely the best estimate given the quality of information available. Since 54% of off-course punters bet at least once a week, this gives some indication of just how wide and generous a maximum estimate for excessive gamblers this figure is. Until questions about participation are asked which are specifically related to the type of gambling about which information is sought and, in particular, which recognise that classifications of frequency and intensity are relative, it will be impossible to arrive at operational definitions of gambling involvement and excessive gambling on the basis of which proper estimates can be made.

Other estimates

Other estimates of the size of the population at risk - usually based upon information about frequency of participation alone - have from time to time been made and Moody (1972) gives estimates of the numbers of 'regular and committed' gamblers for most forms of gambling. He has estimated the

numbers of 'thorough-going' gamblers off-the-course to be in the region of 725,000 though he gives no details of how this figure was reached except that it was based on an estimate of about 50 such gamblers per betting-shop. The problem with such estimates is that they may leave those who have only the haziest notion of the frequency with which the average punter visits his betting-shop with the conviction that regular participation is in itself evidence of excessive involvement. Since there is a certain propaganda-value for the anti-gambling lobby in maintaining estimates of excessive gambling on the high side, it is inevitably tempting to achieve this by using quite loose definitions of 'regularity' and hence simultaneously exaggerating both the size of the group potentially at risk and the significance for these of the risks involved. When information is available about the frequency with which heavy or excessive gamblers place bets (Dickerson, 1974) it can be seen just how much greater this degree of involvement is than that of the average or rather more regular gambler. Dickerson's group of 'Gamblers', for example, bet whenever there was an opportunity, stayed more than two hours in the betting-shop and bet until the end of racing. On the basis of his own research, Dickerson has estimated the numbers of his 'Gambler' category in betting-shops as being at least about 79,500 (calculating 15,000 betting-shops and 5.3 Gamblers per shop). Of these only about 36% (28,500) were considered likely to seek help for their problems created by their gambling, though - since such problems may occur as the result of less intensive involvement than this - if all those who wished to cut back are added, the total estimate for those who might seek treatment rises to about 45,000 for the country as a whole.

Dickerson's figure of about 80,000 is the most carefully-reasoned one available and for that reason probably represents the best estimate for the numbers of those betting-shop clients whose behaviour is, or is likely to become, a problem. Whether it is treated as being a minimum rather than a maximum estimate of excessive gamblers depends upon the definition being used - and this, in turn, is influenced by the problem which is being investigated. Though most of Dickerson's 'Gambler' group might well be regarded as excessive gamblers both on account of the frequency with which they bet and because of their expenditure (53% staked more than £1; 56% thought they spent most of their own money and had betting debts; 75% regularly spent more than they intended; and 45% regularly lost all they had with them), they did not display the clinical symptoms of 'compulsive' gambling to quite the same extent as the group of G A members whom Dickerson interviewed, though the difference between the two groups in this and other respects was small. While subjective feelings of 'loss of control' are more frequently reported as intensity of participation increases* the relationship between such feelings and participation is likely to be complicated by individual and socio-economic factors which

*Dickerson (1974) describes these feelings in terms of losing control of expenditure, wanting to 'chase it', wanting to stop, and finding it hard to stop. He notes, however, that 'loss of control' is not an all-or-nothing phenomenon, and that it may sometimes be experienced at quite low levels of participation.

influence the extent to which the participant defines his behaviour as being a problem to himself and those around him. It will later (Part Three) be argued that the subjective feelings of 'compulsion' or 'loss of control' may be in part a function of the gambler's recognition of the need to stop because of his other obligations. If this is the case, then it could be argued that, since most of the 'Gamblers' group (64%) experienced no desire to cut back on their involvement or to stop (unlike the GA members who were under treatment) they cannot properly be regarded as 'compulsive'. Since the degree of adverse social and economic effects of excessive gambling behaviour is not dependent upon the gambler's own subjective feelings of losing control, or on his insight into the extent of his problem, however, to limit attention only to this latter group would seem unnecessarily restrictive.

This becomes clearer when one examines the available evidence on rates of presentation for treatment and numbers under treatment. Dickerson (1974) claims that rate of referral to GA was probably about 2000 contacts for 1973 (although whether this includes Moody's (1972) estimate of about 1300 telephone calls per year to the London centre is not clear) and adds to this a further figure of over 300 referrals to psychiatrists per year on a national basis. Numbers in treatment during this period are estimated as being considerably less than this rate suggests as many failed to maintain contact. As Moody (1972) remarks, these sorts of referral or presentation rates are likely to represent only those for whom long-term gambling has reached a problem of intolerable proportions and this suggests that a much larger number must be causing severe difficulties to themselves and those around them, whether or not they recognise or accept responsibility for this.

Where information is specially sought about the prevalence of excessive (or 'compulsive' - the two terms are often used interchangeably) gambling in special sub-groups, such as prisoners, social services clients or probation officer caseloads, estimates tend to be considerably higher. Taking Dickerson's figures of 80,000 as representing a reasonable estimate of the prevalence of heavy to excessive gamblers this provides a rate of about 0.2% of the population aged 16 or over. For more stringent definitions the proportion tends to be lower. Thus, the 28,000 of Dickerson's gambler group who were likely to seek help for their problem constituted only 0.07% of the total population. On the other hand, the proportion of excessive gamblers is likely to be rather higher when more selected populations (those, that is, with a preponderance of persons from the lowest socio-economic groups) are used. It has already been shown that between 10% (Sewell: in Moody, 1972) and 7% (Borrill, 1975) of prisoners claim to be heavy or excessive gamblers. The Middlesex Addictions Committee (1974) reported a prevalence of about 1.2% with gambling problems for their sample of probation cases, and this is very similar to Ball's

(Moody, 1972) figure of 1.1%* for his mixed sample from probation caseloads. Although Breen (1974) reported a prevalence rate of only 0.1% for social workers' caseloads totalling 3,500 clients, the rather lower prevalence in this sample may reflect the definition used: respondents were asked to estimate the numbers of clients on their team's caseload who had gambling as 'the root of their problems'.

Many of the problems of estimating numbers of excessive gamblers are similar to those met by epidemiologists working with alcoholics (Clark, 1966). Edwards (1973), for example, has commented that estimates based on numbers of alcoholics known to agencies in Camberwell indicated that these were considerably lower than the actual frequency. Such problems are likely to be even greater in the case of gambling since it is less easily detected and there is little evidence that its associated problems are included in the spectrum of traditional social work preoccupations. Unit further and more rigorous investigation has been undertaken§, it will be difficult to say conclusively whether the estimates provided by social agencies reveal the extent of the problem or, rather, of the agencies' ignorance about the true state of affairs.

Some consequences of excessive gambling

Where gambling is excessive it is likely to be accompanied by a variety of adverse economic and social consequences. The amount of time and money which are devoted to the heavier levels of continuous gambling participation would seem to make these effects inevitable: 88% of Dickerson's (1974) group of GA members reported being so preoccupied with matters relating to betting that it interfered with most other activities. But although case-histories of excessive or 'compulsive' gamblers, and comparisons of these with groups of more moderate participants, or non-gamblers, all tend to indicate the existence of greater social isolation, and degeneration of work, family and social life among the former it is often difficult to differentiate those cases where such consequences are the result of gambling from those whose personal circumstances merely reflect the effect of a disorganised life-style - of which gambling may be a feature - or from those where gambling itself has been used as a way of avoiding or escaping from tensions and responsibilities in other areas of personal life. It is likely that each explanation is true of a proportion of excessive gamblers†, but the existence of such interactions makes the job of ascertaining their separate effects a difficult one. Surveys of prison populations, for example, (cf. Sewell, 1972; Borrill, 1975) often fail to report signifi-

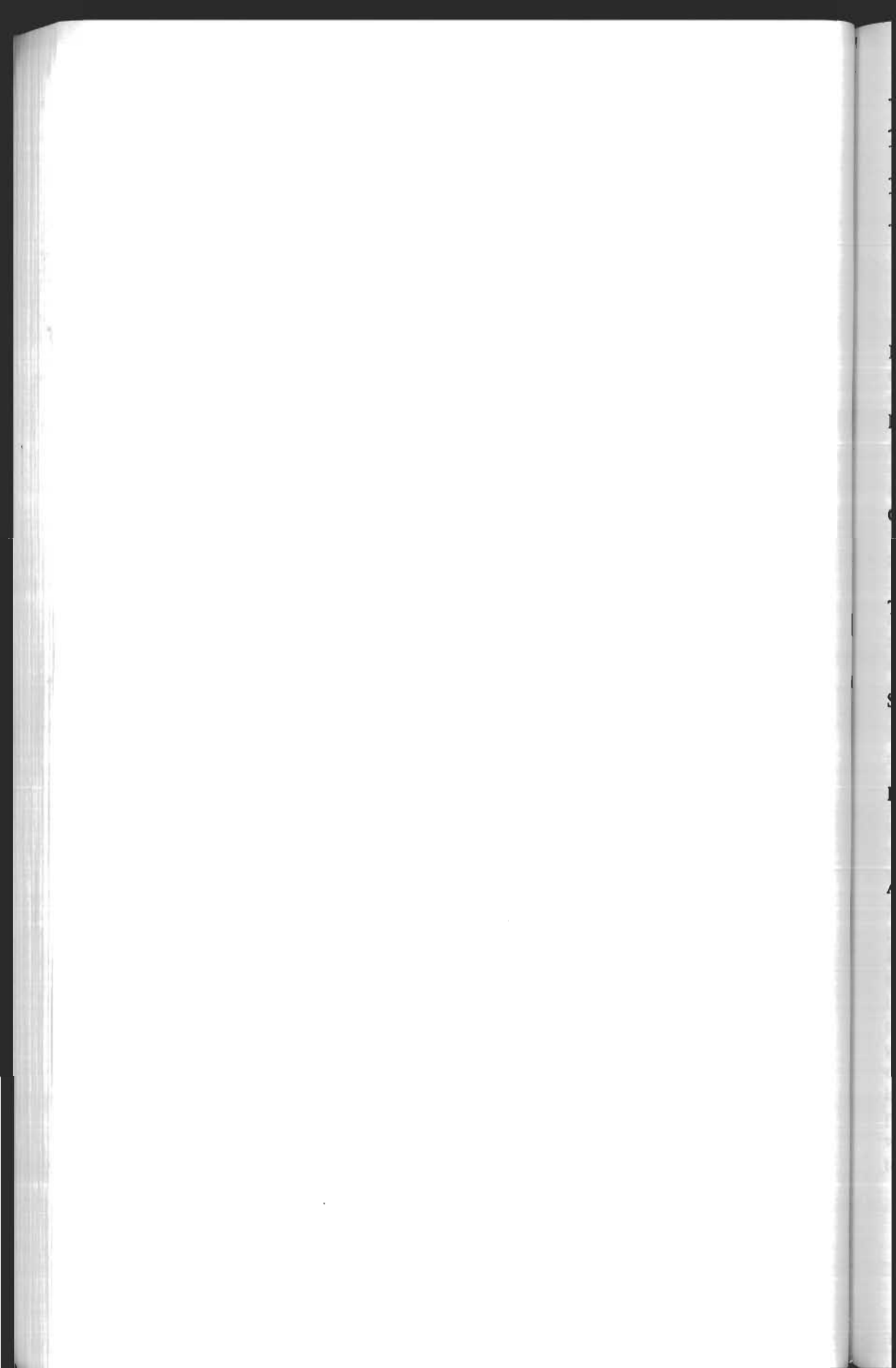
*This percentage is based on those numbers of excessive gamblers for whom the size of the sample from which they were drawn is given.

§Wilkins (1975), for example screened patients attending a general practitioner and found high prevalence-rates of alcoholism.

†Cf. Parts Two and Three of this report. Moran's (1970a) classification of excessive gamblers into sub-cultural, impulsive, neurotic, psychopathic and symptomatic gamblers was partly made in recognition of these problems.

cantly higher incidences of marital breakdown for excessive gamblers than for other prisoners, and this may well be due in part to the fact that recurrent spells of imprisonment have universally disrupting effects on family and work life which far outweigh those contributed by gambling *per se*. Where other special populations, such as members of GA, are looked at the fact that reasons for referral or presentation often include the desire to save a marriage (Dickerson comments that single men are a comparative rarity in GA), may give rates of marital breakdown which seem relatively low, until it is realised that these are not necessarily representative of excessive gamblers in general.

Whatever the precise relationship in individual cases between excessive gambling and the presence of personal, social or economic problems, it is to be expected that, even where excessive gambling played no significant part in creating the problem in the first place, the expenditure of time and money entailed can only serve to exacerbate pre-existing difficulties and to precipitate new problems which in other circumstances might never have occurred. Excessive gambling is itself one of the most important of all adverse consequences which can be attributed to gambling as a leisure activity and for this reason alone it is essential that accurate estimates of its prevalence, related to proper operational definitions of different levels of involvement in terms of frequency of participation and expenditure, should be made. In the next two parts of the report an attempt will be made to explain how and why excessive gambling occurs - first, by establishing why people in general gamble and whether those who later become excessive gamblers constitute a distinct and separate sub-group of all such beginners; and, second, by establishing some, at least, of the determinants of continuous gambling.



Part Two: Gambling Behaviour: Determinants of the Decision to Participate

INTRODUCTION

ECONOMIC MOTIVATION AND EXPECTATION THEORIES OF RISKY DECISION-MAKING

OTHER FACTORS INFLUENCING THE GAMBLER'S EVALUATION OF PROBABILITIES AND PAYOFFS

THE RELATIVE IMPORTANCE OF ECONOMIC AND EXPRESSIVE MOTIVATIONS

SITUATIONAL DETERMINANTS OF THE DECISION TO PARTICIPATE

INDIVIDUAL DIFFERENCES AS DETERMINANTS OF GAMBLING BEHAVIOUR

ACCOUNTING FOR THE DECISION TO PARTICIPATE

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9 Introduction

Part One looked at some of the evidence relating to the social and economic consequences of gambling and concluded that on the basis of available research a case could not be made out for showing that, as a rule, gambling had adverse effects. This was particularly true for certain sorts of gambling, but even those commonly considered potentially most dangerous appeared to offer little actual danger under existing regulatory legislation provided involvement was only moderate. The only important adverse consequence was that some forms of gambling - particularly off-course betting and gaming - appeared to lend themselves easily to excessive involvement and for the group of heavy and/or 'compulsive' gamblers serious social and economic consequences might ensue as a result of the great amounts of time and money they invested.

The factors determining the creation and size of the group of heavy gamblers are the subjects of the remainder of this review. As will be argued later, any attempt to explain the reasons for heavy or 'compulsive' gambling or to design means of controlling its incidence and prevalence must approach the problem by providing some theoretical model of gambling behaviour. The scattered research findings and information which exist can then be incorporated within its framework and social control measures formulated more effectively as a result. There is a practical payoff, too, from trying to increase and systematize a theoretical understanding of the processes involved in gambling behaviour. These are dangers that social legislation which proceeds without an adequate understanding of the processes involved in gambling may fail to achieve its objectives, or - which is worse - may even contribute to the increase of the social problems which it is designed to control.

Many attempts - sociological (Devereux, 1949 and 1968; Downes et al., 1976), psychological (Kogan & Wallach, 1967; Dickerson, 1974), psychiatric (Bolen & Boyd, 1968; Moran, 1975), and psycho-analytic (Halliday & Fuller, 1974), for example - have been made to synthesise varying amounts of the available material on gambling and risk-taking behaviour in order to present coherent accounts of, and explanations for, the development and maintenance of gambling behaviour in individuals, social groups and cultures. The present discussion is considerably indebted to the work of previous commentators who have investigated gambling from the perspectives of their own particular disciplines and aims but (as will become clearer later) it has tended to emphasise the work of those whose findings or hypotheses may have a practical payoff in terms of policy-formation.

In the following pages three issues relating to the problem of regulating gambling - and, in particular, heavy gambling - will be discussed. Part Two will present and discuss evidence bearing on the question of how people come to take part in gambling. Part Three will examine some of the factors determining degree of participation. Part Four will attempt - in the light of the previous sections and of existing legislation - to analyse some of the problems involved in regulating gambling. Legislation may, of course, have other aims than those of regulating the expenditures of individual gamblers, and it may be objected that it is unreasonable to expect the law to do more in this respect than control overall levels of commercial profit. It will be argued, however, that more precise regulation may be possible where it can be based upon an understanding of the factors which determine excessive gambling - though commitment to such a course may have implications for other political decisions concerning gambling, such as the imposition and level of taxes and levies.

Before dealing with the three issues mentioned above - the decision to participate; degree of participation; regulation - in more detail some indication of the present Part's theoretical orientation should be given. Much discussion of gambling behaviour is conducted at a very general level, and we have already seen that this has from time to time resulted in the obscuring of distinctions which ought to be made - that between moderate and excessive gambling, for example - or the making of unnecessary ones. The ways in which words are used can, indeed, sometimes influence the direction in which explanations are sought. In the case of gambling, the commonly-posed question 'Why do people gamble?' both implies and encourages assumptions about the individuals and activities involved which can reflect the often unrecognised influences of particular theoretical views about human behaviour, its determinants and its control.

Three assumptions often made are:

- i. that, by reason of their behaviour alone, 'people who gamble' can be singled out as a group whose members must be similar to one another - and different from non-gamblers - in other respects than their gambling. Apart from ignoring distinctions between degrees of participation, such a view tends to promote explanations of gambling behaviour which seek to ascribe it to the influence of one or two motivations or dispositions common to all members of the group;
- ii. that those who gamble can be regarded as engaging in the same basic activity; different types of gambling are treated as if they were essentially similar, or as if any differences amongst them were unimportant. When the possibility that different types of gambling might offer different experiences and different rewards is not seriously considered it becomes correspondingly easier to treat gamblers as if they were, for explanatory purposes, alike.

It can be seen that these two assumptions are interrelated in a way which encourages the emergence of comparatively simple person-centred

forms of explanation for gambling behaviour at the expense of more sophisticated theoretical viewpoints stressing the importance of situational determinants of the behaviour. Examples of the latter are: the nature of incoming information and its influence upon the potential gambler's cognitions and, hence, motivation to gamble; the availability and prominence of gambling outlets in the community; and the experiences which, as a consequence of their particular structural characteristics, certain forms of gambling can offer. Since these factors may influence both the initial decision to gamble and continued gambling they are discussed, as thought appropriate, in Parts Two and Three. While all of these may affect the potential gambler's perceptions and motivations many of them become fully operational only within the gambling situation or, subsequently, during play.

- iii. that explanations for the initial decision to gamble will be closely related to those used to explain persistent gambling. Since gambling usually presents itself as a social problem only when excessive, it is heavy or compulsive gambling which has generally received most attention. Explanations - often developed out of clinical experience - have tended to be person-centred, emphasising the importance of motives arising from maladjustments of personality and attitudes (Herman, 1967). Since it neglects the importance of the situational determinants mentioned above, this view ignores the fact that, even if pathological motives were able to account satisfactorily for the excessive gambling of a minority of participants, it would not be possible to conclude from this that they also determined the initial decision to gamble. This being the case in relation to excessive gamblers, it would be even less safe to assume the existence of saliency of pathological motivation in relation to the much larger group of moderate gamblers. While, as has been indicated, there are very real difficulties in trying to identify initial as opposed to subsequent motives* for gambling, this is no justification for assuming that the former are identical to the latter or that either have a pathological basis. Indeed, in this field the conceptual view implicit in a 'pathology of gambling' may not be a useful way of looking at the determinants either of the initial decision to gamble or subsequent continued involvement.

Taken together the assumptions can also have a certain practical propaganda value, since they encourage people to allow evidence about the adverse effects of gambling heavily at certain dangerous forms of gambling to colour their views about all forms and intensities of participation. In the following pages it will be argued that these assumptions are misleading. Instead, it will be

*Even the term, 'motive', insofar as it suggests that people possess specific motives which predispose them to gamble (rather than to engage in other forms of expressive behaviour) may be misleading (cf. Chapter 12).

proposed, (a) that the initial decision to participate is influenced by factors arising from a wide variety of personal, social and situational circumstances, many of which are of a non-specific and temporary nature; and (b) that continued gambling, as well as reflecting the operation of these variables, is determined not so much by the influence of deep-seated motivations (though some sort of more general and necessary personal contribution will be proposed) as by a process of learning which is heavily influenced by the salient characteristics of particular forms of gambling and by those of the environment in which it takes place.

10 Economic Motivation and Expectation Theories of Risky Decision-Making

Introduction

Although it is now generally recognised (Gaming Board, 1968) that demand for gambling facilities can be stimulated by factors external to the individual, discussions about why people begin to gamble have generally concentrated upon personal and social motivations. These, it is claimed, are satisfied by instrumental and expressive aspects of gambling behaviour. Since gambling provides tangible financial rewards for successful play, and since money constitutes one of the most potent rewards* at any socio-economic level of society, gambling is frequently (and plausibly) regarded as being primarily instrumental behaviour governed by economic motives. Hess & Diller (1969), who tried to infer gamblers' motives from studying the types of marketing appeals used by Nevadan casino operators, found that the latter's efforts were largely directed at persuading people that gambling was financially profitable - an indication of the importance commercially successful businesses attributed to financial motives. Moreover, Scarne's (1961) survey, conducted on over 60,000 people, indicated that, of those who gambled, 70% said they did so for the money§.

Experimental studies of decision-making under conditions of risk or uncertainty have tended to use gambling tasks - characteristically those of choosing between competing gambles, is often viewed as if it were determined solely by a game tool (Kogan & Wallach, 1967; Rapoport & Wallsten, 1972; Payne, 1973). This, too, has encouraged an approach to the study of gambling itself which stresses its instrumental aspects (the assumption that the gambler is financially motivated). In consequence the decision to gamble, or the act of choosing between competing gambles, is often viewed as if it were determined solely by rational economic considerations such as the likely gain involved, the value of which can be arrived at simply from knowledge of the wager's probability and payoff parameters.

Despite this preoccupation, however, the research on risky decision-making has an important contribution to make to any discussion of gambling motivation, since it provides systematic, if limited treatment of at least some of the

*In learning theory terms it is a 'generalised conditioned reinforcer'. As Kazdin (1975) comments, such reinforcers are virtually insatiable.

§In Scarne (1975) the comparable figure for a further sample of 25,000 adults was 75%. Of those who did not gamble at all (about 20%) the reasons given for not gambling were overwhelmingly economic ones.

factors likely to be relevant. Nevertheless there are two caveats which should precede this discussion. Firstly, the research to be reported has been primarily concerned with constructing models to account for the way in which individuals choose *between* gambles with which they are presented rather than with the question of trying to account for the decision to gamble at all. There is, however, a case to be argued for defining the decision not to gamble as itself the outcome of choosing between the gamble, 'betting on a certainty of retaining existing money', and any other gamble which might be offered. If this is the case, then it would seem possible to extrapolate results from research studying choice-preferences between gambles to the situation where the choice is between gambling and not gambling.

Secondly, decision-making is being studied in circumstances where the parameters of the gambles offered (probabilities and payoffs) are either known or at least readily ascertainable; in real life, however, the decision whether to gamble or not may be made on the basis of incomplete information or little accurate data at all. Under these circumstances the fact that actual gambling behaviour may not always fit even the more sophisticated normative models proposed in this area of research does not necessarily mean that the primary motivation is not a financial one.

Simple expectation theories

Four such normative models have been put forward (Edwards, 1955) to account for the ways in which people choose between gambles. The simplest of these - an 'expected value' (EV) model - assumes that the decision-maker will choose between bets, or indeed, whether to bet at all, by using as his criterion the maximisation of his expected gain. Expected values for each alternative bet can be calculated by multiplying the value of each of its outcomes (gains or losses) by its probability of occurrence and summing these products over all outcomes (Pruitt, 1962). This simple normative model is particularly appropriate in decision-making situations where the agent is governed primarily by rational economic considerations, such as making a relatively stable income, and where he has full knowledge of the objective values of the probabilities and payoffs involved. For these reasons it is likely to be a particularly appropriate model for considering the commercial promoter's activities. These prerequisites to its utilization make its relevance to gambling less easy to substantiate since it is often the case that some of the parameters can only be estimated (as is the case with probabilities in horseracing) or are difficult to discover. In many circumstances, then, the gambler will not be able to do more than estimate the expected values of the wagers he is offered.

Moreover, it is important to recognise that the model fails to offer a satisfactory explanation for four commonplace phenomena of gambling behaviour:

- i. that people engage in gambling when the expected value of the chosen wager (that is, its average return over an infinite series of plays, or percentage payout for money staked) is less than the certain 'return' of not

gambling with the stake money ($EV=0$); this latter choice would, of course, maximise expected gains or minimize expected losses and under such circumstances would seem the rational choice for the financially-motivated. Another way of putting this is that gamblers seem willing to accept gambles with a negative expected value (those for which the expected return will on average be less than the amount staked) if these constitute the only alternative to not gambling at all. Commercial gambling operators rarely intentionally offer other than gambles of negative EV, since it is the discrepancy between the actual expected value offered and zero expected value (a mathematically 'fair' bet) which gives them their guaranteed margin with which to meet overheads and secure their net profits;

- ii. where only negative EV bets are available, and leaving aside the apparent economic irrationality of betting at all under the circumstances, punters still do not necessarily choose amongst these bets in such a way as to minimise expected losses;
- iii. that, even when given the opportunity and encouragement to use information about the expected value of bets to guide their choice, people have sometimes appeared to find the information irrelevant for decision-making purposes (Lichtenstein, Slovic & Zink, 1969)*;
- iv. that even when the EV is held constant for different bets, subjects may display consistent choices for one bet over another (Pruitt, 1962; Fryback, Goodman & Edwards, 1973). A simple EV model, of course, would predict indifference between bets in such cases.

There is evidence, however, that the model can hold up well under some circumstances. Munson (1962) claimed that the EV of a bet was significantly related to choice preference in research conducted using a modified funfair game in a real-life situation, while Davenport & Middleton (1972) found it to hold quite well for certain types of losing gamble in an experimental setting. Moreover, given the 'irrationality' of accepting negative EV bets in the first place, there is evidence (Griffith, 1949; Rosett, 1965, and Herman, 1967) that for most on-course horserace gamblers rational economic considerations play an important part in determining their choice of runner.

More complex expectation theories

The failure of many experimental subjects to conform to the 'expected value' model of gambling behaviour does not, of course, rule out the importance of financial motivation. A number of explanations could be put forward for the discrepancies: they might be due to gamblers' failure to compute expected

*Rapoport & Wallsten (1972), however, suggest that the form of this experiment made the notion of long-term EV maximization less appealing (only one single bet was played).

values accurately; again, it might be that some gamblers were being influenced by motives in addition to, or instead of, financial ones. Before considering this possibility, however, it was hoped (Edwards, 1955) that models could be developed to investigate a third possibility - that for some gamblers financial factors not dealt with by a simple EV theory might be important.

In these revised models, the objective values of probabilities or payoffs could, where necessary, be replaced by subjective values. Earliest to be developed was an 'expected utility' (EU) model in which the actual monetary values of payoffs were replaced by individuals' subjective evaluations of their utility. In 1951, Mosteller & Nogee had found that experimental subjects participating in a dice game could reliably be separated into three groups - those for whom the utility of the money involved was equal to its face value, and those who 'under-' or 'over-' valued its worth to them. Traditional economic theory did not have an explanation for this phenomenon, since it subscribed to a utility function whereby successive increments of money income take on a diminishing utility - a hypothesis which clearly only served to emphasise the apparent irrationality of gambling by implying that, even the case of 'fair' bets (much less those with a negative EV) the satisfaction to be gained from winning extra money would always by definition be less than the satisfaction to be forfeited should the same amount be lost (cf. Weinstein & Deitch, 1974). In psychological terms, even fair bets turned out to be 'unfair'.

In 1948, however, Friedman & Savage suggested that under certain circumstances the marginal utility of income might actually increase rather than decrease, particularly at those points where it was able to transfer an individual from his own socio-economic status to a higher one. Their modified utility function had obvious relevance to explanations of why people gambled and has subsequently been used by others (Rubner, 1966; Weinstein & Deitch, 1974) for defending the rationality of gambling. In this respect it seems particularly appropriate in circumstances where for one reason or another, the economic motivation to gamble might be expected to be strong (see Chapter 12) - among the lower socio-economic groups, for example, where means of acquiring extra capital are negligible - and in relation to forms of gambling, such as lotteries or pools, where the subjective (and, indeed, objective) utility of the payoff is high. In such cases, the prospect of a big win might be expected to reduce the subjective utility of the stake, especially when the latter's objective value is small and its saving of little importance even to the poorer punter. The shape of the utility curve proposed by Friedman & Savage has also been used to explain the lesser interest of higher income groups in lotteries since, unless the increments in income are able to change a person's socio-economic class they tend, as in traditional theory, to have a diminishing utility as incomes rise.

The EU model can explain types and aspects of gambling behaviour which cannot be accounted for under the EV model. It seems particularly useful for those

cases (such as lotteries*) where economic motivation has little competition from other motivations and where capital rather than income is the aim. It does no more than provide partial explanations, however; it fails, for example, to explain why higher income-groups gamble, or why they should take part in forms of gambling where the subjective utilities of payoffs are small. Moreover, ambiguities in the interpretation of results from experiments purporting to test the EU model (Pruitt, 1962) have yet to be resolved. In the case of lottery tickets, for example, decisions to purchase might also have been influenced by subjective distortions of probabilities as well as by the utility of the prize. Tversky (1967) points out that such a non-linear probability function would reflect his own and other findings (Preston & Baratta, 1948; Nogee & Lieberman, 1960) that people tend to overestimate low objective probabilities of high payoff bets and underestimate high probabilities of low payoff bets. Similar findings have also been reported for real-life gambling situations such as horseracing (Griffith, 1949; McGlothlin, 1956). In 1955, Edwards proposed a subjectively expected value (SEV) model, incorporating subjective estimates of probabilities in order to account for the distinct probability preferences sometimes displayed by experimental subjects. Like the EV model, however, this one still led on occasions to predictions which were incompatible with everyday observations of gamblers§.

The above models go some way either towards taking into account financial factors extraneous to those of the gamble itself or towards explaining discrepant behaviour in terms which still preserve the primacy of economic motives. To overcome some of the remaining problems a more sophisticated normative model, that of 'subjectively expected utility' (SEU) in which both probabilities and payoffs were assigned subjective values was developed. When expectation theories are discussed and tested it is this variant which now usually receives most attention (Rapoport & Wallsten, 1972). Like the other models, SEU was put forward in order to provide a deterministic account of decision-making under risk which would be flexible enough to incorporate systematic divergencies from a strict EV model†. Like other expectation models, too, SEU has been found to hold up quite well under some conditions (cf. Rapoport & Wallsten, 1972) but more poorly under others (Davenport & Middleton, 1973), and such discrepancies (especially those where comparisons between real-life

*It is closest to pure chance, has little entertainment value, and has no prestige-building opportunities for demonstration of ability. The person who buys a lottery ticket must be largely motivated by the desire for a prize' (Weinstein & Deitch, 1974).

§For example, it appears to imply that those willing to bet on an event should be willing to wager all their capital (Pruitt, 1962). This, of course, fails to allow for variations in the utility of money.

†As two unknowns are involved, the model is a difficult one to test empirically (Kogan & Wallach, 1967) although methods are now available to test those axioms which would be necessary for the model to hold or to test its empirical implications (see Rapoport & Wallsten, 1972, for a brief review, and further work by Davenport & Middleton, 1973).

and laboratory settings have been involved) have often been tentatively related to differences in the nature of the experimental tasks or other situational variables.

Contributions and limitations of expectation theory

The most important contribution of expectation theory to the explanation of gambling behaviour has been by way of its provision of a preliminary framework within which hypothesis-building, experimentation and discussion could proceed. The useful - though not novel - assumption that people choose the 'better' alternative when selecting between gambles (i.e. the one which maximises something of value to them), that this assumption justifies the search for some rational measure of what constitutes 'better' (Payne, 1973), and that this measure will reflect the operation of economic motivation alone, gave research on gambling behaviour a valuable initial impetus. Beyond this, however, its explanatory value has been rather more limited. None of the models can account for gambling behaviour under all conditions; but while the least successful model in this respect (EV) attempts both to account for the empirical data and explain such behaviour, more sophisticated models, while encompassing more varied behaviour, have not necessarily been able to develop this explanatory role to a corresponding degree.

They have, of course, recognised the importance of subjective factors in the perception of probabilities and payoffs; but their characteristic procedure - the *ex post facto* construction of either or both probability and utility functions on the basis of the behaviour of individuals in laboratory experiments, or from real-life data - has enabled them only to infer the existence and not the nature of, or reasons for, these subjective influences. Not only has this meant (as has been shown) that it is at times difficult to choose between different models which appear equally well able to account for the same behaviour, but the fact that the nature of the gambling activity and other task and situational variables can, in addition to subjective factors, affect the observed behaviour (cf. Kogan & Wallach, 1967; Rapoport & Wallsten, 1972) further limits the applicability of the models. This makes it even more difficult to decide in any particular case whether a model is to be rejected or accepted - or indeed what either of these courses would mean in terms of explaining the behaviour.

Some concrete examples of the defects of expectation models may make these points clearer. First, the findings of Griffith (1949) and McGlothlin (1956), that horserace punters appear to overvalue horses with low probabilities of winning (but high prizes) while undervaluing favourites, seem to fit both SEV and EU models. But when it comes to explaining how such subjective evaluations of either probabilities or utilities on the part of punters are brought about, expectation models offer little assistance. Divergence from an EV model has in these cases been explained in terms of a variety of subjective factors: (i) as a shift to riskier betting brought about by the friendly competitiveness and exciting atmosphere of the racecourse; (ii) as the greater than average utility for money possessed by real-life gamblers at racetracks; or (iii) by their

greater willingness to take risks*. The interesting feature of these 'explanations' is that each of them creates further problems for expectation models. It is not clear, for example, why a risky-shift in betting should occur at the horsetrack, but not at a funfair (Munson, 1962), or why in the case of roulette (Hochauer, 1970) there was not only little evidence that gamblers took EV into consideration, but great individual differences in betting behaviour.

Such problems indicate that gambling behaviour may be influenced both by the type of gambling involved (and its setting) and by individual differences between gamblers. They also indicate that, as Kogan & Wallach (1967) point out, the sort of *ex post facto* accounting for empirical data in terms of probability and utility functions which expectation theory provides may often consist in little more than mathematical tinkering which obscures rather than provides explanation. This tendency is particularly evident in the case of the SEU model which can be made to account for practically any data on gambling behaviour. Many experiments have, for example, shown that - in addition to the probabilities and payoffs of a bet - its variance[§] may influence whether it is chosen or not. If, as has been suggested, the variance of a bet is related to its perceived riskiness, the existence of consistent individual differences in variance preferences (cf. Kogan & Wallach, 1967) could be interpreted as reflecting individual personality characteristics with regard to willingness to take or accept risks with potentially larger prizes and costs. Although it is also possible to suggest complex utility functions which can accommodate such experimental data without apparent recourse to hypothesised personality characteristics (Lichtenstein, 1965) it is questionable whether such arcane procedures materially assist the description of people's actual decision-processes or the explanation of their behaviour, particularly since the functions themselves imply the operation of subjective judgmental factors on gamblers' behaviour.

Conclusions

The discussion so far, then, suggests that expectation theories have not had much success at providing satisfactory explanations for many types of gambling behaviour. They have been able to suggest reasonable explanations in terms of economic motivation for simple forms of gambling such as lotteries. But it has not been possible in other cases - because of the existence of differences in gambling behaviour between different types of gambling, and amongst individuals within the same type of gambling - to provide a clear choice between

*Evidence that horserace punters' behaviour becomes riskier during the course of a race meeting does not make it easier to choose amongst these explanations, since this may be affected by their attempts to recoup earlier losses; McGlothlin found losing bettors increased the size of their stakes more than winners, and since commercial gambling characteristically provides only bets of negative expected value, the numbers of losers could be expected to be a high proportion of total punters at the meeting.

§The variance of a bet can be described as the discrepancy between its possible (usually two) outcomes. Bets with larger variances are usually regarded as being riskier. For a bet at any particular odds, variance can be increased by increasing the stake. In general, it increases as the probabilities of gain and loss approach 0.5 (the point of maximum uncertainty) and as the amounts to be gained and/or lost increase (Kogan & Wallach, 1967).

competing explanations, or, indeed, one which will exclude the influence of motivations other than, or additonal to, the economic one. Moreover, expectation theories cannot be used either as an infallible test as to the presence of economic motivation or as to its importance; as we have seen, even when expected values do not appear to play much part in determining the decision to gamble, this does not necessarily mean that the behaviour is irrational or uninfluenced by financial considerations since, given the influence of a person's financial status upon his subjective estimation of the utility of money, certain forms of gambling constitute a rational response in terms of modified expectation models such as EU.

11 Other Factors Influencing the Gambler's Evaluation of Probabilities and Payoffs

Introduction

Although a gambler's (or potential gambler's) personal utility for money may be catered for by modified expectation theories, subjective assessments of probabilities and utilities may be influenced by additional considerations which allow for even more drastic departures from an EV model of decision-making. Financial motivation may even be a powerful determinant of gambling behaviour from the punter's point of view when his decision-making appears economically reckless. Estimates of probabilities may be inflated by ignorance of how to set about their evaluation for particular gambles (Devereux, 1968) or - once gambling is under way (see Part Three) - by faulty reasoning such as the 'gambler's fallacy' (or negative recency effect) which erroneously claims that the chances of winning at, for example, roulette are increased by betting against a long run of one colour or number*. A range of other fallacies is discussed by Epstein (1967).

These fallacies may, indeed, be looked on as attempts by gamblers to find optimal strategies for maximising their expected gain. Although it was emphasised at the beginning of the last chapter that utilisation of EV models required knowledge of the relevant probability and payoff parameters, the fact is that some forms of gaming are too mathematically complex to allow the average player - even given the necessary information - to formulate optimal strategies during the course of play. Investigation of optimal strategies for playing games such as blackjack, dice, and baccarat under various rules (Kendall & Murchland, 1964; Downton, 1969; Holder & Downton, 1972; Downton and Holder, 1972) suggests not only that considerable skill may be required to discover (and, perhaps, to use) the appropriate strategy, but that even promoters themselves may not always conduct games in the most profitable way under existing rules (May, 1976).

Judgmental heuristics

Given the cognitive complexities involved in making optimal decisions in many forms of gambling, and the speed at which these decisions - whether to bet or not, how much to bet, what type of bet, etc. - often have to be made, it is perhaps unfair to dismiss unsuccessful strategies for simplifying the gambler's

*Cohen & Cooper (1960) have reported that such negative recency effects do not appear to hold for Premium Bonds. Bonds appeared as if invested with only a finite quantity of 'luck'; the longer a non-winning bond had been held the less it was regarded as being a potential winner.

task as merely 'fallacies'. More properly, they might be regarded as heuristic devices which, developed from everyday experience and proven in relation to it, are brought into the gambling setting where - for one reason or another - they may not always be appropriate. Tversky & Kahneman (1974) have described three of the main heuristics (or 'rules-of-thumb'), employed by people to assess probabilities and predict values, which may under certain circumstances lead to biases: the representativeness heuristic; the availability heuristic; and the adjustment-from-an-anchor heuristic. One example of the representativeness heuristic's inappropriate use is that involving the 'gambler's fallacy', mentioned above, which assumes that outcome sequences of comparatively short length will represent the essential characteristics of the random process responsible for their generation. As Tversky & Kahneman comment:

'Chance is commonly viewed as a self-correcting process in which a deviation in one direction induces a deviation in the opposite direction to restore the equilibrium. In fact, deviations are not 'corrected' as a chance process unfolds, they are merely diluted.'

Again, the availability heuristic may in many circumstances be a useful clue for estimating the frequency or probability of an event. It is often the case that people base estimates on the ease with which the relevant events can be brought to mind and, since instances of large classes of events are usually recalled better and faster than those of smaller classes, this device can be useful. As Tversky & Kahneman comment, however, such ease of retrieval may also be influenced by other factors, such as saliency or impact, and recency. The impact of winning on the gambler himself, or the impact on an observer of seeing others winning, may be enough temporarily to raise the subjective probability of winning above its original value. Lastly, the adjustment-from-an-anchor heuristic may lead gamblers to overestimate the probability of conjunctive events such as winning all the races in the ITV '7', since it leads the gambler to concentrate upon the probabilities of one or two of the constituent events' occurring, and then to make some sort of adjustment - characteristically insufficient - to incorporate the remainder.

Tversky & Kahneman distinguish the influence of these cognitive biases, arising from use of some of the common judgmental heuristics, from those caused by the sorts of motivational effects which, as we have seen, may also influence the perception of probabilities and payoffs. They should also be distinguished from other strategies, similarly employed in gambling, which are not necessarily fallacious or misguided. Many of the 'systems' for roulette (Epstein, 1967), for example, while of no value in increasing the players' chance of winning, can be used to exert some degree of control over rate of loss. If keeping in the game longer is an aim, then these are viable strategies for so doing. In this context, Downton & Holder (1972) have commented that, in the short term, knowledge of gain ratios for particular wagers (the EV per unit stake divided by the standard deviation) rather than the EV alone, together with information about rate

of play, could also be used by players for planning and regulating expenditure within a gambling session.

The inappropriate (albeit often inadvertent) application of heuristic devices could be regarded as one example of the gambler's attempt to introduce skill factors into situations where they are either irrelevant or misleading. Moreover, whether or not a gambling task is seen as requiring skills for its satisfactory performance may itself affect the gambler's subjective assessment of the probabilities and payoffs. Not only is there evidence that this will occur where objective differences exist between gambling tasks (Andriessen, 1971) - Lupfer & Jones (1971), for example, found that when skill was attributed to an activity participants tended to engage in riskier decision-making than when the activity appeared determined primarily by chance - but also (though here the evidence is inconclusive) that such differences may even occur when the ascription of skill, or chance, is not borne out by objective differences (Littig, 1962). Oldman (1974) has illustrated how roulette, the archetypal game of chance, may often represent itself to participants as a game of competing skills, the players pitting their abilities against those of the croupier.

Even the superstitious rituals in which craps players engage when apparently trying to influence the fall of the dice (Henslin, 1967) or the fact that gamblers stake less money when required to do so *after* the fall of the dice (without knowing the result) rather than beforehand (Strickland, Lewicki & Katz, 1966; Rothbart & Snyder, 1970) may be regarded as examples of the strong desire of some gamblers to view their behaviour as at least partly reliant upon personal skills (Csikszentmihalyi & Bennett, 1971), though from an objective viewpoint this may interfere with their ability to assess real probabilities with accuracy*. The 'motivated bias' (Devereux, 1968) which tends to ensure that, where errors in the assessment of probabilities are made, they are generally such as to distort probabilities in the gambler's favour, may often be encouraged by his mistaken belief that he has the necessary skills, and that these are relevant to outcomes.

From this discussion it is clear that incorrect or inappropriate beliefs about probability theory[§], the role of skill in determining outcomes, and about the means by which natural events can be influenced may distort perception of the

*An extreme example of such behaviour occurs among participants in the 'numbers racket' (cf. Kaplan & Maher, 1970) who use 'dream-books' - lists of three-digit numbers allegedly associated with various dream symbols, objects, events or themes - to assist them in choosing numbers (McCall, 1964; Scarne, 1975). Given the framework of superstition and belief in personal luck within which the punters operate, some skill would be ascribed by participants to the process of selecting numbers. In the same way, although Smith & Razzell (1975) report that 55% of their sample of pools winners depended on chance to fill in their winning coupons, the method used often involved appeals to 'chance' on a personal basis - by using birthdates or drawing numbers from a tin. Paradoxically, the belief that knowledge and skill may significantly influence one's chances at making a big win on the pools, may also mistakenly cause people to participate.

§This is not, however, to say that the issues of the correctness or appropriateness of such assumptions have yet been finally resolved: cf. Maché's (1971) and Groner's (1971) statistical analysis and discussion of gambling behaviour in relation to the German Number Lottery.

probabilities of winning or losing a gamble, and hence - by extension - the attractiveness of gambling at all. The belief that the occurrence of winning sequences in games of chance can be predicted and controlled by use of appropriate theories, skills and ritualistic practices may also have arisen as a consequence of these games' original purposes. Csikszentmihalyi & Bennett (1971) comment that games of chance seem to have emerged from the divinatory aspects of religious ceremonies within primitive animist cultures, their purposes in such circumstances being those of 'quizzing the supernatural'. Preparation for divination required elaborate rituals, incantations and propitiatory ceremonies to insure the best conditions for a favourable outcome. It may be that behaviours such as talking to the dice and other superstitious practices in modern games of chance (Henslin, 1967) still fulfil for some players the functions of trying to secure the benevolence of fate, and that the feelings of luckiness* - or reduction of anxiety (Goffman, 1972) - induced by these rituals may distort players' perception of probabilities.

Creating an 'illusion of control'

Recently, the fact that people sometimes behave as though chance-determined events were controllable has been made the subject of detailed experimental investigation by Langer (1975). Langer points out that there are a number of factors which, in relation to tasks involving skill, may influence the successfulness of a person's performance. Among these skill-related factors she lists the presence and quality of competition; availability of choice; familiarity with task-materials or the required response; and degree of involvement in the task - for example, having time to plan strategies (passive involvement), or being given the opportunity to exert effort (active involvement). Langer suggests that the presence of skill-related factors in chance situations may cue or encourage the participant to adopt an inappropriate 'set' towards the task or event - giving him, that is, an 'illusion of control'.

In an attempt to discover the extent to which people do, in fact, assume skill-orientations in chance situations, Langer has conducted a series of experiments incorporating manipulations of skill-related factors in the context of a variety of games of chance. Since these studies examine factors which could operate to influence the potential or actual gambler's perception of his chances of success, a brief description of the six experiments will be undertaken. Langer hypothesised that, since people often engage in competition when assessing their skills, the introduction of this factor into a chance setting would induce an illusion of controllability. In her first experiment, subjects were required to bet on the outcome of drawing cards from a pack. In one experimental condition subjects made their bets in the presence of a 'nervous' co-subject (the experimenter's

*Feeling 'lucky' can of course arise as a result of confidence in real personal skills. In some gambling games - such as poker - where interpersonal and other skills play a part in success, such confidence can alter the probabilities. Martinez & LaFranchi (1969) describe how other players may unwittingly help successful players to maintain optimal behaviours such as keeping calm and patient.

confederate) who also drew and bet on alternate cards from the same pack, while in the other condition subjects made their bets in the presence of a 'dapper' co-subject (the same confederate, smartened up). Even though subjects knew that the outcomes of their draws were determined by chance, and even though subject and confederate were not betting against each other, the quality of the 'competition' offered appeared to affect the mean sizes of the bets made under the two conditions. Thus, those who bet alongside the nervous co-subject made, on average, significantly higher bets, seeming to act as if the apparent incompetence of the confederate could give them some sort of advantage.

In skill settings, being able to make choices usually increases one's control over outcomes and, therefore, one's chances of success. In her second study, Langer ran a lottery for which some participants were allowed to choose their tickets while others were merely assigned them. It was found that those allowed to choose their tickets valued them more highly. In a third study, which tested the effects of the skill-related factor of familiarity, it was found that conventional-looking (and hence, familiar) lottery tickets were preferred by their holders to less conventional tickets subsequently offered in exchange - even though the latter were for a lottery in which the chances of winning were better. Subjects evidently felt more 'in control' and therefore more confident of winning when holding familiar tickets, tickets they had chosen for themselves, or both (cf. also Wortman, 1975).

In a fourth experiment, Langer attempted to determine the effects of two further skill-related factors: practising or not practising a simple response which would later have to be performed in an experimental task; and level of active involvement in the same task. Both might, in a skill situation, be expected to affect degree of personal control. Being able to practise the response and being able to take an active part in the task both increased rated confidence of likely success, even though subjects knew that task-outcomes were chance-determined.

The more thought one gives to a task involving skill, the more likely one is to come up with strategies which will increase the likelihood of success. Opportunities to make plans are partly a function of the time available, and Langer hypothesised that in certain chance situations confidence of success would increase as time passed. In her fifth and sixth studies, Langer tested for the effects of such passive involvement on the confidence of ticket-holders in two lotteries. In the fifth, samples of ticket-holders in a lottery to be conducted at the end of an evening's programme at Yonkers Raceway were approached at three different times during the course of the evening and asked to rate their chances of winning. Results indicated that people became more confident over time. In addition, women tended to be more confident than men, and Langer suggests that this may have been because men, being more interested in the evening's racing, thought less about the lottery in the time available. For the

last study, lottery participants were given three-digit tickets. Those assigned to the low passive involvement condition received their ticket in the ordinary way while those in the high passive involvement condition received theirs in instalments of one-digit pieces over three days. As predicted, subjects in the latter condition valued their tickets more highly, and were more confident of winning, than those who received their tickets all at once. Evidently their passive involvement and, hence, the illusion of control was increased by these means.

As a result of her experiments Langer concludes that the extent to which events are seen as being controllable depends largely on the presence and strength of skill-related factors which are imported into situations 'known' by the individual to be determined by chance. When such a chance situation mimics a skill situation in this way people develop an illusion of control, and Langer suggests that people's tendency to do so - though in her experiments the tendency was actively fostered by the manipulations of skill-related factors which took place - is a side-effect of a generally functional motivation to master the environment. As will be shown later, Langer's findings make important theoretical and practical contributions to the explanation of gambling behaviour. First, they emphasise that people are likely to bring to any new situation a range of ways of thinking, skills, problem-solving strategies, and expectations. In gambling situations, the illusion of control which results misleads the gambler about his chances of success, and the consequences of this deception will depend upon the extent to which skill (as opposed to chance) does, in fact, influence the outcomes. Second, they suggest that identification and manipulation of factors responsible for creating the illusion of control may enable others (such as gambling promoters) further to mislead the customer about his chances.

Manipulating people's expectations

So far, distortions of the objective values of probabilities (and in the previous chapter, payoffs) have been treated as if they arose simply from a misapplication of the collection of beliefs, values, skills, strategies and heuristic devices brought by the individual into the gambling situation, or wherever else he first encountered the choice of whether or not to gamble. The potential gambler, it would seem, misperceives his chances of winning largely through a combination of greed, ignorance and self-deception assisted, perhaps, by the unfortunate (but fortuitous) circumstance that chance-determined events and the settings in which they occur often strongly resemble those where success is determined by skill.

It is implicit in Tversky & Kahneman's work, and explicit in Langer's studies, however, that such tendencies can be more actively encouraged by the deliberate manipulation of situational variables in the gambling setting. Where it occurs, such manipulation is likely to take two main forms - namely, the establishment of misleading bet parameters, and the encouragement of inappro-

priate beliefs. The first form relies primarily on the misrepresentation of relevant information in the gambling setting, while the second concentrates more directly upon the gambler himself. Needless to say, although, for the purposes of discussion, a distinction is made between the two, both methods are likely to be found in interplay - the one reinforcing the effects of the other - in any gambling situation.

Establishing misleading bet parameters: where accurate information about probabilities and payoffs is simply not available - or obtainable only after spending more time, effort or money than the average gambler can afford* - it may be possible for the promoter to mislead the punter. It is in the nature of horseracing, for example, that the EV of a bet cannot be precisely calculated - though average 'expected values' can be calculated retrospectively through analyses of large numbers of races (cf. Chapter 5). Instead, information about a particular horse's chances of winning has to be based upon past 'form', and skills at estimating probabilities and selecting bets which offer good value for money play an important part both in winning and, in the longer run, of minimising losses.

But while in other forms of gambling such as gaming there are (or were until recently) types or classes of bets which by reason of their EVs are indentifiably 'mug bets', giving consistently worse than average value for money than other types, the same sorts of distinctions cannot so easily be made in horseracing. Where knowledge about probabilities is replaced by two sets of opinions - the punter's (which may be more, or less, well-informed), and the bookie's (which will tend to err on the side of caution), an area of uncertainty will exist within which the individual bet eventually takes up a certain position. Where such areas of uncertainty exist it is to be expected that prices (and value for money) will be fixed by negotiation, the bet 'settling' on to its appointed spot as the result of an interplay of forces. In theory, a system of price-fixing will evolve which is mutually satisfactory to both punter and bookmaker, whereby the punter gets the best possible odds consonant with maintenance of a reasonable profit margin by the bookmaker after overheads, etc. have been deducted.

Self-imposed limits such as 'reasonable' profit-margins or 'one-price systems' may be expected to run counter to market interests, however, since it is more natural for prices to be determined by the relative bargaining powers of the parties to the proposed transaction. In Chapter 4 (Part One) it was mentioned that horserace betting might be one of those cases in which market forces were operating 'unfairly', by offering bets at what amounted to a range of profit-

*Calculation of a gaming machine's payoff as a percentage of money inserted would, for example, be time-consuming and expensive for the player.

§It may be objected that 'unfairness' is an inappropriate term to use about markets. In this context it merely refers to those cases where the weak bargaining power of some is used as a means of making them pay a higher price for the commodity in question, where it is already being offered to other customers at a lower price and with a 'reasonable' profit.

ability percentages, the fixing of which were decided not so much in accordance with the differential overheads (if any) involved as on what different sections of the market would bear. It was also suggested that, in practice, those sections bearing most would probably include disproportionate numbers of punters whose low socio-economic status gave them the least disposable income - that, in effect, they would have to pay more than others for a similar commodity.

Further consideration of this issue and, in particular, of evidence about whether, how, why and in relation to which consumer-groups price discrimination may be occurring, must be postponed until Part Four (Chapter 24). Here, it is sufficient to notice that it is the relative lack of definite knowledge about the parameters of bets in horserace betting, and the greater difficulty of estimating the profit-margins involved which, in comparison with other forms of gambling, provides the promoter with frequent opportunities to clip the odds he offers on certain types of bet or at particular odds-levels. Such a practice, were it to occur, might well be facilitated by the punter's reasonable presumption that, although the probabilities and payoffs of bets placed at various odds must differ, a linear relationship between the two is maintained throughout the range. The belief that such a relationship existed would suggest to the punter that, regardless of the odds-level at which he might habitually bet, he could rely in the long-term on receiving a similar percentage return on his 'investment' - or, rather, of losing a similar percentage of his stake-money. Any small (but consistent) deviations from linearity created by the bookmaker's pricing methods - and dictated, perhaps, by the nature of the betting market - would be both unanticipated and difficult, in the absence of objective information about probabilities, for the punter to detect*.

Gambling promoters can also distort information about the parameters of bets more directly. Little systematic research has been carried out in this area but Hess & Diller (1969) have given some examples of the ways in which factors in the gambling situation itself may be manipulated in order to provide the gambler, or potential gambler, with partial, selected or potentially-misleading information about the wagers being offered which will distract him from considering the real expected values of the gambles (where this information is available). They found evidence that casino operators tried to create the impression that gambling was financially rewarding by:

- '(a) posting winning Keno tickets as evidence that other gamblers are 'hitting it big'; (b) announcing big Keno winners and slot-machine 'jackpot' winners via loudspeakers as further evidence that other gamblers are winning; (c) the ringing of bells and flashing of lights to indicate large payoffs on gambling machines, to further reinforce the impression that every-one is winning; (d) advertising to the effect that a given casino has the 'most generous slots'

*Similar considerations would apply to totalisator dividends, where they are not calculated on the basis of a flat-rate deduction (cf. Select Committee, 1977).

Techniques like these encourage the development of the judgmental biases to which gamblers' usage of heuristics - particularly those of representativeness and availability - already tend to lead.

These are all examples of attempts to increase the potential gambler's probable predisposition (if he is economically-motivated to any degree) to attend selectively to payoff information. Similar factors also operate in horseracing: bets are offered by bookmakers in terms of potential payout ratios (the odds) which, while implying probabilities, emphasise payoffs. Gamblers with particular types of financial motivation (see Chapter 12) may be persuaded to accept relatively poor value-for-money bets where they are preoccupied with payoffs, and this tendency - which might be expected to be particularly strong where long-odds or combination betting are concerned - may provide the bookmaker with additional assistance, should he wish to increase his percentage profit on certain types of bet.

Many of what might be termed exploitative practices are confined to the gambling situation itself, and hence can only influence those who have already decided to gamble, or who - for other reasons, perhaps - find themselves in this setting. Others may offer inducements to gamble to a wider market of potential punters. It is difficult to remain unaware of the large sums won by a few of those who complete the football pools or buy lottery tickets, when these results are widely advertised. Concentration upon these few winners, manipulation of prize structures to encourage maximum participation (Weinstein & Deitch, 1974), and other methods of altering the attractiveness of gambles without changing their expected values (Slovic, 1969a) may influence subjective estimates of the probabilities and payoffs involved to the extent that individuals may be persuaded of the financial sense of gambling.

Encouraging inappropriate beliefs: instead of directly manipulating information about probabilities and payoffs, promoters can encourage a gambler's beliefs, where these are likely to work against the realistic appraisal of the odds. This may be done either to increase the numbers of those who participate or to increase the extent of their participation. McCall (1964) has outlined ways in which the Hoodoo belief system can bolster the profits of the numbers racket, (a) by increasing the volume of betting by boosting the confidence of punters through the attaching of supernatural significance to the numbers played, and providing 'explanations' for losing; (b) by causing players to cluster bets on certain numbers corresponding to commonly-occurring Hoodoo symbols. In this case the amount paid out if these numbers win can either be limited in advance, or such numbers can be removed surreptitiously before the 'draw' is made. Either way the odds in favour of the promoter are enormously increased (Scarne (1975) discusses payoff practices in the 'numbers racket' in some detail).

Even in less superstitious societies, beliefs and practices can be fostered which have rather similar results. Langer's series of experiments indicated some of

the ways whereby chance-determined events can be made to take on the appearance of skill-determined ones. Epstein (1967) has commented in similar terms upon the way in which the belief that roulette is a game of skill is fostered by the publication of the Monte Carlo 'Revue Scientifique', which logs successive outcomes at roulette. In 1963, the Churches' Council on Gambling commented that proposals to publish a 'Multibet Pocket Guide' giving details of complicated accumulator bets were likely to encourage an increase in this type of betting, with very favourable results to the bookmaker. In such cases the skill required to make up the bet may blind the punter to his real chances of winning, particularly if he tends to overestimate the probability of this compound event's occurrence (Slovic, 1969a; Tversky & Kahneman, 1974). Lastly, even the very names of gaming clubs like 'Lucky Strike' or 'Golden Nugget' may, by appealing to a potential gambler's belief in his personal luck (in Hess & Diller's (1969) phrase, 'a rendezvous with chance') encourage an unrealistic assessment of his chances of winning.

Some Nevadan casinos (Hess & Diller, 1969) use a combination of some of these techniques when they concentrate upon selling the idea that gambling can be carried on in their casinos without much financial loss. This is done by offering cheap meals and entertainments, free drinks, small amounts of 'free' chips, free baby-sitting, etc., to potential customers. It is true that within limits the money lost by a customer who gambles can be set against these savings. But the appeal relies - as do the 'free' holidays which some operators organise for lower income groups (Wilson, 1970) - on the extent to which this practice so reduces the utility of the money the customer brings with him that he will be ready to gamble and, once a participant, to continue beyond his objective 'break-even' point.

An alternative model for investigating decision-making in gambling

Quite apart from the fact that expectation models of risky decision-making presuppose the primacy of financial motivation, they are not well suited to incorporating or accounting for the influence either of gamblers' beliefs - other than those such as income-level considerations which may affect assessments of payoffs - or of the situational determinants* of cognitive and motivational biases. In part this failure reflects the evolution of expectation theory out of a simple normative model governed only by immediate rational economic considerations. But these models also assume that information about the objective parameters of bets is available to gamblers, and this directly conflicts with the interests of gambling promoters, who have strong motives for ensuring that it is not.

These problems suggest that alternative theoretical approaches which do not make *a priori* assumptions about gambling behaviour but seek primarily to

*The term is used to cover all incoming information about gambling activities (accurate or not), whether about merely the parameters of a gamble, or about other aspects of the gambling activity and setting (cf. Chapter 13).

investigate and describe those variables to which the decision-maker pays attention and the rules which govern their incorporation into the decision-making process may be more useful for explanatory purposes. One of the most important of these has been the development by Slovic & Lichtenstein (1968b) of an approach which characterises a gamble as a multidimensional stimulus, describable by its location on four basic, stated, risk dimensions - probability of winning, amount to be won, probability of losing, and amount to be lost. There is little new in this, but the authors go on to assert that it is these explicit dimensions alone (and not those implicit underlying values such as EV and variance) which are the critical variables utilized in the decision-making process. Moreover Slovic & Lichtenstein suggest that an individual may be led by his 'importance-beliefs' - beliefs about the importance of some dimensions over others in certain decision situations - to pay selective attention to these alone. These beliefs may be derived from past experience, logical analysis of the decision task, or even from quite irrational fears and prejudices. They also emphasise the importance of information-processing considerations by suggesting that decisions may in addition be affected by a person's ability to employ his importance-beliefs successfully when processing information about risk dimensions.

A number of factors makes some such information-processing model a potentially useful way of examining gambling behaviour. Firstly, the model seems able to integrate results from a wide variety of experiments, including those demonstrating the predictive value under some circumstances of certain expectation models of decision-making (cf. Payne, 1973). It also seems able to account for other anomalous findings to which reference has already been made (Lichtenstein, Slovic & Zink, 1969; Slovic & Lichtenstein, 1968a; Payne & Braunstein, 1971). These, taken together, seem to indicate that decision-makers make use of explicit risk dimensions in preference to implicit values when making choices.

Secondly, the emphasis upon information-processing gives the research two specific but related directions which are particularly relevant to the study of gambling behaviour and its regulation:

- i. an information-processing model emphasises the importance of correctly identifying the sources of information actually used by the decision-maker. In this context, knowledge about the type and accuracy of information and the ways in which it is made available to the punter may have considerable relevance to gambling behaviour*. As has been shown,

*Some experimental evidence bearing on these points has been presented by Lichtenstein & Slovic (1971; 1973) and Lindman (1971). When subjects were asked to rate gambles for their attractiveness, they tended to pay most attention to probability dimensions; when asked to price the gamble, however, they tended to pay most attention to payoff dimensions. Lichtenstein & Slovic (1973) concluded that '... the compatibility or commensurability between a cue dimension and the required response will affect the importance of the cue in determining the response.' Andriessen (1971) also suggests that the way in which sources of information are displayed will affect their utilization. Earlier research by Slovic (1967), indicating that ratings of a gamble's perceived riskiness are primarily determined by probability of losing, has been confirmed by Payne (1975).

sometimes only restricted information is available or the gambler may be persuaded or misled into paying attention to one dimension rather than another. Again, information may be presented in different ways (aurally as against visually; sequentially vs. simultaneously). Explanations in terms of selective attention to particular risk-dimensions offer alternatives to the EU model, for example, where descriptions of decision-making behaviour are being sought, and are even able to incorporate the concept of EU as an importance-belief in order to account for lack of attention to probabilities or amount lost;

- ii. the model also makes it easier to investigate the actual strategies used by people when making decisions. Knowledge of these is again important where gambling behaviour is to be explained or regulated, since it not only throws light upon the gambler's importance-beliefs and their determinants, but also upon methods by which his information-processing techniques can be deliberately manipulated. In the latter case the issue will be whether the gambler can be encouraged to adopt over-simplified or unfavourable heuristics when deciding whether to gamble or not or when choosing between gambles.

Slovic & Lichtenstein (1968b) have themselves commented on some of the potential practical applications of their theory and associated research technique to the study of gambling behaviour and its determinants. Although it is too early yet to say how fruitful the approach will be, it already promises to make the investigation of some of the factors involved easier. Andriessen (1971) has used it to study the effects of personal preferences and situational factors ('chance' vs. 'skill' experimental tasks) upon both the relative utilization of the different risk dimensions and upon the number of dimensions used. It may also provide a more satisfactory method for investigating heuristic devices such as 'satisficing' (Simon; cf. Kogan & Wallach, 1967) which may operate in gambling for simplifying and speeding up decision-making. Where an expectation model of decision-making appears to be being followed, for example, it may be that - rather than engaging in complicated implicit constructions of subjective utility or probability functions - the punter selectively attends to factors such as odds or payout ratio (ratio between stake and payoff). At certain levels, he may adopt the heuristic devices of ignoring the precise probability of winning - provided one exists - or the amount of the initial stake, as long as it remains small. In Slovic's (1969a) terms, the individual may be 'payoff-oriented'. Payne & Braundstein (1971) present a 'contingent-processing' model as an example of the sort of strategy gamblers may use when utilizing the explicit risk-dimensions of gambles, and Tversky & Kahneman's discussion of heuristics fits in with the more general information-processing approach.

Conclusions

Since acquiring money is an important goal of much instrumental activity, it has been necessary to evaluate at some length those research findings which might have a bearing on the importance of the role in gambling played by financial motivation. So far, no precise evaluation has proved possible, although the survey has been able to counteract the tendency, present in some discussions of gambling motivation, to discount prematurely the importance of instrumental, in favour of expressive motivations. Just as a critical examination of expectation theory research showed that the apparent financial sense (in objective terms) of a person's decisions about gambling could not be regarded as a necessary condition for the existence of financial motives - nor a guide to their importance - so it follows that, even when a gambler's behaviour appears less 'rational' still, this does not inevitably mean that he is acting under the influence of non-economic (i.e. 'expressive') motivation.

This conclusion has relevance to evaluations of the various typologies of gamblers which have been proposed from time to time - especially of those where the successfulness or rationality of gambling behaviour in economic terms is used as a touchstone for assigning gamblers to categories or for inferring their motivation (Martinez & LaFranchi, 1969; Scimecca, 1971; Kusyszyn, 1972). If a gambler's decision-making behaviour is influenced by such factors as his ability - to assess payoff probabilities, for example (Phillips, 1972) - or his beliefs, then inferences about his initial motivation become hazardous. Moreover, they will necessarily become more hazardous the longer a person continues to gamble, since situational variables and learning acquired during gambling will increasingly exert their influences on the behaviour he exhibits: the fact that a habitual gambler may lose consistently, for example, does not necessarily permit the inference that his initial motivation to gamble was to lose (Bergler, 1958), not make, money. Nor by the same token is it possible to conclude that the financial sense of decisions about gambling is a sufficient condition for the importance, as opposed to the existence, of economic motivation. There is little reason to suppose that those subjects - termed by Andriessen (1971) the 'rational decision-makers' - whose behaviour most closely approaches an EV model (cf. Mosteller & Nogee, 1951; Cohen & Chesnick, 1970) are more strongly motivated by financial considerations (although there is a strong possibility that they are *only* motivated by these) than those who, in the same experimental situation, choose as if under-valuing or over-valuing probabilities or payoffs.

12 The Relative Importance of Economic and Expressive Motivations

Economic motivation and economic need

Given the difficulties outlined in the previous chapter, it might still be possible, however, to infer something about the presence or strength of economic motivation from other information. Two approaches seem likely to prove useful for this purpose. First, since it seems reasonable to assume that economic motives are related (though not necessarily straightforwardly) to economic need, it may be possible to establish a relationship between degree of need and participation in gambling, considering this as a single, undifferentiated activity. Secondly, whether or not such an overall relationship holds, it may be possible to establish differences amongst the various types of gambling in terms of the chances they offer to make money - or to make most money - and to see whether those which seem best able to satisfy economic motivation received disproportionate support for those persons and groups in most economic need.

With regard to the former line of inquiry it is necessary to establish first the identity of those persons or groups most likely to experience financial need. The clearest candidates would appear to be those from lower socio-economic groups, whether the need in question is defined purely in economic terms (as, for example, money for purchase of luxuries) or both economic and social - the need for a larger sum of capital such as those suffering from 'status frustration' have been claimed to display (Tec, 1964). The simple financial motivation argument has been well put by Whyte (Herman, 1967). Describing the gambling habits of American street-corner youths, he makes the point that saving may in their case not be a socially-acceptable alternative to gambling. Those who save may be expected to help out their friends, while the small amounts saved by not gambling would probably be frittered away anyway. An infrequent win on the 'numbers', however, can be used for special purposes - treats, or buying little luxury goods, etc. This is, of course, another example of an EU model explanation: the utility of a small amount of money, in terms both of its actual value for increasing existing standards of living or its potential value if allowed to accrue (a course requiring a high degree of budgetary control) is far outweighed by the utility of a large win, however remote the possibility of obtaining it.

As has already been mentioned (in Chapter 4), surveys carried out in this country over the last 25 years or so (Kemsley & Ginsburg, 1951; National

Opinion Poll, 1963; Gallup Polls, 1972 and 1976) have shown differences amongst the socio-economic classes in their rates of participation in gambling, though these have not always been substantial (cf. Newman, 1972, and Downes et al., 1976). Gallup (1972), asking 'Which if any of the following do you ever do these days?' (football pools; off-course betting; commercial bingo; private card or dice playing; betting on the Tote; betting with on-course bookmakers; gaming in gaming clubs), found participation in gambling to vary from 46% (for members of class AB) to 59% (for members of C2). Those who were least-affluent (DE) were more likely to gamble than the two highest classes but (at 53%) less likely than the better-off skilled manual class. The DE class, of course, includes those with particularly low disposable incomes - the pensioners and the unemployed.

The relationship between likelihood of participation and socio-economic status was small, but statistically-significant (Chi-square: $p < .05$; d.f.3), and inspection showed it to be broadly negative. The 1976 Gallup Poll, while not quite comparable with the earlier one*, shows a drop in participation-rates for all classes, though this is more marked for the highest two (AB and C1) and trivial for the lowest - a result which has the effect of increasing the statistical significance of the relationship between participation and class membership (Chi-square: $p < .001$; d.f.3). Since different polls tend to use both different definitions of socio-economic status (the 1950 survey took income-levels§) and include different forms of gambling from which composite measures of gambling overall are derivable, comparisons amongst these must be tentative, particularly over time. Nevertheless, it appears from results of the 1950 survey and from Newman's (1972) review of a variety of surveys completed in the intervening years that the tendency for greater numbers of lower socio-economic class members to gamble is a well-established one.

Although the evidence that likelihood of gambling is related to socio-economic factors suggests that economic considerations might be operating, the use of composite measures of gambling is in many respects unsatisfactory for investigating this hypothesis. Such measures blur distinctions between different types of gambling which may be of sociological, psychological or - in the present case - of economic importance. While this may not in practice matter where, as in Great Britain, one particular form of gambling (the pools) is of overwhelmingly greater popularity than any other, a better case for explaining differential socio-economic class involvement in gambling in terms of economic rather than other motives might be made out in relation to those types of gambling particularly suited to this role.

As was shown in Chapter 4, there are, according to many sources, well-established differences in participation-rates amongst the different socio-economic groups for the four major forms of gambling and - in all save

*It surveys fewer forms of gambling, and makes fewer distinctions among the rest.

§31% of the sample were reported to have no income at all.

gaming - latest results (Gallup, 1976) indicate that gamblers are drawn in disproportionate numbers from the lower classes. For all of these forms a persuasive explanation in economic terms for differences in participation-rates could be put forward. In the case of gaming, it could be argued that membership fees, payout ratios (the ratio between the size of stake and size of payoff) and speed of play make it less attractive to the poorer punter, who looks for forms giving high payoffs (or the chance of smaller but regular wins) for small stakes, laid as personal finances allow - characteristics which apply by and large to the pools, betting and bingo.

Perhaps the most appropriate candidate for treatment in terms of economic motivation, however, is the pools. As was mentioned earlier, a rather special form of economic need is that said to arise as a consequence of the frustrated social aspirations of the more ambitious and able members of the lower socio-economic groups. Tec's (1964) study of Swedish football pools punters indicated that participants tended to be more concerned about job prospects (and on improving these) and more dissatisfied about pay than non-punters, and this led her to explain gambling behaviour as a realistic response - that is, as the only means available to enable them to make enough money for the transition into a higher socio-economic group*. The pools, then, seem well-designed to fulfil the role of being a possible avenue to status-improvement, and later findings (Downes et al., 1976; Gallup, 1976) - like Tec's - have suggested not only that it is the lower socio-economic groups who more often do the pools, but that, of these, it is the potentially upwardly-mobile who are most likely to do so. Leaving aside the methodological deficiencies of Tec's research (cf. Weinstein & Deitch, 1974; Newman, 1972) the fact that it is possible to characterise much gambling (the pools; lotteries and some forms of bingo) in terms of its ability to satisfy a special kind of economic need also calls into question the first two assumptions traditionally associated with discussions of gambling (see Chapter 9). As far as the assumption that gamblers are a relatively homogeneous group is concerned, it seems already possible that - even considering economic motivation alone - motives to gamble may vary both between and within socio-economic groups. Nor does it seem correct to assume that different forms of gambling should be treated as if they appealed to the same sort of motives since the need or hope, for example, to win large sums is best served only by certain of these.

Evidence that likelihood of gambling, or not-gambling, is related to socio-economic variables encourages inferences about initial motives for, or constraints against gambling. As will be shown later, these relationships are

*Although, as Smith & Razzell (1975) have shown, pools winners tend to opt for a middle-class way of life - 96% owned their own homes (as against only 44% of a comparison group of non-winners), they made greater use of domestic help and private education, and showed a greater tendency to vote conservative and travel first class - this does not mean that their participation in the pools was motivated by status-frustration. Though little evidence was given of the previous socio-economic status of the winners (except that 31% were middle-class), so that inferences about motivation are difficult to make, it may be significant that three-quarters remain punters.

more often assumed than proved. Moreover, as with all *post hoc* drawings of inferences about the factors determining likelihood of gambling, the logical possibility also has to be accepted that mistakes about causal direction may be made, and consequences confused with causes. This danger, however, is considerably greater where inferences are drawn from knowledge of gamblers' behaviour alone. Thus, the relationship between frequency of participation (or expenditure) and socio-economic status is even more likely to reflect the influence not only of initial motivation but new needs and motives developed as a consequence of experiencing other rewards of gambling. Predictors of frequency of gambling may not always be the same as those which predicted likelihood of initial involvement.

If, ignoring this problem, information about degree of participation is used, the survey findings appear to follow a similar though - some would argue - more pronounced trend. Newman (1972) cites information from N.O.P. (1963) to indicate that heavy gamblers are much more likely to be members of the manual working classes, despite their lower income and fewer financial resources. He concludes that, with the exception of gaming, members of the lower and unskilled sections of the manual working-class predominate over members of the non-manual classes both in terms of intensity of participation and outlay. As was shown in Chapter 4, the present position with regard to frequency of participation in the important forms of gambling - gaming, pools, off-course betting and bingo - and in gambling overall (cf. Downes et al.) broadly supports these conclusions* so that, both in terms of likelihood and regularity of participation, there are demonstrable relationships between participation and socio-economic class membership.

For many of these forms of gambling, then, variations in participation-rates of the different socio-economic groups could arguably be related to single factors like economic motivation, and no doubt the explanation offered could be improved even further if other economically-relevant variables such as age, sex and marital status were taken into consideration - though this would require much larger survey samples than those currently available. Moreover the fact that the rank-order of popularity for the major forms of gambling is often similar for all socio-economic groups (with the exception of bingo, so far as the highest groups are concerned) might also be explained in terms of economic motivation. It is those forms, such as the pools, offering the biggest payoffs which would be expected to have the most popularity within the classes, and the greatest breadth of appeal amongst them.

Although persuasive in general terms, these explanations of initial involvement are somewhat less satisfactory when attempts are made to apply them to more detailed variations in participation-rates for the different types of gambling

*The 1976 Gallup survey found, however, that while the AB class contributed disproportionately few participants to bingo, those who played were more likely than any others to take part more than once a week. They were, nevertheless, a very small group (N=2) on which to base any conclusions.

within and between social groups, whether these are being compared at one time or over a period. It is, for example, difficult to see how the highest social groups' low involvement in bingo could be explained solely in economic terms; nor is the fall in their participation in the pools which apparently took place between 1972 and 1976 any easier to account for. It is true that the standard of living of the higher groups was eroded during this period, but this might have been expected to increase the appeal of the pools, rather than to illustrate the elasticity of demand of these seemingly marginal punters.

Where differences in participation in gambling overall, and among the various types of gambling, can be related satisfactorily to socio-economic factors, the association is often equally explicable in terms of the particular cultural traditions, situational influences and expressive needs which may accompany membership of the group concerned. Given, in addition, that different forms of gambling vary in their specifications, and that it is unlikely that these variations are fortuitous and have no relationship to motives for participation, it seems plausible to suggest that although the presence of degree of financial motivation may be an important factor (sometimes the most important) in determining the decision to participate so far as many types of gambling are concerned, no such single motive is likely to be able to account for socio-economic class differences and preferences in all cases.

Expressive motivation and expressive needs

This far, attention has been concentrated upon the economic needs which gambling might serve. This is because economic motivation is so often ignored or taken for granted when gambling is being discussed. But gambling clearly provides entertainment as well; people gamble for non-economic as well as economic motives and gambling is, therefore, expressive as well as economically instrumental behaviour. Much of the literature on gambling has, at a general level, concerned itself with the role or function of gambling in relation to the social structure of societies and, at a more particular level, with identifying those expressive needs, together with their sociological or psychological correlates, for which gambling is presumed to cater. Though difficult to sustain in a hard-and-fast way for all accounts of gambling, the drawing of distinctions between levels of explanation provides a crude means of structuring discussions of the many theories, hypotheses and hunches which have been developed to explain aspects of gambling behaviour.

General accounts of gambling behaviour

General theories are concerned primarily with describing the conditions governing the prevalence of gambling within or between cultures. In some cases the theory may represent the application to gambling behaviour of explanations originally developed to account for more general types of behaviour, such as deviancy or game-involvement, rather than for gambling alone. In these instances the explanation offered may sometimes relate better to some forms of gambling (games of chance, for example) or degrees of participation (heavy or 'deviant' gambling) than others. Although not usually concerned

with particular types of gambling, or with the motives of their respective participants, general theories nevertheless often have more to say about these latter issues. Hence they may be more relevant to practical policy matters such as the control of potentially dangerous forms of gambling, than might at first be thought. For one thing, though intended to explain all forms of gambling, some theories really represent generalisations (or over-generalisations) made on the basis of observing only one or two forms. Goffman's (1972) portrayal of gambling as 'action', for example, owes more to a consideration of casino gambling than to lotteries* and, once this is understood, the account can be used to throw light on the sorts of expressive needs which particular forms of gambling may satisfy. Where genuinely general explanations of gambling are available, on the other hand, these provide a useful framework within which accounts of particular forms of gambling may be set and developed.

The most comprehensive attempt to relate gambling, not-gambling, and disapproval of gambling to features of the social structure within which these behaviours occur is that of Devereux (1949) whose unpublished work, based on his study of gambling (primarily on horseracing and lotteries) in the United States, has recently been excellently discussed by Downes et al. Devereux sees the tensions and ambivalences present in the gambling experience itself - particularly in its more active and exciting forms - as analogous to those existing in the social structure of western industrialised capitalist democracies such as the American one. Of these sources of strain, out of which conflicts may arise, most weight is given to those intrinsic to the role of the Protestant ethic in the rise of capitalism. Not only is the capitalist system inherently frustrating, through its needs to generate dissatisfaction in order to expand, but it is the source of value-conflicts as the older 'virtues' of the Protestant work-ethic, such as thrift, become increasingly irrelevant in the context of modern consumption-oriented capitalism, or as broader Christian values oppose those of economic expediency. Moreover the growth of planning and specialist expertise in the service of the capitalist enterprise has tended to reduce the value and scope for risk-taking and speculation (Goffman, 1972), except in relation to closely-defined goals and settings.

As Downes et al. point out, Devereux's analysis suggests that although gambling, with its emphasis upon chance and luck rather than diligence and thrift as the basis for the distribution of wealth, seems to run counter to the principles on which the protestant work-ethic and - ostensibly, at any rate - contemporary capitalism are based, its values are in fact more closely related to some aspects of capitalism than people might care to admit. The contradictions between the principles and practice of capitalism which are responsible for some of the social tensions experienced by western industrial democracies are

*In the same way, Tec's (1964) explanation of gambling in terms of status-frustration is - given the saliency of a particular sort of economic motivation to this type of account - developed from, and most relevant to, the football pools and could safely be extended only to similar types of gambling, such as lotteries.

nevertheless resistant to direct attack since this would endanger the social structure itself. Instead, gambling - which takes place in a leisure-context and which conveniently exemplifies some of the less acceptable features of contemporary capitalism - offers a scapegoat upon which to discharge the accumulated frustrations and resentments caused by the economic system.

As one empirically-verifiable prediction from Devereux's theory, Downes et al. suggest that participation in gambling is likely to be lower among social groups which most closely identify themselves with the puritan work and religious ethic (especially among its small-town, middle-class protestant guardians), becoming more prevalent as participants' social distance - upwards as well as downwards in the social-class structure - from the core culture increases. Although initial tests of this hypothesis in a British setting by Downes et al. using data from their own survey of gambling habits proved unfruitful, more sophisticated analyses provided some supporting evidence*. Thus, those who attended church relatively frequently appeared less likely to gamble than others while, when frequency of church attendance was held constant, it also appeared that those with protestant or sectarian beliefs were less likely than Roman Catholics to gamble. Given the analytical technique employed, the status of these predictors of non-gambling is by no means a firm one, but further evidence about the characteristics predicting a low likelihood of gambling suggested the existence of a protestant middle-class 'core' of people, similar to those described by Devereux in an American context, who were least likely to gamble.

So far, Devereux's theory seems better able to account for people's not gambling than for the initial decision to gamble. In part, as Downes et al. suggest, this is because in most western societies some degree of gambling is normative, a fact which tends to concentrate attention on identifying the inhibitory factors responsible for the 'deviant' behaviour of the non-gamblers. As such the account has something in common with some of the other general theories about gambling - or, indeed, with Hirschi's (1969) control theory of delinquency - which lay greater stress upon the constraints in the absence of which gambling is free to occur, than upon the positive satisfactions which the activity offers. A re-analysis§ of Downes et al.'s data on the relationship between conjugal role-sharing (helping in the household chores on a daily basis vs. less often) or, for middle-class men, between involvement in work-centred leisure activities (studying at home) and gambling, showed in both cases that significant negative relationships existed between likelihood of gambling and degree of involvement in these other activities. Similarly, involvement in

*Fuller technical details can be found in Downes et al. The composite measure, 'total gambling', was used as the dependent variable; the method, Automatic Interaction Detector (A.I.D.). The analysis was of whether or not people gambled.

§Downes et al.'s own analyses were of degree of involvement in gambling (from 'high' to 'none') on the composite measure 'multiple gambling'. By recasting data, where possible, into a 2-by-2 table (some-none) a simple test could be made of whether the variable under consideration was related to likelihood (rather than degree) of gambling.

political and/or community activities was found to be negatively related to likelihood of gambling for middle-class men.

Such findings could be used to support a number of different theoretical perspectives*. It is difficult, too, to be sure that causal direction is always being assigned correctly in such studies. It may be significant, however, that the results suggested a common theme - that certain activities or ways of spending one's time appear to be incompatible with gambling. It is, furthermore, unlikely that such a relative lack of disposable time occurs fortuitously. Instead, it probably reflects people's preoccupations with the social roles which arise as a function of socio-economic, occupational and marital status, age, sex, education, etc., together with the belief-systems which support the carrying-out of these roles. The fact that these social roles may allocate priorities amongst activities, however, does not necessarily imply that gambling is - as Devereux might claim - opposed by those who do not gamble, but merely that it is not sufficiently valued. Nor is it necessary, on the other hand, to attribute the initial decision to gamble, or moderate involvement in gambling, to significant loosening of the individual's bond to society (Hirschi, 1969) except in the trivial sense that, at certain ages and stages in most people's lives the relative lack of, or changes in, social roles will inevitably produce temporary leisure-vacuum during which, unless the sorts of moral objections mentioned by Devereux operate, gambling may be tried.

As well as merely stressing likelihood of gambling in terms of freedom from the constraints of the core culture, however, Devereux recognises the importance of more positive influences - termed by him 'extrinsic or contextual motivations' - which may operate in the individual's social setting. The findings reported earlier in this chapter, that likelihood of gambling - whether overall, or in relation to particular forms of gambling - is negatively related to socio-economic status, can be used not only to give qualified support to Devereux's 'core culture' hypothesis but also to argue for the existence of other alternative cultural influences which may be actively favourable to gambling. Likelihood of gambling may, for example, increase where other members of the family already gamble (Downes et al., 1976) or where the potential gambler lives in an environment which provides numerous opportunities to gamble (see Chapter 13). Although Downes et al. could find no support for the proposition that intensity of gambling was related to degree of adherence to the working-class culture as measured by 'belief in luck'§, a re-analysis of their data indicated that, on the other hand, likelihood of gambling was related to this cultural indicator both in their total sample and in their sample of working-class men.

*Involvement in political and/or community activities, for example, is used by Downes et al. as a measure of non-alienation in one test of the hypothesis that gambling is an expression of alienation. It is a general problem that what sparse empirical findings there are in relation to gambling (such as the relationship between gambling and social class) may often equally favour a variety of viewpoints.

§Downes et al. found 'belief in luck' to be more characteristic of the working-class than the middle-class.

The pervasive influence of the relationship between likelihood of gambling and socio-economic status also determines the broad lines along which questions of gamblers' motivation to gamble are discussed in both general and more specific theories. Although 'strain' or anomie theories of deviancy (cf. Hirschi, 1969; Downes et al., 1976) are properly applicable only to 'deviant' gambling behaviour - that is, to heavy involvement in gambling, moderate participation being essentially normative - elements of such a social-class-based approach are inevitably to be found in most accounts of gambling motivation. Members of the lower socio-economic groups are characteristically assumed to suffer from a variety of material and psychological deprivations which create frustrations and needs. Gambling, it is further assumed, provides both a safety-valve through which these tensions and grievances can be expressed and a means by which associated needs can be partially satisfied. This deprivation-compensation approach to the explanation of gambling motivation provides a theme common to most general accounts or hunches (Mannheim, 1940; Bloch, 1951, 1962; Olmsted, 1962; Devereux, 1949, 1968; Hess & Diller, 1969; Goffman, 1972) whatever their level of sophistication. But, as Newman points out, some of the 'theories' put forward (that people gamble because they are bored or alienated, for example) are too vague to be of much explanatory value. They beg important questions about the nature of the boredom, or the people for whom and conditions under which gambling (the form is usually not specified) might provide a solution.

The deprivation-compensation hypothesis appears at its strongest in relation to economic motivation. Gambling in all its forms so clearly involves and emphasises the winning and losing of money that its importance as a motive for participation seems blatantly self-evident. In the case of non-economic motivation neither needs nor satisfactions spring so quickly to mind, though both tend to be derived in some way from consideration of the social structure and economic system within which they occur. Caillois (cf. Downes et al.), for example, argues that societies can be described in terms of certain broad principles, derived from the sociology of play, which characterise their operation. In the case of western industrialised democracies the social structure is based upon the principle of competition ('agon') which, in these 'rational' societies, creates a social cohesiveness founded on order and merit. In this context, games of chance (which incorporate the 'aleatory' principle, in contrast to agon) provide those consigned by meritocratic considerations to the lower reaches of the socio-economic league-table with the opportunity of briefly entering an alternative 'play-world'. There, in compensation, the differences in skills and abilities between people which, in the real world, may largely determine the status and rewards they achieve are temporarily neutralised by the operation of chance.

Devereux's account is in many respects a rather fuller portrayal of the relationship between gambling and the social structure in such a society. As well as providing participants with a channel through which to discharge frustrations

which might otherwise become socially disruptive (cf. also Halliday & Fuller, 1974), gambling is seen to offer opportunities for personal fulfilment which, by reason of participants' position in the social structure, would otherwise be denied to them. Downes et al. have listed some of the frustrations and needs attributed by Devereux to gamblers: protests against budgetary constraints, rationality and ethics, as well as more positive motives such as thrill-seeking, the need for competitiveness and aggression, for problem-solving activities, and for the means of testing one's luck - a reference to the original divinatory aspect of gambling.

So far as particular deficiencies are concerned, Goffman (1972) sees gambling as one of the few remaining routinely-available activities by means of which - in a world where risk has been increasingly tuned out of everyday life - men can still voluntarily test out their real moral worth under stressful and risky conditions. Gambling, as a somewhat debased form of 'action' takes its place in direct descent from more heroic forms of activity which - in the earlier history of Western and, particularly, American society - provided opportunities for evaluating participants' true characters. In many ways Goffman's account uneasily spans two levels of explanation, attempting a general account of gambling while offering one which, with its implicit emphasis upon the more competitive face-to-face forms such as betting, gaming and poker, has more in common with micro-sociological descriptions dealing explicitly with particular types of gambling and their relationship to corresponding expressive needs (Zola, 1964; Herman, 1967; Newman, 1972). Moreover, as Downes et al. point out, Goffman himself puts forward no specific empirically-testable hypotheses as to those who are most, and those least, likely to gamble; as to how those who do not gamble cope with life's frustrations; or as to why gambling should have so far displaced other and fuller tests of character*. Their attempt to derive and test some such hypotheses in relation to the theory failed to find satisfactory evidence in its favour§.

Further evidence that gambling (strictly speaking, 'games of chance', such as dice, bingo, or lotteries, rather than games of chance and strategy) is related to the social structure characteristics of cultures or, within a particular society, to social group characteristics has been presented by those engaged in the functional analysis of game-involvement (Roberts & Sutton-Smith, 1962; Sutton-Smith, Roberts & Kozelka, 1963). Like earlier investigators they stress - with appropriate empirical evidence - the relationship between people's location in the social structure and the likelihood that they will gamble, though location is defined in terms of socio-economic status rather than (as with Devereux) as distance from a 'core' culture. In line with the usual deprivation-

*Zola (1964) suggests that gambling is preferred because there is less to lose in really important terms: people cling to the illusion of individualism and risk but shun the reality.

§It might, however, be argued that Downes et al.'s use of a composite measure of gambling ('multiple gambling') as their dependent variable, instead of limiting their attention to active forms such as betting, constitutes an inadequate test of Goffman's hypotheses.

compensation approach, the researchers claim that games of chance are used by those holding low-status adult roles, which penalise initiative and emphasise mundane responsibilities and drudgery, as ways of expressing and coming to terms with the conflict they feel between the restricted requirements of their social roles and their desires to act irresponsibly. Like Caillois and Devereux (cf. Tec, 1964), the authors emphasise the role played by games of chance in offering players an opportunity to engage in wishful phantasies about the possibility of some 'magical' escape from their circumscribed lives*.

Where the researchers break new ground is in their treatment of the development and cultural transmission of preferences for different types of games. On the basis of cross-cultural evidence that particular types of games are associated with distinctive child-rearing practices, they suggest that such games are used to express and resolve the psychological conflicts which inevitably arise during these processes. Similarly, within more complex societies, the socialisation processes developed for particular social roles and statuses create conflicts which predispose their members towards taking part in those games which best represent the dimensions of these conflicts. Although games can simply be seen as ways of reducing tension, Sutton-Smith et al. (1963) suggest that they have the more positive function of providing scaled-down exercises in appropriate skills and competences. Those who regularly play games of chance, for example, are seen (somewhat cynically) as rehearsing the only success-style open to them - one which depends entirely on the player's personal luck. The theory has had some limited success in predicting occupational preferences for particular types of games in the United States, with lower socio-economic groups, and women, preferring games of chance.

The functional analysis of game-involvement, then, suggests an account of gambling which is broadly in agreement with the social-class-based 'deprivation-compensation' approaches mentioned earlier. In addition, it provides the elements of a more general cross-cultural theory of gambling - though insufficient attention is as yet paid to games of chance-and-strategy - together with a framework within which general accounts of the relationship between gambling prevalence and the social structure can be linked to socialisation and motivational processes. These in turn may determine group and individual preferences for particular classes, if not specific types, of gambling.

Furthermore, the theory also provides ways of accounting for the effects of psychological variables, such as 'locus of control' (cf. Chapter 14) and for the influence of the divinatory antecedents of games of chance (cf. Csikszentmihalyi & Bennett, 1971) on choice of game. Roberts, Arth & Bush (1959) found that games of chance were associated with cultures which held beliefs about the benevolence or coercibility of supernatural beings, or fate (a finding which is in

*The lottery ticket represents a tiny hole in the closed system of toil and budgeting, a 'safety-valve' through which the repressed wishes crowd for escape' (Devereux, quoted by Tec, 1964). The publicity given to winners (cf. Smith & Razzell, 1975) helps to feed these escape phantasies.

agreement with the re-analysis of Downes et al.'s data on 'belief in luck' referred to earlier). It may be that gambling is still used as a way of expressing a belief in fate (or 'external control') and as a means of trying to appease, master or test one's relationship to, the forces of chance (cf. France, 1902).

Like the other accounts reviewed so far, however, Sutton-Smith et al.'s theory of game-involvement provides little more than persuasive hypotheses about gambling. In part, this is hardly the fault of the authors: their theory is concerned with the whole spectrum of games, and only incidentally with gambling, and their choice of empirical data, their relative neglect of the financial aspect of gambling, and their concentration upon games of chance reflect these broader aims. The account they give is nevertheless useful for its assertion that neither the prevalence of gambling within different cultures nor gambling preferences are fortuitous phenomena, but are determined by social structures, social roles and cultural traditions. But, as far as more specific support for their account is concerned the position is less satisfactory. Even when the facts are consistent with the game-involvement hypothesis (the 1972 Gallup Poll found participation in bingo to be highest for the lowest socio-economic groups, and greatest for women in the total sample) other explanations often seem more likely than the conflict-enculturational one proposed by Sutton-Smith et al. The Gaming Board, for example, describing bingo as a neighbourly game for small stakes, stresses its social aspects above others. More often than not, rates of participation by the different social classes or occupational groups do not appear to be predictable from the theory (gaming in Britain is predominantly a male, higher socio-economic group activity) or can be rendered so only by modifying the theory in ways which would render it virtually unfalsifiable.

Last of the general theories of gambling are those developed from 'strain' or anomie theories of delinquency. Essentially social-class-based accounts, they treat delinquency as behaviour forced on the socio-economically disadvantaged by the absence of alternative opportunities for achieving their legitimate desires. Its most closely analogous application to gambling behaviour is its use to explain heavy gambling, where the intense motivation presumably required to neutralise moral constraints provided by family and occupational responsibilities is supplied by financial needs and feelings of frustration and discontent. When applied to more moderate involvement or to likelihood of gambling, the concepts of moral strain and deviant motivation lose much of their potency and appear as unnecessary complications of what reduces to a deprivation-compensation hypothesis of gambling behaviour. As reported earlier (Chapters 6 and 12) Tec (1964) has claimed some empirical support for a version of the 'strain' theory which relates likelihood of gambling (on the pools: regularly vs. not at all) to the substantially economic motivation which status-frustration experienced by the upper working-class is presumed to create. Alternative explanations for the greater propensity of this group to gamble exist, however (Newman, 1972), while Downes et al.'s own test of anomie theory failed to find

any evidence that - as would be predicted - those of the upper working-class who earned lower rather than higher income were, as a result, particularly prone to gamble*. Little support is yet available for 'strain' theory explanations of gambling motivation.

Strengths and weaknesses of general theories of gambling

The most noticeable characteristic of general theories is their persuasiveness - their presentation of an elegant internal consistency which disarms criticism and gives the semblance of veridicality even without the support of independent empirical evidence. It is true that from time to time apparently damaging criticisms are raised against them: Newman (1972), for example, points out that Devereux's theory has difficulty in accounting for differences in the prevalence of gambling amongst societies similar to that of the United States. By and large, however, general theories are elusive prey, disconcertingly able - albeit by way of a variety of procrustean strategies - to 'fit' data to theory, or vice versa. Although, as Hirschi (1969) has commented, '... such tenacity for life is not a virtue in a theory ...', it is nevertheless useful to examine how general theories have managed for so long to avoid let alone resist the sort of critical analysis that, in another context, Hirschi has brought to bear on theories of delinquent behaviour.

The greatest difficulty faced by those sociologists concerned with verification as well as presentation of theoretical accounts of gambling has been that of extracting clear, limited and falsifiable hypotheses from them. Pioneering attempts to test many of the more general accounts have been made by Downes et al. (1976), though the inevitable inadequacy of some of their empirical data has prevented them from being able conclusively to reject any. Moreover, the fact that most of the accounts have important elements in common - their dependence on the assumption that a strong negative relationship exists between gambling and social class, for example§ - has made the problem of distinguishing between theories and selecting the most appropriate one (cf. Hirschi, 1969) a hard task. Given the vagueness of many of the theories, and the limitations of the available data, support for one account has tended to provide some support for all the others. Conversely, findings (such as those of Downes et al.) which call into question the strength of the negative relationship between participation in gambling, considered as a 'composite' activity, and social class membership cast doubts on any theory which assumes such a deprivation-compensation hypothesis of gambling-involvement.

*Since Downes et al.'s test measured intensity rather than likelihood of gambling, the results are only suggestive. It might also be argued that Tec's theory is better regarded as a particular than as a general account; if so, Downes et al.'s use of a composite measure of 'multiple gambling' rather than of pools participation could be regarded as inappropriate, since only long-odds forms of gambling would provide the necessary capital to finance a change in socio-economic status.

§Devereux's theory would, *inter alia*, predict greater working-class than middle-class participation in gambling.

It might be thought that the social distribution of gaming which - in Britain at least - recruits disproportionately more players from the higher socio-economic groups, might pose problems for social-class-based theories and provide more support for an account of the type offered by Devereux. It is true that for these players the relevant expressive needs seem to be based upon the desire for conspicuous consumption (Veblen, 1934) rather than on social or economic deprivation: Hess & Diller (1969) have described some of the ways in which Nevadan casinos make appeals to the inferred needs of wealthier gamblers for prestige and recognition. But instances like these can generally either be ignored or incorporated into class-based theories. It can be argued that, as minority pursuits, their existence and pattern of participation does not seriously question the validity of theories based upon evidence of different patterns of participation so far as the bulk of gambling is concerned. The inclusion of information about gaming into composite measures of 'gambling' has in any case little effect on the overall pattern: because of the disproportionate influence of the more popular forms of gambling, these measures still exhibit the characteristic pattern of greater involvement on the part of the lower socio-economic groups. Alternatively it can be argued with some justification that so far as gaming is concerned, social and economic barriers to participation make it difficult to say whether or not it poses a genuine problem to theory. There was plenty of evidence during the 1960's that, given the chance, those from lower socio-economic groups - such as bingo-players - would take part in gaming as well. On this basis it could be argued that the overt pattern of participation conceals a different and possibly contrary pattern of demand*.

Hidden assumptions may lend a further spurious credibility to many general theories and, in addition, increase the difficulty of choosing appropriate measures and methods for their evaluation. Many general theories, it has been indicated, seem to have been derived from, and to be more applicable to, specific types§ of gambling. Their extension to include all forms of gambling is - where it is justified at all - usually based either upon the fact that these activities share formal properties and processes which together make up abstract definitions of gambling, or upon evidence that participation in some forms of gambling is linked with participation in others (cf. Downes et al.). But the fact that people may take part in a variety of ostensibly similar activities does not necessarily mean that these are held by participants themselves to be similar - in the sense of being performed for similar motives, treated as being interchangeable, or learned through generalisation. Nor does the fact that activities share the same abstract definition necessarily make them similar in all respects (or even in important respects) but only in respect of that parti-

*The danger of this argument, of course, is that similar objections could be applied to the overt patterns of participation for other forms of gambling.

§Or broader categories, such as 'games of chance'.

cular definition and in relation to its purpose*. Differences or similarities which are important in one context - and which, therefore, give rise to particular conceptual classifications - may be unimportant, or confusing, in another. A result of such over-generalisation is that it may lead the investigator to evaluate what might better be treated as a strong account of a particular form of gambling in an inappropriate way - by using a composite measure of gambling as the dependent variable, for example - and so discard the hypothesis prematurely. The difficulty of constructing such composite measures is itself, perhaps, an indication of their dubious validity.

The question of whether useful general accounts of gambling can - given the disparate nature of the component activities (not so disparate, however, as those labelled 'crimes') - be formulated has yet to be answered. The fact that a generic term exists is by no means conclusive evidence that it represents a valuable unifying concept for general sociological theory. It is true that general accounts can offer broad explanations for the prevalence and social distribution of gambling, in terms of social structures and socio-economically-determined expressive needs, which can complement or compete with simpler accounts in terms of economic motivation. But they are neither suited, nor intended to provide more detailed information about the relationship between particular motives and particular types of gambling. Where they occasionally appear to provide such information it is either because they are particular accounts masquerading as general ones, or general accounts which offer so many possible motives for gambling as to be consistent with virtually any explanation for any form.

Nevertheless, general accounts do offer the important recognition that gambling behaviour does not take place in a social vacuum. Gambling, like other entertainments and pastimes, merits consideration as expressive behaviour which may be quite closely related to, and indicative of important features of, the social structure within which it occurs. In this sense general theories provide a way of discussing gambling seriously. They rehabilitate it sufficiently for it to be placed into its cultural context, though at some risk of exaggerating the social significance of the needs for which it caters or the uniqueness of its contribution to their satisfaction. At their best they provide a structure or formula within which values corresponding to particular expressive needs or particular forms of gambling can be substituted for more general terms. But beyond this they rarely go - except, perhaps, to indicate (not always correctly§) the direction in which more particular explanations should be sought.

*Where the account being given is one of non- or anti-gambling, rather than of gambling, the use of abstract definitions of gambling may be more permissible. Lack of differentiation in this case would merely reflect either the ignorance and absence of interest of the non-gambler, or the moral judgment, reluctant to make distinctions, of the anti-gambler.

§For example, their widespread espousal of the 'deprivation-compensation' hypothesis of expressive needs, which may well exaggerate the strength of the relationship between gambling and social class.

It is not surprising that general accounts of gambling provide little in the way of practical policy implications. Their characteristically functionalist perspective tends on the one hand to emphasise the positive role of gambling in maintaining social stability, while on the other implying that steps to regulate it might require or involve destruction of the delicate equilibrium which had been achieved. Such theories, with their broad bundles of motives and behaviours, are unable to provide correlations between specific motives and specific behaviours which might suit the selective methods and ameliorative aims of practical behavioural regulation. It is from studies which enable the investigator to isolate and define the special attractions of potentially dangerous forms of gambling that the most useful information is likely to be gained. For this reason it might be expected that the few accounts of particular types of gambling which are available would be of greater relevance.

Accounting for participation in particular gambling activities

Discussion of general theories has indicated that motives are usually ascribed to participants on the basis of characteristics distinguishing them from non-gamblers. Accounts of particular forms of gambling tend to derive motives in a similar way, but with the advantage that they deal with one form of gambling rather than with gambling overall. Motivation can therefore not only be interpreted on the basis of participants' characteristics, but also be more closely qualified in the light of the particular satisfactions which the form of gambling under investigation is thought to provide. This feature of particular accounts enables them both to articulate motives for gambling more closely and to produce clear and falsifiable hypotheses, though the fact that the most influential (Zola, 1964; Herman, 1967; Newman, 1972) study gamblers in the gambling setting makes it difficult to determine the value of their contribution to the identification of initial, as opposed to subsequent additional motives for gambling. The point is similar to that raised earlier in this chapter in connection with economic motivation. There it was argued that variations in intensity of involvement in gambling - even when found to be related to characteristics of participants (such as socio-economic status) similar to those associated with likelihood of gambling - may reflect the operation of new motives gained primarily as the result of gambling experience as well as, or instead, of the earlier ones which influenced the initial decision. Only variables which are related to likelihood of gambling, then, can reliably be used as a basis for making interpretations about initial motivation.

The social distribution of gambling participation has made the use of the deprivation-compensation hypothesis as popular in relation to particular forms of gambling as to general theories, and this has especially been so where the association between gambling and socio-economic status has appeared to be a strongly negative one. As before, levels of theorisation vary from casual hunches and hypotheses provided by general theories - some of which (cf. Goffman, 1972, for example) seem particularly applicable to particular types of gambling - to the very much smaller number of accounts based upon obser-

vations of particular gambling settings, though even in these cases there is still insufficient independent empirical verification of the inferences subsequently made.

These accounts can conveniently be classified into those which relate gambling to specialised motives, and those which refer to more general, life-enhancing ones. Typical of the former are those which explain participation in certain forms of gambling to their appeal as information-processing, decision-making or problem-solving activities. On behalf of the pools, for example, it has been claimed (Royal Commission, 1951) that completing coupons provides an occasion for the use of specialised knowledge, consultation with workmates, family and friends, and the opportunity to form judgments and take decisions - traditional entrepreneurial activities not present in humdrum daily life. Similar claims have been made, *inter alia*, for horserace betting, whether at the course (Herman, 1967) or off-course (Zola, 1964; Newman, 1972). Herman suggested that for men in middle and lower socio-economic groups the central attraction of betting is the intellectual exercise of selecting the horse on which to wager, money being used primarily to reify the decision-process and verify the punters' involvement. Similarly Zola, observing that the prestige-hierarchy amongst gamblers betting illegally in a working-class bar was based on the successful use of 'rational-cognitive' methods of selection, suggested that this emphasis arose from the needs of punters to experience control, however fleetingly, over their fates by 'beating the system'. Newman makes rather similar claims for clients of English off-course betting shops.

Plausible though these accounts of expressive motives may be, they, like the more general theories of gambling, achieve internal consistency and persuasiveness by making certain assumptions about the needs or satisfactions involved. Investigators characteristically proceed either by identifying gambler's needs and assuming that, since they gamble, the activity satisfies these, or by identifying satisfactions provided by gambling and assuming the existence of corresponding needs. While in some cases this gives rise to accounts where even the process of identifying needs or satisfactions relies on little more than the author's hunches, in the case of accounts of specific forms the explanatory gap between needs and satisfactions can be considerably narrowed.

But even in the latter, the association between participation and socio-economic class does not, on its own, specify the nature of the expressive needs involved. For a start it is possible that the association may not be due to the material and psychological deprivations whose existence is inferred from socio-economic status. Even if this were not the case the difficulty would still remain of specifying these needs more precisely. Similarly, the fact that particular forms of gambling offer a range of satisfactions provides little assistance when it comes to trying to identify the most important, or operant, one in particular circumstances. The one or ones chosen by the investigator may not, after all, be those identified or valued by the gambler; or the gambler, while valuing

these aspects, may prefer others (some of which the investigator may have failed to observe).

Empirical evidence bears out some of these doubts. The Royal Commission's assumptions about pools-punters, for example, are called into question by Downes et al. (1976) in relation to consultation with others: most punters did not use the pools as a subject of discussion. Nor did they appear greatly to value the opportunity to exercise judgment which it provides (Downes et al.): Smith & Razzell (1975) found that 55% of their sample of winners used systems based on chance. In the case of betting, Herman's empirical data - while suggesting that most on-course punters are rational, cautious and restrained in their betting - is not sufficiently strong to permit the additional conclusion that, for members of the lower socio-economic groups, gambling is being pursued primarily for the activity's intellectual content. Indeed, evidence of rational betting behaviour is elsewhere used by Herman to support quite a different explanation - that of low-risk conspicuous consumption - for the motives of upper-class on-course punters. Lastly, as Newman points out, Herman's assumption that those entering the inexpensive Grandstand enclosure of the racecourse (about 77% of all punters) were necessarily members of the lower social classes - or indeed, that they were occupationally-deprived - is a large one.

Downes et al., too, failed to confirm Herman's theory; they found no evidence of a relationship between punters' claims to use judgmental skills in betting and a lack of scope for decision-making at work, though in partial support of the theory they did find skill in selecting runners to be important for some punters - particularly men, and regular punters. There was also some suggestion that gamblers from lower socio-economic groups were more likely than others to adopt rational strategies. Taken together, the evidence seems to indicate that while the opportunity to exercise judgment is important to some punters it cannot be assumed to be a primary motive. Even where rationality of behaviour is consistent with such an explanation it is also consistent with the desire to minimise expenditure. That some punters seem to enjoy selecting runners is, of course, supported by evidence of the attention which the media pay to discussions of 'form' in football and racing - though punters' commitment to more skilful forms of gambling may not survive increases in levels of taxation*. But an emphasis on the 'skill' aspects of gambling is commercially advantageous: it reduces feelings of guilt (genuine effort is being rewarded), and bolsters the punter's confidence in his ability to predict outcomes. Those with an interest in the success of off-course betting, for example, can be expected to extol its skilfulness (Samuels, 1973). Promoters nurture as well as merely respond to their clients' needs, and it is difficult, therefore, to assess their real importance as motives.

*Newman comments that fixed-odds betting - usually considered more skilful than the pools - did not survive the imposition in August 1964, of a 25% tax.

The above accounts could also be viewed as being aspects of a broader explanation for betting, based on the concepts of anomie, alienation or life-enhancement concepts - themselves variations on the deprivation-compensation model. Goffman (1972), Zola (1964) and Newman (1972), for example, not only mention the opportunities for exercise of skills and character-relevant accomplishments provided by gambling but stress a wider function. To this end, both Zola and Newman explicitly play down its competitive aspects and emphasise the importance of gambling, not only as an outlet for feelings of frustration and impotence and means of self-actualisation through skilled performance, but also as a means of creating and maintaining social bonds. Newman goes furthest in this respect, stressing the role of betting and of the betting-shop environment as facilitators of social interaction and of involvement in an idealised communal working-class culture:

'... not, in this environment, the externally status-awarding accomplishments of self-advancement and achievement, but rather the community-enhancing skills of fortitude, of nonchalance in the face of misfortune, of indifference to meanness, of tolerance and mutuality.' (230-1).

Other evidence suggests that Newman's interpretation may be something of an exaggeration of the social aspects of betting. Describing events in Hoff's Bar, Zola suggests that gamblers there did not constitute much of a group in the formal sense: there was little interaction until the 'show', and it was gambling which appeared to create the bond. Although it may be argued that Zola's sample - Italian and Polish immigrants, past and present residents of a lower-class area - and setting convey a rootlessness which distinguishes them from the British betting-shop and its customers, questionnaire results from Worth (1970), Dickerson (1974) and Downes et al. (1976) suggest that, in this country, the social aspects of betting are, if anything, even less valued by participants. In Downes et al.'s sample, 75% of the men bet alone, and Worth found that only 10% of his betting-shop customers chose the shop because friends went there. On the basis of his own research, Dickerson concluded that although it might be important for customers to greet each other and be seen to be betting, the shop provided only the most superficial kinds of companionship or social interaction. In defence of Newman, it might be argued that the betting-shops observed by him served unusually tightly-knit communities within the East End of London where working-class community spirit was still high. But it seems more likely that social exchanges in betting-shops usually have little significance beyond their limited roles as ritualistic or task-oriented adjuncts to the real business of betting.

Downes et al.'s A.I.D. analyses of factors predicting likelihood of gambling for some of the main forms - pools; betting; gambling; and bingo - provide further information from which the expressive motivation of those who participated can tentatively be inferred, though lack of information about the proportions of variance for which each predictor and combination of predic-

tors account emphasises the qualitative and ambiguous nature of the information to which this technique gives rise. The most interesting findings are those for betting and bingo. In the case of betting, data were for on- and off-course betting on horses or dogs, and results indicated the most important predictor of likelihood to be parental gambling. Other important predictors appeared to be lack of hobbies alternative to gambling, lower socio-economic group status and poorer education. Predictors of non-gambling, on the other hand, were lack of parental gambling and high degree of conjugal role-sharing.

The findings are interesting for suggesting, as did some of the general theories in relation to gambling overall, that likelihood of betting is greater where parental example increases its visibility as a leisure outlet, where alternative ways of passing the time are either not thought of, or not pursued, and where family ties and obligations do not exist or are not onerous and time-consuming. For bingo, being working-class and having parents who gambled were the most important predictors of involvement. Downes et al. suggest that, for this form of gambling at least, a strong case can be made out for linking it closely to a distinctive economically and occupationally deprived working-class group anxious through membership of the bingo club '... to recreate, via its combination of live entertainment and gambling, the ambience of working-class community ...'. This view is similar to that held by the Gaming Board.

Some implications of sociological accounts of gambling

This review* of the various attempts to account for gambling, or participation in particular forms of gambling, in terms of non-economic rather than economic motivation has revealed a plethora of theorisation, accompanied until recently by very little in the way of critical discussion or empirical support. In the case of general theories, it has not been possible to establish whether or not gambling is more closely associated with some forms of social structure than others. Nor, if this were so, would it follow in addition that the association was evidence of some unique ability on the part of gambling to compensate in detail for the deficiencies of the form of social structure in question. In the case of particular accounts, while these - able to specify more closely the gambler's supposed needs and motives, on the one hand, and features of gambling which might provide matching satisfactions, on the other - have given rise to plausible hypotheses, they too have been based upon assumptions rather than on empirical data. Where evidence has been available it has tended, at best, to provide only limited support for the theory under

*Most accounts of gambling concentrate on the motives and behaviour of male gamblers. So far as social policy implications are concerned this is probably - except in the case of bingo-playing by women - a sensible restriction of attention. Bingo aside, men are much more likely to participate in all forms of gambling, to gamble regularly, and gamble to excess, than women. Although not covered in this review, accounts from some commentators provide corresponding though sketchier hypotheses to explain participation in several forms of gambling by women from the middle and lower socio-economic groups (cf. McGlothlin, 1954; Olmsted, 1962; Herman, 1967; Downes et al., 1976).

consideration, and to indicate that explanations in terms of single expressive motives are either simply wrong, or only part of the story.

This being so, it may be more useful to study these accounts of gambling, not for their content, but for the form or type of model for gambling behaviour which they imply. Devereux's stress upon the saliency of extrinsic or contextual motives as well as intrinsic ones in determining gambling behaviour and, in general, his view that gambling motives emerge primarily from the individual's interaction with a particular social and cultural environment, rather than from intra-psychic factors (cf. Downes et al., 1976), provides one such model or framework within which gambling behaviour can be discussed and investigated. Insofar as it emphasises the environmental determinants of gambling behaviour it may encourage the payment of attention to specific factors such as accessibility and availability of particular gambling outlets, or to characteristics which differentiate between the various types of gambling, as well as to broader sociological factors.

Taken as a whole, however, general and particular accounts seem to offer a slightly different perspective to that provided by Devereux. Perhaps the most useful contribution of general accounts, for example, is for their suggestion that some conditions of life are more, or less, compatible with gambling than others. These conditions can be, and have been, defined simply in terms of behaviours, in terms of the social roles or life-styles of which these behaviours may be a function or, less usefully perhaps, in terms of broader social indicators (such as socio-economic group membership) with which they may be associated. Whatever the higher-order organising concepts used to express relationships amongst the component behaviours or activities, however, it is important to stress that, so far as their relevance to likelihood of gambling is concerned, the practical contribution of these behaviours is largely in terms of the restrictions upon attention, mobility, spare time and disposable income which their pursuit entails. These govern the extent to which conditions are favourable, in terms of opportunities and means, or unfavourable to gambling. Such an approach also operationalises and so lends some support to more general perspectives on gambling: the emphasis upon practical constraints, for example, reflects Hirschi's (1969) findings with respect to the 'Involvement' component of his control theory of delinquency - that those engrossed in conventional activities may be too busy to engage in delinquent behaviour.

General theories also offered some rather unsatisfactory information about motives for gambling, inferred for the most part from knowledge about people's social and economic backgrounds. Attempts to identify, or agree upon, specific motives for gambling were hindered by the requirement that these should be able to account for all forms of gambling: without a specific referent (such as one type of gambling) in mind they tended to be vague. But their vagueness arose also from the fact that the states of relative material and psychological deprivation assumed to fuel them were themselves not so much

clearly-defined needs as poorly-articulated 'lacks' - feelings of dissatisfaction with the quality of life.

An alternative explanation of gambling motivation

These feelings of dissatisfaction, which may be exacerbated or reduced by the influence of individual differences (cf. Chapter 14), can be called upon to feature in an alternative explanation of gambling motivation. In this, particular motives for gambling are replaced by the concept of a general and less directed readiness or need to seek out and experience activities which will provide some compensation for the feelings of dissatisfaction. This need is subsequently defined and focussed in interaction with incoming information about - and, later, with experience of - available types of expressive behaviour.

The above model has something in common with cognitive theories of emotion (Schachter, 1971) which suggest that the labels people give to their feelings of emotional arousal are heavily influenced by the situations in which these feelings are experienced. In the case of gambling the interaction between feelings, on the one hand, and information about the satisfactions offered by gambling, on the other, is in part a matching process, in part a moulding one. It is true that even within a particular social group individual differences may sensitize some members to certain types or features of expressive activities rather than others*. But the stability over long periods of time of particular social groups may itself - as has been shown earlier - contribute to the evolution of forms of expressive behaviour which are especially appropriate to their condition or way of life. The comparative stability of the social distribution of some forms of gambling suggests such an institutionalisation of needs may have taken place.

On the other hand it is easy to over-emphasise the specificity of people's needs: individual differences may well be in terms of quite general stimulus-seeking motivations. Again, social group requirements may equally predict a range of undemanding entertainments, of which one variety may prosper for reasons which may have little to do with its greater intrinsic appeal. It is likely, rather, that incoming information plays the major role in helping the recipient to define his expressive needs more closely. This information characteristically arrives in stages, by a number of routes, and not always in the same order. For example, it might be expected that the first information to arrive would be of the most general sort, relating to the broadest definitions of gambling - those, that is, which stress the elements of chance, of risky decision-making, and of financial gain. Insofar as these elements provide some sort of match to the recipient's general feelings of dissatisfaction (by the extent to which they identify and reflect real component needs, for example), or - as is more likely - insofar as they succeed in presenting themselves as plausible definitions of these feelings, then gambling is able to make its initial appeal as one possible solution, instrumental as well as expressive.

*This issue is discussed more fully in Chapter 14.

It is usual, however, for the incoming information about gambling to be considerably fuller and more detailed than this. Knowledge of the general characteristics of gambling is likely to be accompanied by information about a particular type of gambling. The availability of information about gambling as a whole, and about different forms, depends on questions of 'visibility'. Thus information becomes more readily available as the activity itself becomes increasingly acceptable. This may occur if it is made legal or if the increasing political and economic importance of social groups with high rates of participation renders their life-style more widespread within the community. Parents who gamble also provide a ready source of information about particular forms of gambling, while the availability of particular gambling outlets in the potential punter's immediate environment (cf. Chapter 13) may have a similar effect.

It is because decisions to gamble tend to be taken in the context of information about and, therefore, in relation to particular forms of gambling that discussions of general motives seem somewhat academic. But it is also clear from discussion of the factors influencing gambling's 'visibility' that, by the same token, participation in a particular form of gambling does not necessarily imply the operation of special motives. Existing theories of particular forms of gambling often appear to be suggesting the operation of motives which - since they presuppose extensive acquaintance with and experience of the form in question - are unlikely to have been able to influence the initial decision to take part. Such approaches also under-emphasise the essential part played by incoming information in shaping the cognitions and needs responsible for the initial decision - a decision which in any case is itself an exploratory one.

A model of gambling behaviour which suggests that the activity shapes motives and then proceeds to satisfy them (a method reminiscent of advertising campaigns) is, of course, as much a partial account of the processes determining the initial decision to gamble as its more traditional counterpart, which either ignores environmental determinants or treats them merely as responses to prior, specialised needs. But even in this unsophisticated form the account has practical advantages over its rival. Stressing as it does the diffuse nature of the feelings of dissatisfaction which influence people's search for and choice of leisure activities and expressive behaviours, it seems appropriate to the fortuitous nature of the initial decisions, dependent as these are on the existence of conditions favourable to gambling as well as upon the information available. It also does justice to the richness of gambling. The variety of special motives given for gambling is some indication of the wealth of alternative definitions of needs which some forms of gambling can provide. Moreover, the account does not deny that the decision to participate and to continue gambling is the result of interactions between personal and situational determinants. Conditions of life, it has already been indicated, influence both the possibility of gambling and readiness to gamble, while individual differences may sensitize certain people to particular types or aspects of expressive activities. Stress is placed by the model on the importance of the shaping and defining functions of

incoming information upon people's cognitions and motives, however. Examples of these processes were given in Chapter 11 in relation to gamblers' perceptions of probabilities and payoffs. This suggests that where information about a particular type of gambling manages to stimulate broad individual predispositions it simultaneously provides them with a plausible definition in terms of the solutions offered by the activity in question. This, in turn, may lead to the initial, exploratory, decision to gamble. The next two chapters deal with some of the factors influencing the availability and type of incoming information, and with some of the individual predispositions which have been proposed to explain why, within groups, some people appear more likely to gamble than others.

13 Situational Determinants of the Decision to Participate

Introduction

For gambling to present itself as a viable leisure-pursuit it has to attract the attention of potential participants; only then can the information provided be used to shape cognitions and expressive needs. Gambling comes to the attention of some through parental or peer-group example, but there are also other more general situational factors which determine its selective visibility so far as certain groups are concerned.

Ecologic opportunity

Among these other influences might be placed the role played by ease of access to particular facilities and, hence, of opportunities to gamble in specific ways. Numerous studies (Paley & Glendinning, 1963; Newman, 1972; Dickerson, 1974) have noted the tendency for betting-shops to be concentrated more in areas populated by the lower socio-economic groups, and this might well be put forward as an explanation for their higher rates of participation in off-course betting*. Different patterns of participation in other types of gambling such as gaming or on-course betting might be explained, too, by expanding the idea of availability to include considerations not only of physical accessibility but also of the time and money involved. Often accessibility can be deliberately restricted by membership charges or other more fortuitous (though socially-mediated) discouragements to participation such as the presence of disproportionately large numbers of individuals from a different socio-economic group, or the undue opulence or scruffiness of the surroundings (Hess & Diller, 1969).

Other things being equal, situational factors such as the existence or numbers of gambling outlets in a community or area may affect the potential gambler in a number of ways. Firstly, it is likely to make those types of gambling represented there more visible to him in his daily life. Hence their attractions are more likely to come to his attention both directly and through the recounted experiences of his friends and relations, without any special curiosity on his part. Secondly, where there are many gambling outlets they would seem to be in a particularly favourable position for capitalising upon, or channelling the

*Dickerson (1974) also goes on to question the extent to which such findings represent 'real' differences in betting habits, or whether they represent differences in personal opportunities - members of higher socio-economic groups often having work patterns which make it more difficult to visit the betting-shop, together with the alternative of placing off-course bets with credit bookmakers.

direction of, any ephemeral or enduring needs of the people of that area. The law of least effort will, of course, tend to favour nearer rather than more distant gambling facilities. But the differential availability of certain types of gambling in particular areas may also define for the potential gambler (quite apart from his own tastes) the forms of gambling - or in areas where participation is very high, the pastimes - which are traditional or socially-acceptable to his way of life.

Together with differences in availability of different forms of gambling will go differences in the availability of appropriate technical knowledge and help, so that people may be more likely to try types of gambling about which they have prior knowledge or for which they can enlist assistance - at completing betting-slips, for example - and this may apply also to forms of gambling, like the football pools, where no physical premises are required. Within the gambling situation itself, promoters are aware of this and often take pains to make initial participation as easy as possible, placing the simplest or best-known games (such as roulette) nearest to the entrances of gaming clubs.

Situational determinants, in terms of the availability of particular forms of gambling are closely linked, therefore, with traditional patterns of community gambling which, in turn, may reflect that population's past or present expressive needs and the efforts of commercial promoters to meet these. The existence of this historical interaction makes the task of disentangling the relative influences of situational factors and expressive needs on the initial decision to gamble at some later period a difficult one. Yet the presence of institutionalised expressive activities in a culture does not necessarily imply that they owe their existence to their superior ability at meeting special expressive needs. It is more likely that it has depended both upon the offering of persuasive definitions of broad expressive needs (cf. previous chapter) and upon the ability to meet other conditions, relating to costs, effort, access, etc. If this is so, it implies that, for each new generation the satisfactoriness of these contingent arrangements is once more on trial.

Situational factors, such as numbers and types of gambling facilities, are of primary importance in the battle to ensure that expressive needs continue to be defined in traditional ways. But they can also be used to increase demand beyond existing levels. Wilson (1970) has described how the Nevadan casino operator, Harrah, was convinced by studies of bus transportation (which he commissioned) that he could provide low-income customers with free travel facilities from their home towns outside Nevada to his casinos and still make a profit by the time they left. Promoters use a variety of other techniques, based both on appeals to expressive needs and on the manipulation of situational factors, to attract new custom or to increase their share of the market*. Where

*Aggressive marketing policies are often the basis of criticisms that demand is being artificially stimulated.

gambling is already firmly associated with a spectator sport such as horse-racing it is in a good position to gain new customers, if they can be encouraged to attend the sport itself. Not only is the non-gambler temporarily in a situation where gambling and gamblers are the norm, but the very activity of gambling - often so integral a part of the sport - may, with its strong element of personal competition between punter and bookmaker, come to be regarded as its main component or even as a sport in its own right and the main reason for attending. So, instead of gambling's being an adjunct to the sport - by giving spectators a greater personal stake in the outcome - the sport may become an adjunct to gambling. The conclusion of such a progress - the transfer from attending in order to watch a sport to attending in order to gamble - involving as it does the substitution of one solution to the spectator's expressive needs with another (supplied by the gambling promoter), may be the gambler's abandonment of attendance at race-meetings in favour of visiting the more convenient local betting-shop*.

The attempts to establish betting marquees at sporting events such as cricket or golf which are not in the ordinary way much associated with gambling could also be described as a similar strategy (Moody, 1974). But since these sports are unsuitable for high-volume continuous betting it is more likely that their purpose was partly to provide a service for gamblers who were attending as spectators, both to give them the opportunity of extending their gambling to a new sport, and to give them an extra opportunity for betting on established ones (bets were evidently principally taken for horseracing). It might also introduce non-gamblers to gambling as a way of making sport more exciting. No doubt it was also hoped that, since bets on the different sports were all taken in the same premises, some of these recruits might become sufficiently familiar with the more intensive forms of betting to try their hand at them.

Sport not only provides an occasion for gambling; it may also provide social respectability. Hess & Diller (1969) have described how casino operators may sometimes capitalise upon the close association between gambling and sport, attributing values normally given to the latter - that it is a recreation, for example - to gambling. Thus, it is usually referred to as 'gaming' and may be promoted along with hunting and shooting expeditions as a part of the same package. Within the casinos themselves (many of the Nevadan casinos resemble amusement arcades) a noisy bustling atmosphere, like that of a sporting event may deliberately be created.

Structural characteristics

The commercial gambling operator's task is to promote gambling as a suitable

*It should also be noted, however, that promoters and others have claimed that taking part in off-course betting (Samuels, 1973) or the football pools (Royal Commission, 1951) may arouse an interest in attending the sports themselves. Both Weinstein & Deitch (1974) and The Committee of Inquiry on the Racing Industry (1968) make it clear that the coincidence of the development of off-course cash betting facilities with falling attendances on-course is not necessarily evidence of any causal connection between the two sets of events or, if causal, unequivocally to be condemned.

means of satisfying people's economic and expressive needs or as an alternative and better solution where these needs are already apparently being satisfied by other leisure activities - including other forms of gambling. Different forms of gambling offer a variety of definitions and solutions for these needs and, in addition, some provide more potential solutions than others. Some forms may be in competition for the same market, and the extent to which this is the case will depend largely upon their substitutability, one for the other, in important respects. The situational determinants of the decision to gamble include not only information about numbers and locations of facilities but also salient features of the activity in question. Although much information about different forms of gambling is available later, rather than sooner, recognisable differences are noticeable to the potential gambler.

Both the Royal Commission (1951) and Weinstein & Deitch (1974) have tried to elaborate lists of structural characteristics (or dimensions) in terms of which all gambling activities could be described and contrasted. Weinstein & Deitch assert that the structural differences between gambling activities can be completely described by the location of a particular form of gambling on each of six such dimensions:

- i. multiplier potential: although this term is not defined, it appears to refer to the number of ways in which wagers can be made on either one or a series of events. In particular, it refers to the ability to provide facilities for betting at a variety of odds and/or stake-levels;
- ii. payout interval: time elapsing before winners receive payment;
- iii. better involvement: extent to which punters are, or see themselves as, taking an active part in events;
- iv. skill required: this is an objective estimate. Individual punters may, as has been shown, have (or be persuaded into holding) other opinions;
- v. probability of winning an individual bet;
- vi. payout ratio: ratio of potential winnings to stake.

Once its location on each of these dimensions has been charted, a profile for that type of gambling can be drawn. This simple technique provides a graphic representation of the respects in which gambling activities both resemble, and differ from, each other.

Many of these structural characteristics, and the experiences with which they are associated, influence the gambler fully only after he has begun to play. The usefulness of structural analysis will become clearer, therefore, when the determinants of continued gambling are discussed in Part Three. But the fact that it is possible to identify dimensions in terms of which gambling activities can be

differentiated already suggests that it is these characteristics which play a large part in shaping potential gamblers' cognitions, expectations and expressive needs in the direction of participation. It has already been indicated, for example, that the presence or absence of a structural characteristic like 'skill' can influence a person's cognitions and, hence, his decision about whether to gamble, or how to choose between gambles*. This emphasises the role which structural characteristics may have as the salient environmental stimuli influencing gambling behaviour. Better knowledge about these relationships may make it easier to explain how different forms of gambling achieve their effects in influencing behaviour.

In particular, relating the attractions of gambling more closely to their structural characteristics will provide a firmer basis for investigating how needs are identified (or defined) and satisfactions conveyed, how information about gambling is presented (or misrepresented), and how perceptions and cognitions are influenced (or distorted). The existence of such relationships would have further practical importance, too, for those concerned with identifying and regulating potentially dangerous forms of gambling, and in formulating legislation which would be both selective and effective. It would also enable better judgments to be made of the likely consequences - in terms of the recruitment of new gamblers and the degree of participation of existing ones - of introducing new forms of gambling or of making modifications to existing forms. Lottery promoters, for example, are well aware that in order to ensure maximum participation the prize structures should appeal both to the wish to win a lot of money, and the wish to be a winner, and that a careful balance must be maintained between the two (Weinstein & Deitch, 1974).

At the same time promoters are also constantly trying to attract participants in one form of gambling to take part in others, not only by putting different types of gambling into close proximity (bingo and roulette, for example: Gaming Board, 1968), but also by increasing the breadth of appeal of existing forms in ways which change certain aspects of their structure. Accumulator-betting, and especially some of the jackpot bets recently initiated, may well be designed to appeal to motivations normally associated with lotteries or football pools, giving as they do the chance to win a lot of money for a relatively small initial stake (a feature of other modifications introduced to existing games - 'linked' bingo, for example), together with provision for consolation prizes.

Knowledge of the structural characteristics of different types of gambling, together with information about other situational variables such as location, number of outlets, membership requirements, etc, may also help to clarify why

*A structural characteristic such as 'degree of skill involved' is likely both to influence the way a gambler processes information in order to make choices between bets (Lupfer & Jones, 1971; Andriessen, 1971), and, since it may relate to expressive needs to exercise judgment, his initial participation. It is worth noting that some forms of gambling offer only 'better participation' (e.g. the 'numbers' racket) though they may claim to offer more.

some forms of gambling appear to be more attractive *per se* (the football pools, for example) or why, for others, participation-rates vary with socio-economic class. Clearly the more separate appeals which a form of gambling can make to different economic and non-economic needs, and the stronger each of these appeals, the more participants will be attracted from all social classes - although not necessarily for the same reasons - provided that other non-structural variables do not apply selective social, economic or situational constraints upon participation. On this analysis the high rates of participation in the football pools could be attributed to the relatively high utility of the top prizes to all socio-economic groups, the low initial stakes required, the ease of participation, interest created through links with a popular spectator sport, and through ability to use skill (but possibility of winning the pools without such knowledge) and so on. Where a particular type of gambling has less support it may be either because its appeal is more restricted (perhaps to fewer expressive needs, or only to those of certain socio-economic groups) or because it is less accessible in social or economic terms. The selective operation of particular structural characteristics may also determine the occasions on which gambling behaviour is attributed to the operation of financial rather than expressive motives. The former are likely to appear the more salient where the structural characteristics necessary for the definition and/or fulfilment of other needs - such as active involvement, using skills - are absent (lotteries, for example).

Conclusions

It was suggested in Chapter 12 that incoming information about gambling may define as well as identify the needs for which it provides satisfactions. Situational determinants operating in the potential gambler's environment, such as ecologic opportunities and structural characteristics, provide the source of this information. Consequently they have an important influence in determining likelihood of gambling, though their impact has in the past tended to be neglected. It was also indicated that conditions in a person's life might - independently of any direct personal choice in the matter - place greater or lesser constraints upon likelihood of gambling. From all this it might reasonably be argued that explanations of gambling in terms of special goal-seeking motivations, in failing to stress the interaction which takes place between needs and environmental stimuli, fail to provide an appropriate model for gambling behaviour and its determinants. It cannot be concluded from this, however, that individual differences in personal predispositions and attitudes have no influence on the decision to gamble. The next chapter examines the extent to which they do.

14 Individual Differences as Determinants of Gambling Behaviour

Introduction

Not everybody gambles, and although the decision to participate has so far been examined in terms of people's instrumental and expressive needs and their relationship with socio-economic and situational factors, it might seem on the face of it unlikely that these could also explain the existence of differences between gamblers and non-gamblers within particular socio-economic groups and environments. Because of this - and because practically all the range of motives put forward in Chapter 12 can be used to differentiate between individuals as well as groups - it is often argued that differences between gamblers and non-gamblers must, in addition, be influenced by individual differences in personalities and attitudes which selectively predispose some people towards gambling.

The idea that some people might be more 'at risk' than others does not, of course, exclude the possibility (a strong environmentalist position) that these differences, too, could be largely determined by influences in people's own social environments which, for one reason or another, were not experienced by other members of their socio-economic group. These might include selective exposure to environmental stimuli such as proximity to forms of gambling with particular structural characteristics or living or working in situations and amongst companions where gambling in one form or another is the norm. Within the social group, not-gambling could be explained in similar terms, and by referring to those conditions of life, such as age-linked or sex-linked social roles which, for certain members, place financial or temporal constraints on gambling. In this way the decision to gamble, or to take part in a certain type of gambling could still be regarded as something of a fortuitous affair, in the sense of being determined largely by accidents of social environment or unwilled and unanticipated consequences of social roles, rather than by variations amongst people in the possession or strength of deep-seated personal predispositions.

Nevertheless, where no obvious conditions in the gambler's or non-gambler's current personal environment which might account for their respective behaviours can be found (though this is not to say that such conditions might not exist undetected) the case for calling upon differences in personality and attitudes to explain variations in likelihood of gambling is, though traditionally based upon neglect of environmental determinants, rather stronger. In fact, both traditional personality psychology and psychodynamic approaches seek

to explain behaviour largely in terms of relatively stable motivations and predispositions which are related to individual personality and attitude variables. These 'internal' determinants of behaviour, it is claimed, are responsible not only for the continuation of particular sorts of behaviour but also for their initiation, since they predispose people to act in certain ways. The belief that such general predispositions - whether brought about by genetic factors, the influence of early learning experiences, socialization, or as the result of intrapsychic conflict - are the primary sources of behavioural variance has led to over-simplified assumptions about gambling and gamblers. Later it will be argued that it is possible to conceive a theory of behaviour which can accommodate both the influence of individual differences - defined largely in terms of organised bodies of past experience and learning peculiar to individuals - and the effects on behaviour of stimuli operating in a person's immediate environment.

Within the traditional perspective, research and commentary has concentrated upon two aspects of individual differences in relation to gambling behaviour: (i) a more-or-less hypothesis-free comparison of gamblers and non-gamblers on a wide variety of personality and attitude measures and, (ii) studies of particular traits which might be expected to create, and account for, differences between individuals - either in their predisposition to gamble or, if engaged in gambling, in the sorts of choices they make.

The influence of some general personality and attitude traits

Early in the development of personality psychology the existence of a vast array of tests and inventories purporting to measure various aspects of the individual's personality and attitudes resulted in a great deal of empirical research. This merely applied batteries of measures - often seemingly chosen at random or, at best, guided by only the vaguest of speculations - to pre-selected groups of persons exhibiting or not exhibiting the behaviour to be explained. The characteristic method of testing whether the initial decision to participate, or continued participation, in gambling is determined by personality attributes in general, and certain traits in particular, is to select samples of gamblers and non-gamblers - matched on variables, such as age, social class, intelligence, etc - and to compare the groups on various attitude and personality measures. Typical of such comparisons are those of Hunter & Brunner (1928), who were unable to find any differences between gamblers and non-gamblers, and Morris (1957) who - if those of his findings which failed to reach an acceptable level of statistical significance are omitted - found his group of gamblers to be less socially-responsible than his non-gamblers, and more masculine*.

*Comparing the social, home and emotional adjustment of women poker-players with the standardization sample of the Bell Adjustment Inventory, however, McGlothlin (1954) found his sample of gamblers to be significantly better-adjusted.

Even where there is no conflicting evidence (and there may be: cf. McGlothlin, (1954) findings from research like Morris's have to be treated with considerable caution. Firstly, the sorts of tests and measures used have been extensively criticised in terms of their construction, application and meaning (Vernon, 1953) so that where differences are found it is not always easy to interpret them. It is often possible for relationships between personality variables and behaviour to be spurious; for example, an association between lack of social responsibility and gambling, or masculinity and gambling might be created largely by the way in which a particular test was constructed. If, for example, a masculinity scale were to be made up of items which identified participation in, or watching, sports as masculine or which identified in similar terms a liking for same-sex peer-group activities, then 'masculinity' would very likely be associated with gambling. Firstly, much betting is on sports events, many of which take place in settings which are characteristically male preserves and, secondly, many forms of activity among people of the same sex and age involve gambling (craps and poker, for example). Needless to say, problems of spurious relationships are most likely to remain undetected where neither the type of gambling involved nor the basis upon which the inventory is constructed is adequately specified. The latter issue is part of the more general problem of all such tests and questionnaires - that scrutiny of the number and type of individual items or questions making up the instrument will often reveal how partial, limited, and often idiosyncratic is the information required by the test constructor as a basis for both identifying and attributing a trait.

A more important objection to research such as Morris's relates to the criteria upon which 'gamblers' groups are selected. In Morris's study, for example, allocation to the 'gamblers' group was based merely upon the self-reports of the individuals involved in the research. Since no attempt was apparently made to verify the fact, nature or extent of their involvement in gambling it remains possible that they differed little from the 'non-gambling' group save in their needs to be seen to be gamblers. Even in those cases where independent evidence is available about the participation of the 'gamblers' group (McGlothlin, 1954; Roston, 1965), findings which show differences in the personality traits exhibited by gamblers and non-gamblers (or by those whose behaviour on experimental gambling tasks differs from that of others - see below) are difficult to interpret as far as investigating the importance of individual differences to participation in gambling are concerned. Apart from the problem already mentioned - that it is not always clear that certain trait-labels such as 'hostile', or 'egotistical' can always unequivocally be assigned to individuals on the basis of their answers to questionnaires - it is impossible to ascertain whether any differences found have been responsible for differential involvement in gambling, or whether they have occurred as a consequence of such involvement. This is a problem which crops up time and time again where *post hoc* investigations of personality factors and their putative motivational influence

upon the decision to gamble, or upon continued gambling are concerned*, and it is responsible for the paradoxical situation whereby the importance of personal predispositions as determinants of behaviour is assumed so that it can later be 'proved'.

Studies of personality traits with greater theoretical relevance

Apart from these early exploratory studies, later research has tended to concentrate upon the relationship of particular personality or attitude traits to the sorts of choices people make in gambling situations. In this context the most useful results are, of course, likely to come from studying traits for whose importance a *prima facie* case might be made out - those, for example, related to expressive needs or others such as risk-taking propensities. More general studies have, however, been made by Scodel, Ratoosh & Minas (1959) and Cameron & Myers (1966). Using groups of college students and Air Force enlisted men as subjects required to play, by throwing dice, fifty bets selected from a pool of bets differing in EV, probabilities and payoffs, Scodel et al. found pronounced differences in risk-taking between the two groups. Students preferred high probability/low payoff bets and were described as being more 'conservative' gamblers than the enlisted men, who preferred low probability/high payoff bets. Attempts were made to assess the influence of a number of personality factors upon risk-taking preferences, by combining both groups and selecting two extreme groups of high and low payoff bettors. Their scores were then compared on a variety of personality and attitude tests. Although some differences between the two groups were found these were not very convincing in view of (a) the rather perfunctory nature of the tests used; (b) the fact that a significantly higher proportion of the high payoff group were enlisted men - a factor which considerably complicates interpretation of results by confusing the influence of psychological and sociological variables.

In another study of bet-selection, Cameron & Myers (1966) used the Edwards Personal Preference Scale and found a number of correlations between probability (or payoff) dimensions§ and scores on individual personality variables. Subjects scoring high on Exhibition, Aggression or Dominance tended to prefer bets with high payoff and low probability of winning; those high on Autonomy or Endurance preferred low payoff, high probability bets. The authors themselves claimed that their findings were only tentative and this conclusion is only reinforced by features of the research methodology, statis-

*Where the 'gamblers' group is composed of heavy or compulsive gamblers (e.g. Roston's sample of Gamblers Anonymous members, or Carey's (1968) sample) differences between these groups and non-gambler control groups are likely to be pronounced. Whether such differences are causes or consequences of the behaviour is another matter, however. The fact (if it were to be found) that compulsive gamblers differed greatly from non-gamblers, while casual gamblers did not, would not in itself be sufficient reason for attributing initial or continued involvement to personality factors.

§The experimental task made it impossible to determine which of the two variables was responsible for the effects.

tical treatment and interpretation of data which call the few positive findings into question. Rather than showing the importance of the variables investigated to bet selection the results point up the relative lack of importance of most of them, and the small and inconsistent influence (if any) of the rest.

Apart from the study of risk-taking predispositions (see later) only two other individual-difference variables have received extensive study in relation to gambling behaviour. The first of these is 'need for achievement' (nAch). Where people were offered the opportunity of choosing amongst bets with the same expected values but different probabilities and payoffs, it was found (Atkinson, 1957) that those whose need for achievement was high more often preferred intermediate probabilities - those, that is, of maximum uncertainty - to extreme ones, than did subjects with a low nAch. These latter, who also had a high fear of failure, may - it was claimed - prefer to gamble on 'certainties' or 'impossibilities' because in either case fear of failure is avoided. Losing is either made virtually impossible or so inevitable that blame cannot be ascribed to the individual. Differences in nAch might also be expected to affect likelihood as well as style of participation by the way it sensitized some people to the probability parameters of information about different types of gambling.

While need for achievement had been held to influence gambling behaviour in a number of early studies (cf. Scodel et al., 1959; Atkinson et al., 1960), Cameron & Myers were, by 1966, raising questions on the basis of the evidence then available about the extent to which nAch could be considered a stable personality variable. Other research, however, suggests that some of the apparently conflicting results in the later literature reflect interactions between nAch, gambling-task parameters, and other personality variables such as 'locus of control', which may not always have been adequately controlled (or investigated) in particular studies. Littig (1963) found, unlike Atkinson, that high nAch individuals did not necessarily prefer intermediate probabilities: in a dice-tossing gambling task, they chose conservative bets. Weiner & Kukla (1970) have suggested that high nAch individuals may select intermediate risks primarily because, in skill situations, they yield most information about the capacities of the performer. If this were so, it might be expected that high nAch people would also prefer skill-determined (or apparently skill-determined) tasks rather than chance-determined ones, since only the former could yield this kind of information. Unless they could be persuaded that they could influence outcomes (cf. Langer, 1975), they would not be expected to like gambling and, where they participated at all, might be expected to choose the shortest odds and/or the more skilful forms.

Such preferences would also suggest a relationship between high nAch and a belief in personal causation or self-determination. 'Locus of control' (cf. Lefcourt, 1966) is a hypothesised personality variable which refers to the extent to which people attribute control of outcomes, either to their own efforts and skills (an 'internal' locus of control) or to the external environment, chance or

fate (an 'external' locus of control). Variations in locus of control amongst individuals and groups can be attributed both to psychological and to sociological variables and it is often difficult in specific instances to select the most appropriate level of explanation. The research in game-involvement (cf. Chapter 12), for example, suggests that an external locus of control - as expressed by preferences for games of chance and a belief in luck or supernatural forces - might, in the case of members of lower socio-economic groups, be expected to occur as the result of realistic, culturally-transmitted appraisals of the likely determinants of their life-chances.

Where the grosser sociological sources of variance have already been controlled for (by drawing subjects from the same social group, for example) there is still some evidence that a person's perceived locus of control may both affect his choice between skill and chance activities (the internally-controlled preferring games involving skill: Schneider, 1968) and, where participating in chance-tasks, the degree of riskiness of his chosen gamble (the externally-controlled choosing riskier bets: Liverant & Scodel, 1960). Though other research (Stricklands, Lewicki & Katz, 1966; Baron, 1968) has not borne out the latter's findings*, this may reflect the failure of all to consider the interactions between locus of control, nAch and situational factors, such as the task being undertaken. Thus, while the fact that both a perceived internal locus of control (Schneider, 1968) and a high nAch may be related to preferences for skill-tasks suggests the existence of a relationship between the two individual-difference variables themselves (Weiner & Kukla, 1970), it is probable that the relationship holds only in the context of particular task-variables, or people's perceptions of these (Langer, 1976). Recent studies which have tried to investigate interactions between such person- and situation-variables (e.g. El-Gazzar, Saleh & Conrath, 1976) indicate that where the task is a chance-determined one it is those with high nAch and an external locus of control who appear to exhibit the greatest 'approach tendency' to such gambling situations.

Although Moran (1970c) found compulsive gamblers to have significantly higher external control scores than those of a standardisation sample used as a control, this is not necessarily evidence that these individuals began gambling because of initial locus of control tendencies of this sort. Gambling in a commercial setting, by providing the experiences of failure and of the capriciousness of fate, might be expected to influence and perhaps modify as well as confirm perceptions of causality held before gambling began. The ability of certain structural characteristics of gambling to induce illusions of control suggests, in general, how difficult it is to determine the nature and size of the contributions made by individual-difference variables and situational factors, respectively, to the initial decision to gamble. The presence (or apparent presence) of both skill and chance elements in many forms of gambling, together with the range

*McGlothlin (1954) did not find that, of his sample of women poker-players, those who strongly believed in luck took greater risks than others in their play.

of gambles offered, might seem to place most types in a favourable position to encourage participation whatever the nature of pre-existing cognitive 'sets' or broader motivational predispositions.

Risk

So far, the evidence for the existence of personal predispositions with an influence upon propensity to gamble has been unsatisfactory. More convincing, perhaps, might be findings from research which investigated the influence of personality variables (and particularly those which could be ascribed to constitutional differences between individuals) which had a clearer *a priori* likelihood of affecting gambling behaviour.

All forms of gambling offer the possibility of making money; but gambling also involves the possibility of financial loss. Because of this, the element of risk may also be significant in its own right. The relationship between this risk and those personality and motivational variables which might be associated with individual gambling behaviour is not, however, likely to be a simple one. Assessment of the role played by risk is complicated by the difficulty of identifying those variables, or combinations of variables, which determine the perceived riskiness of a gamble. Different features have from time to time been proposed, either as the result of inferences based upon information about people's choices of gambles, or as the result of asking individuals to rate gambles for their perceived riskiness.

The variance of a gamble, involving as it does considerations of the degree of uncertainty involved and the magnitude of possible profits or losses to be incurred, is often proposed as a candidate. Slovic (1964), however, has suggested that variance, probability and expected value may all determine the extent to which a gamble is perceived as being risky. The state of knowledge has been ably summarised by reviews in Slovic (1964), Kogan & Wallach (1967), Rapoport & Wallsten (1972). On the basis of his own research Payne (1975) has concluded that it is a gamble's probability of loss (one of Slovic & Lichtenstein's four basic risk dimensions*) rather than more complex considerations such as its variance, which determines its perceived riskiness. Even so the relationship of a particular gamble's perceived riskiness to the sorts of choices people make amongst gambles is not a simple one (Payne, 1975).

There is also evidence that people may exhibit consistent probability and variance preferences in certain experimental gambling situations (cf. Kogan & Wallach, 1967, for a summary of earlier research), in more realistic settings (Fryback, Goodman & Edwards, 1973) and during real-life gambling at roulette (Hochauer, 1970). This has led some investigators to conclude that some people are more willing or able to take risks than others in the same situations and, indeed, to assert that normative models of risky decision-making must find a place for individual risk-taking parameters if they are to be of substantial value

*cf. Chapter 11.

for predictive purposes (Pruitt, 1962, and cf. Rapoport & Wallsten, 1972, and Payne, 1973 for discussions of later attempts to incorporate the concept of risk into normative models). Clearly the existence of such individual differences in willingness to take risks could - although not necessarily a motivational variable in itself - then be used within the context of any given level of financial motivation to explain people's differential propensities to gamble, or to gamble riskily.

But, just as economic motivation is influenced not only by knowledge of the objective probabilities and payoffs of a particular gamble, but also by its subjective values (which will be determined by the player's financial needs, his beliefs and perceptions), so the gambler's perceptions of the riskiness of particular courses of action will be determined in part by similar considerations. For this reason it is as difficult to infer the existence of greater or lesser degrees of willingness to take risks from evidence of apparently conservative or risky behaviour as it is to judge presence or strength of financial motivation on the basis of the overt behaviour of the gambler. In consequence, many investigators (e.g. Lichtenstein, 1965) have tried to interpret variance preferences, not in terms of individual differences in willingness to take risks, but as the result of particular probability and utility functions. Where individuals or groups appear to be gambling more or less riskily than others - and particularly where the people involved come from different socio-economic backgrounds (cf. Mosteller & Nogee, 1951; Scodel et al., 1959) or family circumstances, such as larger or smaller families (Jamieson, 1969) within the overall group - such behaviour may sometimes be explicable in terms of different utilities for money, or even a greater familiarity with gambling - a circumstance which, in the short term at least, appears to lead to riskier behaviour (Blascovich, Veach & Ginsburg, 1973)*.

Given the difficulty of assessing the influence of these or other factors upon the decision to gamble, it might be thought that if evidence for the existence of a general disposition to take risks could be found, this would at least offer grounds for supposing that such a trait would be implicated in the decision to gamble. Efforts in this direction have, however, met with only limited success. Slovic (1962) found few intercorrelations amongst various supposed measures of risk-taking propensities, and concluded that either very few of the measures studied were, in fact, related to risk-taking, or no such general trait existed. In a subsequent review of research on the generality of the willingness to take

*Apparent differences in the riskiness of gambling behaviour as between experimental and real-life research studies may sometimes be attributed to differences in the subjective utilities of those taking part in each; much experimental work, for example, employs college students, whose more conservative behaviour may be due to a variety of socio-economic or educational influences. It may also be possible in some cases, however, that the differences in gambling behaviour are caused by the failure of the experimental gambling task to include factors (such as crowds and the sense of excitement) present in real-life settings. Sometimes experimental tasks provide no opportunities to win or lose (Slovic, 1969b) and this clearly affects gambling behaviour, caution being very much more in evidence where potential gains and losses are real.

risks, Slovic (1964) blamed the lack of success in positively identifying such a general disposition upon the inadequacy of existing measures. Jackson, Hourany & Vidmar (1972) concluded that while there was evidence that a generalised risk-taking dimension existed, this was perhaps composed of four different facets - monetary, physical, social and ethical risk-taking - and the failure to recognise this might have been partly responsible for the inconsistent results of previous research. In sum, then, while it may be possible to account for the decision to gamble or not, or to gamble in risky ways, in terms of financial motivation in interaction with a greater or lesser willingness to take risks, it may also be possible to explain such differences in terms of other factors - personal or situational - which alter people's perceptions about the real nature of the risks involved. Behaviour alone is no certain guide.

Risk-seeking motives

Traditionally, the element of risk present in gambling has been investigated mainly in the context of its relationship to supposed individual differences in levels of toleration or acceptance of risk. This view tends to emphasise the primacy of financial motivation in the decision to gamble, individual attitudes to risk-taking being seen as modifying the decision without themselves acting as motives. But it is possible to distinguish those situations where gambling decisions based upon economic or other motives are modified by individual differences in willingness or ability to take risks, from those where the attractiveness of the activity lies primarily in its uncertain or risky nature - where, that is, there is evidence that risk- or thrill-seeking motives are involved (cf. France, 1902). While a relationship may exist between the willingness to take risks and the felt need to take them, it is clear that, in the second case, the term 'risk' is being used in a rather different way.

Some evidence that risk is valued and sought by some participants can be gleaned from gamblers' responses to surveys (Morris, 1957; Scarne, 1961; Paley & Glendinning, 1963; Worth, 1970; Scarne, 1975). Asked to give their reasons for gambling, some respondents indicated that, apart from financial motivation, other attractions - variously described as 'excitement', 'thrill', or 'challenge' - also played a part in determining participation. Discussions of gambling or types of gambler, too, whether in relation to particular games (like poker: Martinez & LaFranchi, 1969) or in general (Scimecca, 1971), often distinguish 'thrill' or 'action' players from other ones. But it is likely that these labels conceal the operation of a variety of different motives or expressive needs which relate to distinct structural characteristics of the various forms of gambling, and that in many such cases the presence or degree of risk will be of subordinate importance. Excitement, thrill or challenge may, for example, be related as much to the exercise of skill or judgment, the competitive aspects of

gambling*, or its social context or atmosphere as to the degree of uncertainty or financial risk involved and may even be keenest when gambling is pursued with the objective of minimizing this. Herman's (1967) observations of betting practices at a racetrack led him to characterize most people's gambling as financially conservative, and where length of play has itself a utility for participants - where, that is, the gambling is seen as an entertainment or pastime - methods may be adopted to reduce the risk of being forced to retire. In some cases, it may be feasible to relate these terms to what Jackson et al. (1972) refer to as social risk-taking - to circumstances where gambling provides opportunities for testing character (Goffman, 1972) or judgment (Zola, 1964), but corresponding risks of failure in these respects.

Sometimes use of terms such as 'thrill' appears to imply the operation of a more general stimulus-seeking motivation, such as the hypothesised need for an individual to maintain his autonomic nervous system at some optimal level of excitation (Slovic, 1964), or as related to differences in curiosity or arousal. As possible sources of constitutional differences between individuals such concepts are persuasive, though they present obvious problems so far as empirical verification is concerned. In these cases the uncertainty inherent in gambling, reified and personalised by the outlay of money, would provide the necessary 'strain' (Devereux, 1949; cf. Downes et al., 1976) or pleasurable-painful tension (Thomas, 1901; Bolen & Boyd, 1968) claimed to be a characteristic and sought-after experience of gambling. The intensity of risk could be manipulated by choice of gambling activities with appropriate structural characteristics and, within a particular form of gambling, by the selection of deliberately risky bets, or by staking heavily or frequently.

But although hypothesised differences in stimulus-seeking might be put forward to account for individual differences in the riskiness of gambling behaviour, or in the decision to gamble at all, it would be difficult on any particular occasion, given only behavioural evidence, to identify this disposition as an important causal factor. As mentioned earlier, objectively risky behaviour may equally be the result of individual differences in the perception of the probabilities or payoffs involved, or in terms of other factors operating in the gambling situation. There is evidence that the situation itself may also, on occasion, encourage riskier behaviour than an individual might otherwise take. Evidence from risky decision-making experiments (cf. Kogan & Wallach, 1967) and from more realistic studies of blackjack (Blascovich, Veach & Ginsburg, 1973; Blascovich & Ginsburg, 1974; Blascovich, Ginsburg & Howe, 1976) indicates that in group situations individual players may increase or

*Competitive aspects have been identified as being particularly important where skill is involved (as in horserace betting: Zola, 1964), but even in games of chance, such as roulette, both punters and management may perceive the game as a direct competitive confrontation (Oldman, 1974). Hess & Diller (1969) have commented on the way in which conspicuous siting of direct-confrontation games like blackjack or craps may reflect casino operators' recognition of the strength of motives of competition and aggression amongst patrons. France (1902) discusses the competitive aspects of gambling in detail.

decrease their risk-taking levels as a function of the emergent norms of the group they join. It is possible that similar influences also operate in horseracing (McCauley, Stitt, Woods & Lipton, 1973; Abelson, 1973).

It would, however, be foolish to deny either the existence of an experience (the successive feelings of tension and relief) peculiar to gambling, and more acute in certain forms, which can be increased by the actions of participants, or its potential attractiveness to those individuals with a need for the subjective experience of risk or uncertainty. But it is difficult to determine the extent to which the need concerned should be regarded as specific or predispositional. Studies of gamblers alone cannot answer these questions and, indeed, it is unlikely that the tension-relief experience could provide more than a contributory influence - as a potential attraction - to the initial decision to gamble, since its full impact is unlikely to be felt outside the gambling situation. Viewed as a less specific need for entertainment or novelty it tends to reduce to the sorts of diffuse feelings of dissatisfaction which, in Chapter 12, were characterised as the raw emotional states, shaped and defined by environmental gambling stimuli into motivation to gamble. There, it was suggested that the idea of specific motives for gambling might be largely the result of mistaken *post hoc* inferences from behaviour. Even if a more active role were sought for the potential gambler's contribution to this interaction, this could be provided by hypothesising the existence of ephemeral needs of a more specific nature - arising, perhaps, out of temporary life experiences or crises - which sensitized the individual to information about gambling activities. In this way the concept of a specific, though transient, motive for 'excitement' could be incorporated in the model without implying the existence of more permanent personality predispositions.

The existence of pathological motives for gambling

When the expressive needs of particular socio-economic groups to gamble are discussed, it is scarcely possible to avoid paying some attention to the roles of historical factors and existing situational factors in determining involvement. Where such needs are attributed to individual members of the groups, however, there is a tendency to ignore these factors in any further discussion of motive. This neglect appears to arise both from the belief that it is somehow illegitimate to continue using them to discriminate between members, and because when behaviour is being discussed at the level of the individual a strong inclination exists to regard it as being determined by factors unique to that person and to be found by studying his personality and attitudes. The more intense a person's gambling involvement, the more likely it is to be ascribed to such 'internal' causes - on the assumption that 'external' or situational determinants are *relatively constant* for all gamblers. Similarly, since heavy participation is a minority behaviour, it is likely to be ascribed to pathological motives.

Clinical observers of those compulsive gamblers who present for treatment have been particularly predisposed to identify pathological personality states

as causes of behaviour. First, there commonly exists an *a priori* conviction that gambling is a symptom (and may be one of several alternative and functionally-equivalent behavioural symptoms: Adler, 1966) of an underlying 'disease' such as a central neurosis or intra-psychic conflict, and this view naturally relegates study of the behaviour itself to the status of a minor issue. Second, there is often clinical evidence of some degree of emotional or mental disturbance amongst this population; Roston (1965) found members of Gamblers Anonymous to be, *inter alia*, more hostile, aggressive, egotistical, obsessive and compulsive than a control group of normal subjects, while Moran (1970c) found his compulsive gamblers scored higher on 'external locus of control'.

The most detailed and influential discussions* of motivation in relation to compulsive gambling have been psycho-analytic. (Cf. Halliday & Fuller (1974) for papers by Freud, Bergler, Greenson and Lindner and for a summary with additional theoretical discussion by Fuller: amongst other writers, Bolen & Boyd (1968) present an able review and synthesis of the psycho-analytic literature.) Though it is impossible briefly to do justice to the wealth of ingenious and often persuasive speculation, three important themes can be identified throughout the many varied explanations given for compulsive gambling. First, unconscious as well as conscious motives (such as economic and entertainment motives) are claimed to operate. Gambling is said to provide an unconscious substitute and outlet for a variety of forbidden, guilt-provoking pre-genital libidinal and aggressive impulses (particularly those connected with unresolved oedipal conflicts). While gambling may provide a relatively safe outlet for normal people temporarily to engage in a therapeutic regression to infantile modes of thinking and acting§ (Greenson, 1947; in Halliday & Fuller, 1974), in compulsive gambling these ordinarily residual impulses are fuelled by real disturbances in psycho-sexual development. Second, gambling has its own inbuilt system of punishment through financial loss; thus the gambler's psychic masochism - his wish for punishment because of his guilt at indulging these forbidden impulses - can also be satisfied. Third, the ritual of gambling is particularly suited to providing in an encapsulated form a means of repetitively re-enacting (but never permanently resolving) these conflicts. As such it can be used as an obsessive-compulsive defence against guilt, anxiety and depression - repetitively precisely because neither outcome, 'win or lose', provides a psychic solution with which the gambler can live (Lindner, 1950), and because in addition the 'pleasurable-painful anticipation' has itself a powerfully addictive effect.

The genesis of compulsive gambling will be discussed more fully in Part Four: indeed, it should be stressed that, despite the often extravagant interpretations

*Often based on discussion of single cases (Simmel, 1920; Harris, 1964), sometimes without personal experience of the individual (Freud, 1928), but occasionally upon larger numbers (Bergler, 1958).

§As, for example, pre-causal modes of thinking and dealing with reality such as magical, superstitious thinking (Galdston, 1951).

of many psycho-analytic commentators, much of the original observation is both detailed and informative. In the context of the initial decision to gamble, however, some reservations must be made about the likely role of pathological motives. It is a weakness of psycho-analytic theory that concepts such as 'defence mechanisms' or the roles of unconscious motives make it difficult to falsify statements claiming to explain behaviour by any particular set of empirical data. Moreover, it is conducted in a language which, while it sometimes gains in precision from the use of a technical vocabulary, often serves to obscure those occasions on which its explanations are similar to those from other sources, or imparts to the commonplace an often quite unmerited aura of abnormality. The concept of gambling as entertainment, or play, for example, is not denied by those (such as Greenson, or Fuller) who attempt to analyse its function more closely in terms, for example, of being a psychic safety-valve, or a 'universal neurosis'.

The real difficulties occur, however, when attempts are made to relate information gained about the motivation of compulsive gamblers to their initial motives for participating, or to the participation of those whose participation is more controlled. Descriptions of compulsive gambling, whether given by participants themselves, or by their observers, are unanimous about the pathological quality of the behaviour and of the emotions, personality and attitude traits which appear to accompany it. But even if these observations were to be used as a basis for inferring the existence of pathological motives to explain this current behaviour, the question would still arise as to whether these motives were also responsible for initial involvement or whether, rather, they were discovered and learned as the result of an initial decision to participate which was made on other grounds*. Neither view seems wholly convincing. If pathological behaviour and 'drives' are learned, an explanation has to be found for the fact that some people learn while others do not. While this may be 'explained' in terms of differential exposure to the necessary stimuli in the gambling environment (cf. Part Three; Seager, 1970; Dickerson, 1974) it still remains to determine why some people receive more exposure than others. At this juncture pathological motives could (not necessarily, but possibly) be re-introduced§ as causes.

On the other hand it is difficult to define either the circumstances under which motives can be described as being pathological, or the sense in which they might be said to determine initial involvement. Certain writers, for example, have stated that all gamblers are driven by motives such as psychic masochism

*Motives which are non-pathological in the sense of being widespread. These could, of course, include not only those of financial gain or entertainment, but Greenson's (1947) less socially-acceptable libidinal and aggressive impulses.

§Olmsted (1962) suggests that emotional coldness and egocentricity restrict the compulsive gambler's ability to avoid boredom or preoccupation with personal problems. Gambling is adopted as a strong interest in order to block out his inner conflicts, or alternatively his inner emptiness, lack of goals or low self-esteem. Cotler (1971) suggests a similar explanation.

or other unconscious libidinal or aggressive impulses. But while the existence of such motives might be used to explain why some people rather than others gamble, the fact that they are attributed to all types of gamblers regardless of their degree of involvement, means both that they can hardly be regarded as pathological motives and that they are not, in themselves, likely to be of much value in explaining differential participation. Those who use them are consequently obliged to account for such differences either by distinguishing different degrees of initial motivation - and thereby implying the existence for some of additional factors (such as the presence of unresolved intra-psychic conflicts) which give the motivation its pathological component - or by pointing to the intervention of exceptional life events which later precipitate increased participation.

Discussions and classifications of the different types of gambler (Scimecca, 1971; Kusyszyn, 1972), even those with a psychodynamic (Fuller - cf. Halliday & Fuller, 1974) or psychiatric (Moran, 1975) orientation, now recognise that not all gamblers - and particularly those who participate in certain forms of gambling, such as lotteries or the pools - are pathologically motivated*, and that even for many compulsive gamblers the initial motivation may have been benign. Indeed, although a case might be made out for the existence of pathological motivation in relation to the persistence of compulsive gambling behaviour, it is rather more difficult to assess its implication in the initial decision to gamble, except in a very non-specific sense. Knowledge that certain forms of gambling will satisfy specific (and even pathological) needs - whether or not they evolved for this purpose - is usually only gained as the result of prior participation for some period of time. It is likely, rather, that for most if not all people, the initial involvement is non-pathological or pathological only in the sense that the decision to participate arises from states of mind such as those of tension, anxiety or depression from which the individual seeks relief or distraction and which may equally find an outlet in gambling or in one of a number of alternative leisure activities.

For a small minority, it has been shown, more specific determinants may exist. The most likely factors to influence the development of pathological gambling appear to be the long-term existence of gambling behaviour at pre-pathological levels (Seager, 1970; Dickerson, 1974; Borrill, 1975; Custer, 1976) usually from adolescence. This implies that family gambling patterns and examples (Boyd & Bolen, 1968; Goorney, 1968; Sewell, 1969; Moran, 1970b; Borrill, 1975; Custer, 1976; Downes et al., 1976) may have influenced its development or its selection from an array of alternative entertainments. It may be that in the case of these individuals knowledge of the satisfactions of gambling and, in particular, of heavy gambling, was more specific. But even so it would be difficult to determine whether the initial motivation to begin gambling reflected more than the effects of a special familiarity with the activity as a leisure pursuit. In

*Bergler (1958), for example, defines gamblers in such a way as to exclude at least some people who place bets.

some cases loss of a parent by death or separation may have reduced supervision during adolescence, so increasing the influence of the peer-group or giving opportunities to gamble which might not otherwise have presented themselves (Olmsted, 1962). In addition to such familial and social factors which might be expected to increase the extent to which an individual was 'at risk' of starting to gamble at an early age (and hence of adopting gambling as a regular leisure activity) there may be further non-specific individual vulnerabilities such as proneness to boredom or depression (Barker & Miller, 1968; Cotler, 1971), feelings of inadequacy or low self-esteem (Olmsted, 1962; Cotler, 1971). These, together with (or influenced by) the 'sensitizing' factors mentioned earlier might cause some individuals to turn to gambling as an escape from unpleasant feelings or as a source of stimulation and means of increasing self-esteem.

15 Accounting for the Decision to Participate

Summary

All forms of gambling have in common two elements: the staking of money, and an uncertain or risky event. The existence of these elements provided some reason for supposing that both instrumental and expressive motivation might be involved in the initial decision to gamble, and an attempt has been made in the present Part to identify some of the relevant determinants. The importance of financial motivation was first investigated and for this purpose a review of the research on normative models of risky decision-making was taken as the most appropriate starting-point since, by assuming that participants or potential participants act so as to maximise their expected financial gain, these models emphasise the importance of rational economic considerations.

While this research provided a useful introduction to, and treatment of, the place of economically-relevant variables such as the objective values of a gamble's probabilities and payoffs in the decision to gamble (or choose between gambles), it also showed that subjective evaluations of these parameters played a vital part. It became clear that such subjective assessments were influenced not only by simple factors such as financial status, but also by the individual's knowledge, importance-beliefs, perceptions, cognitions and information-processing strategies - and by manipulation of these in some circumstances on the part of the commercial promoter. Beyond attempting, for predictive purposes, to make allowances for the effects of some of these influences upon the way in which the objective information was evaluated by the decision-maker, even sophisticated expectation theories had little further to contribute. They were unsuited to providing information about the presence or degree of financial motivation in the initial decision to gamble (beyond showing how difficult it was to discount its influence), and were of uncertain value as simulations of the way people actually make decisions about gambling.

Attempts to estimate the importance of financial motivation by relating likelihood or intensity of gambling to degree of financial need (as inferred from socio-economic class membership) were similarly inconclusive: expressive motives, it was found, could equally well be used to account for the social distribution of gambling, both overall and in respect of individual forms of gambling. It was concluded that financial motives were probably always of some importance in determining the initial decision to gamble. While of special importance to those forms of gambling offering few other attractions, financial motivation might also play some role even when the initial decision to participate was primarily made on other grounds.

As far as expressive motives themselves were concerned, it was difficult on the basis of existing research to determine the extent to which the concept of special motives was useful or necessary to the discussion of starting to gamble. Special needs were hypothesised primarily in relation to particular forms of gambling, and here the evidence was inconclusive; it was difficult to identify them, or to separate causes from consequences of involvement in gambling. In general, it was also often difficult, on the basis of the empirical evidence available, to decide how certain alleged determinants achieved their effects - whether, for example, a negative relationship between likelihood of gambling and conjugal role-sharing implied the operation of predisposing, liberating or constraining influences. And the unsatisfactoriness of the data suggested (a constant theme throughout this review) that insufficient attention was being paid to environmental determinants of gambling - that is, to ecologic opportunities and structural characteristics, and to the important influence which information about these factors, as mediated by the individual's cognitive processes, has upon identifying, shaping and defining a potential gambler's needs and motives.

A preliminary model of gambling behaviour

Instead of seeing the gambler as one impelled by specific and 'internal' motives to search out equally specific ways of satisfying these expressive needs, it was argued that the initial decision to gamble should be seen as a much more fortuitous affair, depending on the one hand upon the individual's freedom and readiness to engage in expressive activities and, on the other, upon the situational cues and stimuli provided by the gambling promoter. 'Freedom' was defined in terms of absence of conditions of life which were incompatible with gambling, such as activities, interests and social roles making prior calls upon a person's attention, time and income. As such the concept had something in common with Hirschi's control theory of delinquent behaviour. 'Readiness' referred to a hypothesised, general and relatively undefined emotional state of dissatisfaction brought about by the action of three broad categories of life-experiences or events: those stemming from the socio-economic circumstances of the group to which an individual belonged, and common to most members (living conditions, income level, and occupational choice, for example); those - more personal and provisional - related to the individual's current roles and life-style; and smaller, temporarily-significant events in everyday life which produced more ephemeral mood-swings, emotional states and expressive needs.

There was in any case little evidence that, of the predispositions and attitudes studied*, any played a part in determining an individual's likelihood of gambling. This is not to deny the existence of differences between people, nor the likelihood that these may influence the likelihood of gambling. But it is probable also that their source is in the sociological and situational factors which

*Though, as Williams (1977) points out, the potential influence of many such personality variables has yet to be investigated.

operate directly and differentially upon individuals within, as well as between groups, and which determine the freedom and readiness to gamble*. If person-centred internal determinants of likelihood are still to be sought, the most promising candidates (apart from broad, perhaps constitutional factors like arousal) appear to be the more general individual-difference variables, such as locus of control, which can be conceptualised as broad cognitive expectations derived by the individual from his past experience. But the explanatory value of such person-variables is in practice considerably limited by the need to take into account the effects of their interaction with other hypothesised person-variables and the moderating influence of a variety of situational factors on the former. Explanations in terms of traditional personality variables, on the other hand, completely ignore the complexity and fortuitousness of the manifold influences which first place the individual in the position, and frame of mind, to receive and react to information about gambling.

Such a model of the operation of the initial determinants of gambling inevitably ascribes a much more active role to environmental stimuli, since these are claimed to elicit participation by their role in attracting, defining and channeling potential players' feelings of dissatisfaction. Although people may on occasion turn to gambling for special purposes, the role of the individual in these early stages is usually a passive one. Even when more active roles, such as those allegedly provided by financial motivation, appear to be feasible as explanations of an individual's decision to gamble this may well be something of a *post hoc* misinterpretation of the real course of events. It is often easier to ascribe feelings of dissatisfaction to simple material circumstances like lack of money than to look for other causes (if, indeed, there are others). Alternatively, since money is a general conditioned reinforcer - an all-purpose solution to life's problems - it is probably the instrumental aspects of gambling, such as information about payoffs and payout ratios, which provide the earliest, if not most potent, determinants of the initial decision to gamble.

Some implications of the model

The model of gambling behaviour's development presented by this evaluation of the initial determinants of the decision to gamble already has some tentative implications for policy, particularly in the areas of recruitment and exploitation. It is clear, for example, from Chapters 11 and 13 that structural characteristics are crucially involved - both directly (in determining the constitution of the gambling activity and the satisfactions it can provide) and indirectly (in influencing the presentation of information about the activity to the potential gambler) - in these issues. Structural characteristics and their mode of influencing gambling behaviour will be discussed more fully in Part

*Membership of a particular occupational group may constitute one such factor. Newman (1972) mentioned that taxi-drivers, market porter supervisors, and stallholders, because of the nature and hours of their work, have more opportunity to visit betting shops (and, probably, traditions of doing so).

Three, in the context of an examination of the determinants of continued gambling, when their contribution to the learning process will become clearer and more important. Likewise, discussion of their implications for the regulation of gambling behaviour will be postponed until Chapter 14 of Part Four. Already, however, it seems unlikely on the basis of the evidence so far presented that, should regulation of gambling be necessary, it could be achieved by attempts to reduce the 'vulnerabilities' of potential gamblers: it would be hard to envisage (let alone justify) the steps necessary to reduce the influence of such broad-based personal contributions as 'freedom from constraints' or 'readiness'. Similar considerations (though in a more restricted context) apply to the problem of trying to reduce exploitation through educational measures, though here the issues are not so clear-cut.

Easier, though more intrusive than the manipulation of structural characteristics, is the regulation of ecologic opportunities and of other factors such as advertising which determine the 'visibility' of gambling activities. These methods of control affect not only the initial decision to gamble but the numbers of people entering the gambling system. Since the factors which determine the initial participation even of those who go on to become excessive or compulsive gamblers are, it has been argued, similar in kind (if not always in degree) to those determining the participation of more moderate gamblers, the size of the excessive gambling problem can in principle be controlled through recruitment. It will later be argued (Chapter 23) that such policies may often prove too restrictive, but their availability is nevertheless of some importance bearing in mind the arguments to be presented in Part Three of this review - that it is the structural characteristics of certain forms of gambling which play a large part in creating excessive gamblers out of those who, for whatever reasons, are sufficiently exposed to them.

Part Three: Gambling Behaviour: Determinants of Continued Participation

INTRODUCTION

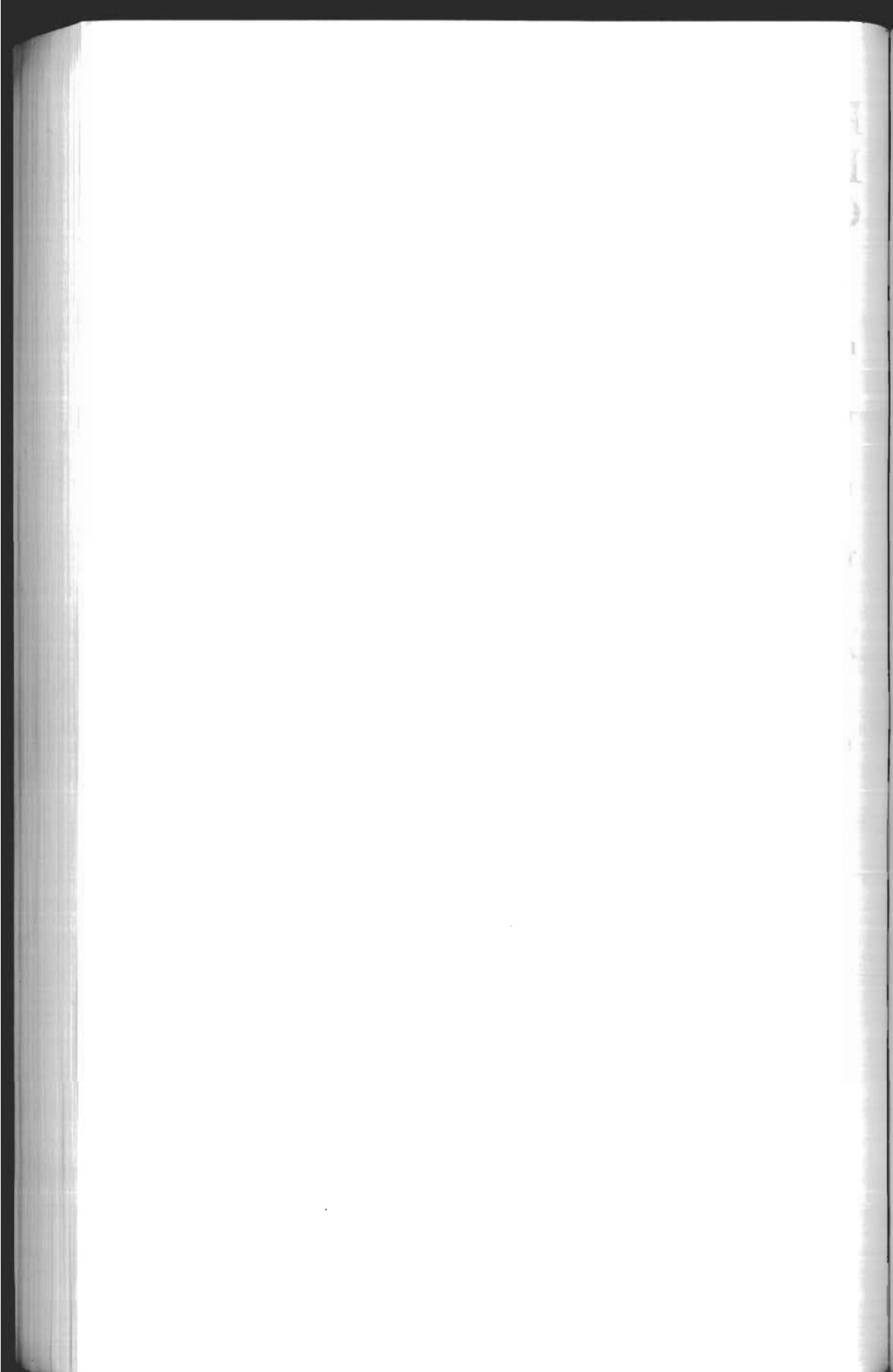
THE ROLE OF STRUCTURAL CHARACTERISTICS

THE ROLE OF LEARNING

THE APPLICATION OF LEARNING THEORY PRINCIPLES
TO GAMBLING BEHAVIOUR

AN ANALYSIS OF GAMBLING BEHAVIOUR IN A
REAL-LIFE SETTING: THE BETTING SHOP

THE DETERMINANTS OF GAMBLING BEHAVIOUR —
AN OVERVIEW



16 Introduction

In Part Two it was argued that the initial decision to gamble arose not from the unilateral action of personal motives but out of interactions between broadly-conceived personal circumstances and states of mind ('freedom' and 'readiness'), on the one hand, and situation cues and stimuli providing information about gambling activities, on the other. Though not necessarily a passive one, the agent's contribution to this interaction was seen as being non-specific - a condition of dissatisfaction, not directed by the agent towards particular expressive outlets so much as subject to direction by those available within his environment.

Given the restrictions upon advertising, however, it is likely that the information which most people casually acquire about the different gambling activities is both limited and patchy, unless circumstances such as parental gambling have increased their knowledge. The information which is available outside the gambling situation may, of course, be selected by the promoter and presented in ways calculated to maximise its impact upon the potential gambler (cf. Chapter 11). But although gambling's structural characteristics have long arms which reach deep into the environment of everyday life, the full impact of the information they provide about the satisfactions associated with particular forms of gambling cannot be brought to bear on the individual until he has placed himself within the relevant gambling setting. In most cases this will be after the initial decision to gamble has been taken, and the decision itself is best characterised as being exploratory, pragmatic and information-seeking.

The object of the gambling promoter, however, is not only to attract new custom, but to secure the regular participation of the highest possible proportion of these recruits and - within the limits imposed by the structural characteristics of his gambling operation - to increase both the frequency with which his customers stake their money, and the amount staked on each occasion. This is because, while the promoter's percentage profit margin is established by the degree to which the bets he offers deviate in a negative direction from zero expected value (the 'fair' bet), his gross profit is determined by the size of his turnover - a relationship which accounts for the potential dangerousness of gambling. But if the promoter is to make money, the punter has to be persuaded not only to lose his on one occasion but (preferably) to continue participating and losing. This, however, is an experience which might be expected to erode rather than increase confidence that the initial decision to gamble was a sensible one, especially if the latter was shaped primarily by beliefs about instrumental aspects of gambling.

Admittedly, it has already been shown (Part Two) that the expected value of a gamble, though of key importance to the promoter whose profits depend in part upon the maximisation of expected gain, seems to play less of a role in the punter's initial decision to participate. At that stage the concept of value for money in relation to a gamble is not easy to grasp. Given (a) the gambler's importance-beliefs or subjective probabilities and payoffs, (b) the promoter's stress on payoff values, (c) the lack of appropriate information and (d) the fact that the initial decision to gamble is only an exploratory one, expected value may not seem (if calculable) to provide particularly helpful or appropriate information and the punter may be persuaded to participate at very unfavourable terms. In forms of gambling where the 'events' take place at fairly infrequent intervals (lotteries and pools, for example) the relatively greater negative expected value of the individual bet may be concealed or counteracted by this fact. As his 'number of plays' horizon increases (Lee, 1969) or if he engages in forms of gambling where from the outset repeated participation at more frequent intervals is the norm, however, the punter might be expected increasingly to treat each individual gamble, not as an isolated event, but as part of a sequence. Not only could he be expected to demand gambles to be relatively 'fairer', but experience of the patterns and amounts of his wins and losses over time should also serve to emphasise the ineluctability of financial loss in the longer term.

The fact that gambling is highly profitable and that the bulk of its turnover is probably supplied by regular punters (Dickerson, 1974) indicates that this does not happen. There are a number of reasons for this. First, the extent of financial loss has to be appreciated before it can serve to reduce commitment to the instrumental value of gambling. But the beliefs, cognitive and motivational biases and information-processing problems (cf. Chapter 11) which may distort the potential gambler's perception of probabilities and pay-offs continue to operate - some of them more fully - in the gambling setting itself. Moreover, for some forms of gambling certain structural characteristics serve to conceal his true financial state of affairs from the player during the course of play. Until made aware of his increasing involvement, in terms of time and money, an individual may consistently underestimate this (cf. Kazdin, 1975). An individual's failure to learn (or exercise) skills necessary to regulate financial expenditure is particularly likely to be important in gambling, where money is typically laid out in small amounts. Those concerned with the treatment of excessive gamblers (cf. Dickerson (ed.), 1975) usually emphasise the need for complete details of expenditure to be obtained as a precondition for establishing its control. This advice again stresses the difficulty people may have in keeping track of their performance at gambling.

Secondly, participation in many forms of gambling involves the punter in a series of choice decisions* (Rapoport & Wallsten, 1972), in which previous

*It is a multi-stage decision process (Rapoport & Wallsten, 1972).

gains and losses inevitably come to exercise considerable influence on gambling behaviour. This is not to say that it is simply the monetary values involved which provide the information upon which the player acts. The patterning of these events, unlike their ostensible cumulative message*, may itself in some way encourage persistence in gambling behaviour. Lastly, it may also be that during the initial trials of gambling the recruit encounters other powerful rewards within the gambling situation. Some of them may depend upon winning (or losing), others merely upon the act of gambling itself; but they may each serve to redefine the tentative motives and anticipations which earlier, more limited information about gambling had originally invoked. The next five chapters discuss some of the mechanisms which have been put forward to account for persistence in gambling, relating them to the structural characteristics of different forms of gambling and to the subjective perceptions and experiences of those who gamble. In this way an attempt is made to explain how gambling behaviour is acquired and maintained, and why for some people it may grow into excessive or 'pathological' involvement.

*The message is usually that the gambler is losing over the long term.

17 The Role of Structural Characteristics

Introduction

If a determined effort is made, heavy losses can be achieved (albeit often through ignorance) regardless of the gambling medium chosen, subject only to there being no limit on the amount it is permitted to stake*. But certain forms of gambling undoubtedly enhance the likelihood of this occurrence; that is to say, they feature structural characteristics which allow, and perhaps induce, players to gamble continuously. In these cases, the limiting factor has to be supplied by the punter himself: the frequency and amount of his staking are subject to few external constraints of any practical significance (cf. Chapter 6). Studies of compulsive gamblers (Moran, 1970a; Seager, 1970) suggest that betting - particularly off-course betting - and to a lesser extent§ gaming are the most potentially dangerous of these.

The structural characteristics of gambling activities

An attempt to identify the structural dimensions along which different forms of gambling may be expected to vary - and hence by such structural analysis to provide 'profiles' of different forms of gambling as a potential aid to determining policies towards their legislation and encouragement - has already been outlined (Chapter 13: cf. Weinstein & Deitch, 1974). The Royal Commission of 1951 attempted a similar exercise in the slightly different context of trying to provide a list of factors which should be taken into account when assessing the potential dangerousness of different forms of gambling. It is not the purpose of the discussion of structural characteristics presented below to provide a taxonomy of gambling activities; use of the term 'structural characteristics'

*Although excessive or compulsive gambling usually involves excessive expenditure (this factor, indeed, being regarded as an important symptom (Moran, 1975; Custer, 1976)) the reverse is not necessarily the case. It is possible to be taken out of one's financial depth by some forms of gambling on a single occasion. Leaving aside acts such as the placing of a large amount of money on a single bet, there are games - such as backgammon - which encourage and in some circumstances demand 'doubling-up' one or more times on initial stakes during the course of a single game. Occasional excessive expenditure should also be distinguished from excessive or compulsive gambling as it is referred to in this review. As with the distinction between drunkenness and alcoholism, the former may well imply the operation of different, sporadic and relatively benign factors.

§So far as can be determined from the case-histories of compulsive gamblers, gaming, including gambling on fruit-machines (Barker & Miller, 1968), appears to figure less frequently as the preferred medium for compulsive gambling. But since patients characteristically present for treatment only as the result of financial difficulties, and often only through the efforts of relatives or others with an interest in solving these, comparable rates for gaming are probably concealed by the greater financial resources of players.

carries implications of conceptual unity and exhaustiveness which do not bear too close an examination. Instead it attempts only to identify features of the environment (situational determinants relating to the wager itself and to the gambling process) which may be particularly relevant to the issues of how and why gambling behaviour is acquired, maintained and increased.

i. The frequency of opportunities to gamble*: logistical considerations prevent lotteries and pools from being held at frequent intervals. Although this is to some extent compensated by the high numbers of participants in any one 'event' and the greater proportion of money staked which these forms of gambling retain, there are 'natural' limits. In the case of football pools, time taken to distribute, fill in, return and process entries or, in the case of lotteries, time taken to sell tickets, set boundaries to the degree to which the market can be expanded. Where more frequent 'events' can be handled, as in 'Numbers' or betting and gaming, the frequency of opportunities to gamble can be increased in two ways - by speeding up the uncertain events upon which money is staked as much as possible, and by increasing ease of access to the places where the events occur.

Processing considerations again ultimately limit the rate of occurrence - horses have to be shown, bets placed, races run and returns calculated - but in some forms of gambling such constraints are of little practical importance. In the case of gaming, limits are set only by the speeds of the mechanisms (if any) involved, together with the manual dexterity and powers of concentration of croupiers and dealers or, where gaming machines are involved, of the player himself.

The introduction of licensed betting-shops gave bookmakers the means to exploit some of these methods of increasing opportunities to bet, and of speeding up the gambling process as a whole (see next section). Betting on a complete meeting could take place, as it occurred, in the neighbourhood betting-shop. This extended facilities for continuous betting to settings beyond the racecourse itself[§]. Moreover, the new betting-shops also had the communication links to cover racing from several meetings during the course of an afternoon. The starts of their constituent races would be staggered sufficiently to provide time for betting before each took place.

ii. Payout interval: before the advent of betting-shops, the majority of punters used street bookies. In consequence they had to wait for some period of time (a) to know the result of the race or races on which they had bet and (b) to receive any winnings due to them. Both factors might be expected to influence the frequency with which people can bet, and both intervals were considerably reduced when off-course betting was legalised in this country - though other

*Weinstein & Deitch do not specifically list this factor, though their dimension 'payout interval', is obviously related to it.

§Each course holds only a limited number of meetings per year, only comparatively few courses are likely to be within easy reach of any individual punter, meetings during the week demand time-off from work, and attendance itself uses up money which might otherwise be staked.

jurisdictions have found it quite practicable to maintain either or both at levels which had existed before legalisation. It is difficult to disentangle the separate effects of the two factors, but promoters appear to acknowledge that the need to pay out winnings as quickly as possible should have priority over event-frequency. This indicates that receiving winnings is seen by commercial operators to act as a reinforcement to winners to continue gambling, as a vicarious reinforcement to other participants who have not yet won (encouraging them to chase their losses), and as an inducement to observers to join in. Rapid payout also serves the pre-eminently practical purpose of putting winnings into immediate circulation for the purposes of re-betting.

The question of knowledge of results *per se* is a more difficult one to answer. Knowledge of a win - especially if accompanied by some tangible token - is likely to encourage continued participation. Knowledge of loss, however, may prove counterproductive so far as the promoter is concerned. Gaming perhaps provides the most favourable solution to this dilemma: knowledge of winning comes in the shape of immediate payment without need to claim. The speed at which this operation is executed ensures that the period between plays is either too short, or filled with too many distractions to allow losers the opportunity (or necessary frame of mind) to give careful consideration to their financial position. In this country, betting-shops have developed rather similar characteristics and these, together with event-frequency, provide the main constituents of what Goffman (1972) terms 'the action' - characteristics which distinguish betting and gaming from other forms of gambling and facilitate the development of repetitive gambling.

iii. Range of odds and range of stakes*: forms of gambling which offer participants a variety of odds and/or stake-levels at which to make bets, and hence choose the rate at which their wins or losses multiply are likely to appeal to a greater variety of people. The opportunity which a wide range of odds or stakes gives people to exercise skilful regulation of their play according to their pattern of previous losses and wins is offset by the dangers this facility may create in some circumstances. When the opportunity to use longer-odds bets or higher stakes in order to multiply winnings or recoup losses rapidly is combined with a high event-frequency and short payout-interval, participants may be tempted to continue gambling longer than they might otherwise do.

iv. Degree of personal participation; exercise of skill: to some extent these two factors are interrelated. Weinstein & Deitch categorise the different forms of gambling according to relatively objective judgements as to the skill required in a particular form of gambling, or the extent of real bettor involvement. In Chapter 11, however, it was pointed out that much also depends upon players' feelings of personal involvement and perceptions about the degree to which skill characterises their actions, or affects outcomes. In general it appears that

*These are related to Weinstein & Deitch's (1974) category, 'multiplier potential'.

players consider their participation to be more active when they are actually present at the event upon which they are gambling*, when able to select their 'chance' in the uncertain event which is to take place (a particular number or a particular horse, whether or not the choice will affect likelihood of winning), and when able to choose the odds at which they bet. The more active people's involvement - perhaps through the illusion of control created by the extent to which structural characteristics of some forms of gambling enable them to mimic skill-determined situations - the more likely they are to believe that their actions can affect the outcomes of their gamble.

Where a gambling activity already has some skill component this fact, together with degree of personal involvement, may also distort estimates about their contribution to outcomes. This may occur even for those forms of gambling where the genuine contribution of skill is minimal and indirect: in roulette, for example, using 'systems' can only control losses or extend gambling-time, but players may see their use as evidence that event-outcomes can themselves be controlled. This feeling is likely to be reinforced by people's ignorance of what randomly-generated sequences of outcomes are likely to look like. Where, in games with a high event-frequency, they see short runs of particular numbers or colours they may erroneously take this as evidence that skills can be utilised. Langer & Roth (1975) found that subjects participating in a purely chance task (predicting the results of a series of coin-tosses), the outcome sequences of which were manipulated by the experimenters to produce a winning run either early or late in the sequence, were significantly more likely to attribute skill to the task of predicting if they had had the experience of a winning run early in the sequence. Where the contribution of skills to outcomes is more real, as in horseracing, punters are still likely to overestimate its importance. Most interesting in this respect are the football pools. As in betting, 'form' is intensively studied by many punters: its contribution to winning the largest dividends, however, is likely to be low (cf. Peterson, A.W., 1952; Phillips, 1955), though it may enable the more skilful to regain a proportion of their outlay during the course of the season.

In summary, the feeling of being an active participant is likely to increase the likelihood of continuous gambling through its suggestion that the player can influence events; where personal skills can influence events a further encouragement to continuous (and perhaps more risky) gambling is provided.

v. Probability of winning an individual bet and payout ratio: these are parameters of a gamble which both Weinstein & Deitch, and the 1951 Royal Commission emphasised as being important structural characteristics of different forms of gambling. In discussing which features of gambles determined the initial decision to gamble (Part Two) it was indicated that it was perhaps information about the basic risk dimensions, rather than consider-

*Presence at an event being, generally, a prerequisite for the exercise of influence over it. The competitive atmosphere of the racecourse or casino may also suggest the saliency of personal skills or luck, and make the uncertain event itself seem less artificial.

ations such as EV or variance which the punter utilized in making his decisions. In the actual gambling situation expected values, though negative, tend to be relatively uniform: there is a fairly constant negative correlation between probabilities and payoffs. Differences in the percentage margins for individual bets within or between types of gambling*, though they may be crucial to the promoter or the professional gambler§, may not be noticed by the ordinary punter, whose decisions - though they may sometimes approximate those predicted by expectation theory - are more likely to depend on the use of heuristic strategies for handling the available information. More careful actuarial calculations are in any case hindered by the nature of the gambling setting itself and the quality of information available within it†.

Different forms of gambling themselves emphasise particular parameters of the gambles they offer. Where the instrumentality of participating is being emphasised, as in the pools or in lotteries, payoff parameters and payout ratios tend to be stressed. Where payout ratios are lower or where other expressive needs - to stake lavishly but to control losses (Herman, 1967), or to maximise length of play - have been identified or induced, players may be more sensitive to the probabilities involved.

As indicated above, encouragement to continuous gambling may be given where there is a wide range of odds but, as the Royal Commission (1951) pointed out certain ranges of odds may be especially important. Where the probabilities of winning are remote and the events infrequent, any tendency to gamble continuously will receive little reinforcement, though the potentially high payoff may stabilize participation at a regular level. At very short odds, the frequency of wins may encourage more frequent betting, but although continuous gambling may occur this is more likely to be in the form of 'investment' by the professional gambler. He is interested in income: the small payout ratio will discourage those playing with small stakes. The expenditure of those playing at short odds is also (stake-for-stake) in principle more easily controllable than for those playing at longer odds, because losing runs will tend to be shorter.

Along the odds continuum, however, there appears to be a range of odds (though this may vary according to the odds-structure provided by different forms of

*Some examples are the relatively poorer expected values of longer-odds bets in horseracing, and the very poor returns - more than 50% of receipts are retained - of the average lottery. There are limits, however: Epstein (1967) comments that, when in 1936 the Monte Carlo casino installed 'Double Roulette' even their clientele rebelled against accepting house percentage profits of up to nearly 32%.

§Analyses of seasons' racing results (Royal Commission, 1951; Figgis, 1974; Dowie, 1975) indicate that at the very shortest starting prices the expected value of many bets be positive. As Dowie comments, if all horses (or a random selection of these), up to 6-4 on, had been backed with level stakes in the 1973 season, a small profit would have been made.

†Where research has appeared to indicate otherwise (e.g. Munson, 1962), experimental design features may have inadvertently 'rigged' the results to take a form unlikely to occur were the gambling to be organised in accordance with commercial considerations (Kogan & Wallach, 1967).

gambling, and according to different groups and individual punters) within which probabilities of winning and payoff ratios may achieve for many punters a subjectively optimal relationship. At this point, payoffs are simultaneously big enough to provide the attraction of a small windfall, and the probabilities of winning are still apparently reasonable. From the promoter's point of view this may be the point at which the 'importance-beliefs', information-processing capacities and strategies of the average punter are most vulnerable to exploitation. As the Royal Commission (1951) put it:

'It is where the average rate of odds is fairly high, but not so high that even the optimistic gambler considers his chance of winning remote, that the gambler is likely to be led into spending more than he had intended. Where the average rate of odds is between, say, 10 and 30 to 1, it is inevitable that the gambler should, on occasions, have a long sequence of losing bets, and there is a very strong temptation to try and recover his losses by increasing his stake, which is more likely than not to lead to even more disastrous loss.' (p.59)

The lower expected values characteristic of bets made on horses running at the longer of these odds merely increase the extent of financial difficulty likely to be experienced by those who bet regularly and heavily within this range.

vi. Other characteristics: the Royal Commission mentioned two further factors of potential relevance to the dangerousness of different forms of gambling. The first of these is the degree to which the activity is associated with other interests and attractions (cf. Chapter 13). Where sporting events provide the punter with spectacle as well as an uncertain event their intrinsic interest might be expected to stimulate a greater degree of speculation about outcomes than when this is limited to the occurrence or non-occurrence of a number. But the behaviour of roulette players suggests that even the behaviour of a metal ball can be invested with interest and significance, so as to become the occasion for competition amongst players, or between players and croupier*.

The last characteristic (hardly a structural one) with which the Commission dealt was the question of whether the particular form of gambling under consideration is conducted on a cash or credit basis. This issue is, perhaps, best treated as part of a wider question - the extent to which different forms of gambling create conditions which encourage the suspension of those forms of judgement which participants normally exercise in their daily lives. In common with other entertainments, many forms of gambling take place in sumptuous surroundings or amidst scenery very different from the participants' normal environments (Hess & Diller, 1969) and this holiday setting and atmosphere may encourage freer spending of what is already regarded as 'fun-money'.

*Such ritualised competition is not necessarily a feature of all roulette games. Oldman's (1974) observations were made at a small gaming club with 'an intensely local atmosphere', and attention was concentrated on its regulars.

More particularly, the preliminaries of certain forms of gambling - the changing of money into very small denominations for the purpose of gambling in funfairs or on gaming machines, or the substitution of money for chips which can only be cashed in at the end of play, arrangements for letting accumulated stakes 'ride' on further events, etc - may have the actual effect of temporarily disrupting the players' financial value-system. There is some evidence from experimental work on risky decision-making (cf. Kogan & Wallach, 1967; Slovic, 1969b) that subjects tend to make more cautious decisions when gambling with real money, than when they are not required to back their preferences in this way. But the preliminaries mentioned above, which in effect disguise the 'realness' of money, may encourage gamblers to discount the value of their losses, gamble more riskily, and for longer periods. Some such shift in values, brought about by the excitement of the racetrack or casino, may contribute to the shift to riskier behaviour which has been found when the betting behaviour of individuals gambling alone is compared with their behaviour when part of a group (Blascovich, Ginsburg & Howe, 1976).

Structural characteristics and their consequences: gaming and betting

Structural characteristics are responsible for the generation of gambling activities, reinforcements and subjective experiences of a particular kind. They are the sources not only of organised bundles of situational stimuli but also - in interaction with the participant - of their consequent misperception. These features give gambling activities their distinctive natures, determining the ways in which they define and satisfy punters' expressive (and instrumental) needs and the range of solutions on offer. It is also clear, however, that certain of these features may also be responsible for facilitating excessive expenditure and excessive gambling. By examining the degree to which different forms possess the relevant characteristics it is possible to identify which types of gambling are *a priori* likely to encourage these consequences.

As the 1951 Royal Commission commented, gaming and betting seem to come closest to incorporating the largest number of relevant structural characteristics. Most forms of casino gambling have a very high event-frequency and some types (such as craps) offer a high degree of better-participation. Others, again, can offer greater facilities for the exercise of skills. With high event-frequency goes rapid payout, and the money is usually returned in the form of chips, which may encourage its immediate re-staking. Some forms of gaming possess more characteristics in aggregate, or certain characteristics more strongly, than others. For example, gaming machines have a very rapid event-frequency, high payout ratio (jackpots) little multiplier potential*, but some scope for beliefs about activeness of participation and

*Multiple-coin machines (see Scarne, 1975) enable players to step up or reduce amounts bet at any one time, to a limited extent. Increasing the numbers of coins inserted may either increase payout (if the maximum are inserted, payout ratio) or chances of winning. Although gaming-machines have quite a wide prize-structure, the player usually has little choice in determining what to go for: he merely inserts a fixed stake.

exercise of personal skills. On the other hand, the essentially solitary nature of the pursuit (though it may take place in a crowded casino) largely prevents the sorts of competitive pressures to increase stakes which may be present in other forms of public gaming. Bingo, while possessing quite a high event-frequency is, as currently played, limited in the staking it can generate by physical restrictions, such as the number of cards which can be played simultaneously by one person.

Turning to betting, it can be seen that event-frequencies are rather slower than in most forms of gaming, though the promoter is partly compensated by a higher average percentage return per stake. For players there is the additional attraction of the spectacle of the sporting event itself, upon which betting takes place. The fact that the bookie does not know for sure which horse is going to win adds an element of personal competition to betting, while the knowledge that skills in handicapping can affect outcomes gives betting a considerable attraction as a hobby in its own right, quite apart from any financial considerations. Payout interval is as short as event-frequency allows, and a wide range of odds and stakes maximizes betting's appeal to different pockets and motives.

For both on-course betting and for participation in gaming, restrictions on opportunities are provided through limitations of access to the venues where gambling can take place. In the case of gaming, membership requirements (less than 300,000 people - about 0.75% of the adult population are members: Gaming Board, 1975), together with the Gaming Board's policy (about which more will be said later) of rigorously limiting the numbers of gaming clubs, provide some control. Likewise, the siting of racecourses and limited number of racing days per course provide some natural restraints upon on-course betting. In the case of off-course betting, however, restrictions upon access are of little practical importance, and so practically the whole adult population of the country - if physically mobile and possessing ready money - are 'at risk' from many, if not all, of those structural characteristics which, in the case of on-course betting can be considered to facilitate excessive expenditure and gambling.

Indeed, the betting-shop is able to provide a considerably longer and fuller programme of events throughout an afternoon than can be provided at any one racecourse. More varied betting practices are also encouraged by off-course cash and credit betting. It is possible for punters to earmark potential winnings in advance for automatic re-staking on further events ('any-to-come' bets), while the provision of opportunities to bet on the outcomes of compound events (combination bets such as doubles, trebles, accumulators and more complicated permutation bets: Figgis, 1974) enable the off-course bookmaker to offer high payout ratios. These increase his

turnover* still further by appealing to the sorts of financial motivation otherwise only tapped by pools and lotteries§.

Apart from some nominal restrictions on opening hours (cf. Chapter 6) and prohibition of direct advertising, betting-shops have been able to develop the world's most accessible, comprehensive and 'action'-oriented off-course betting service on horseracing†. In this respect, the explicit reservations of the Royal Commission of 1951 about the potential dangers of off-course betting facilities have, in most important respects, been ignored:

'We recognise that if betting off the course is permitted without restriction undesirable consequences may ensue. For example, if it were decided to permit bettors to resort to, and to remain in, a bookmaker's office for the purpose of betting, and the bookmaker were allowed to relay information about the races on which betting was taking place and to pay out winnings as soon as the results were known, there would be little to distinguish the office from the racecourse, so far as facilities for betting were concerned. In such circumstances all the inducements to excessive gambling which the atmosphere of the racecourse can afford would be present without the safeguards which the comparative infrequency of opportunities for attending a racecourse provides.' (62-3)

Although attempts were made to implement the Commission's recommendations about loitering, these were removed from Schedule 2 of the 1960 Betting and Gaming Bill before it became law. The current position, then, is very much that which the Royal Commission was concerned to avoid. Moreover, while the 'atmosphere of the racecourse' has yet to be completely reproduced within the neighbourhood betting-shop (the relaying of live television coverage of racing is still illegal), gaming-club proprietors' recent experiments with 'racing rooms'• indicate the industry's aspirations in this respect. Unable to bring the course to the betting-shop, the trade have also recently begun to take the shop to the races, thus providing on-course punters with the best of both betting worlds. None of these developments in themselves, however - albeit contrary to the Commissioners' considered recommendations - is

*If, as Dessant (1976; cf. Downes et al., 1976) suggests, combination bets offer a higher profit margin on average to the bookmaker than other types of bet, this may present one further illustration of the tendency of longer-odds bets to give relatively poorer value to the (often) poorer punter.

§Some accumulators give consolation prizes for near misses: in seven race accumulators, for example, bettors may receive a 25% dividend for the first six, or a 10% dividend for the first five, correct predictions.

† On horseracing as at present conducted in this country, that is. It is true that existing restrictions on opening-hours make further expansion of racing into the evening and Sunday commercially unviable - but that is another matter.

• Cf. Report of the Gaming Board, 1974. The legal position of such facilities seems to be a somewhat anomalous one, though the Board point out that their establishment goes against the intentions of Parliament.

necessarily a criticism of the present organisation of off-course betting facilities. For such a claim to be sustained it has, in addition, to be shown how and to what extent the structural characteristics of off-course betting are implicated in the genesis of excessive gambling behaviour.

18 The Role of Learning

Introduction

In the previous chapter it was indicated that it is forms of gambling with structural characteristics which enable continuous or 'action' gambling to take place which are most potentially dangerous so far as excessive gambling is concerned. But people will take advantage of such facilities only if they offer positive rewards for involvement. Moreover, since many of these rewards are only encountered within the gambling situation the newcomer has, by gambling, to learn that his participation will be rewarding to him. The reinforcing effects of experiences mediated by certain structural characteristics have to be experienced before they can be learned.

This, however, gives rise to a somewhat paradoxical situation. One of the potential rewards for gambling is that of winning money, and it was clear from evidence in Part Two that - whatever other satisfactions gambling might offer - gambling's ability to define dissatisfaction in terms of financial need, or to capitalise upon existing financial anxieties, always played some part (even if sometimes only a secondary one) in providing its initial appeal. But as the newcomer gambles he is more likely to lose than to win. This experience is punishing in its own right. Because it conflicts with the gambler's initial expectation of making money, it may seem unclear why he should continue to gamble - long enough, that is, to acquire a taste for its non-economic rewards.

In fact the problem is likely to be more apparent than real: most forms of gambling provide genuine expressive satisfactions as well as more illusory economic ones, and the potential gambler will enter the gambling situation with expectations about both. Although the structural characteristics which are responsible for expressive satisfactions do not make their full impact immediately, they may interfere with the evaluation of financial outcomes sufficiently in these early stages (cf. Chapters 16 and 17) to counteract any tendency to withdraw prematurely. This may provide sufficient time for the necessary learning to take place. Nevertheless, this is only a hypothesis and it is worth looking at research dealing with the influence of knowledge about prior outcomes on subsequent decision-making to see whether any empirical support can be found.

The importance of previous outcomes

It might be expected that an understanding of the role of prior outcomes - that is, of previous wins and losses - and their effects upon subsequent gambling behaviour would be of considerable importance in any proposed explanation

of its acquisition as regularly-occurring behaviour and of its maintenance and growth. Research on this topic has been rather inconclusive, however. Early work (cf. Kogan & Wallach, 1967, for a discussion) often failed to discover evidence of any effects at all, though it now seems more likely that such findings were due either to factors in the experimental designs* or - in real-life situations - to certain structural characteristics of the type of gambling involved which attenuated the influence of prior outcomes. Evaluation of such research has also been complicated by the fact that definitions of what constitute 'prior outcomes' or 'subsequent behaviour' have not always been clear or consistent across the different studies undertaken. Although, perhaps, an inevitable feature of research using such a variety of gambling tasks and situations, it has made it difficult to gauge the relevance of the findings to explanations of the development of gambling behaviour.

Consideration of the effects of previous outcomes may be limited to the immediately preceding one and its impact on the first subsequent bet (Cohen, Boyle & Shubsachs, 1969; Blascovich, Veach & Ginsburg, 1973). Knowledge of the effects of a longer previous run of outcomes is, of course, available in other studies (e.g. McGlothlin, 1956; Greenberg & Weiner, 1966), but it is often assumed that such cumulative effects will merely represent intensifications of the sorts of effects given by single prior outcomes of the same type. Second, prior outcome(s) can be measured in terms either of their sign (win/loss or, in the case of cumulative information, ratio of wins to losses) or the amount of money involved. Under most circumstances amounts of money previously won or lost are usually highly correlated with ratios of previous wins to losses, and there is some experimental evidence that, where they are not, the ratio is the important factor (Greenberg & Weiner, 1966). It seems likely, nevertheless, that the amount should sometimes exercise an independent effect upon subsequent gambling behaviour. When it comes to examining this subsequent behaviour itself, similar problems arise: prior outcomes may affect the level of subsequent staking, the degree of riskiness of subsequently-selected bets, or the persistence (in terms of likelihood or duration) of subsequent gambling.

As far as the *nature* of the subsequent bet is concerned, there is fairly general agreement that a prior win (e.g. Cohen, Boyle & Shubsachs, 1969; Hochauer, 1970; Blascovich, Veach & Ginsburg, 1973) or experience of winning over a period, such as at a race-meeting (McGlothlin, 1956), will probably lead to an increase in the level of the subsequent stake, or at least maintain it at the existing level. Greenberg & Weiner (1966) reported that subjects chose riskier bets after previously having won and, since their study did not allow for raising stakes, it may be that the choosing of a higher payoff/lower probability bet by their subjects reflects similar mechanisms. As to the question of whether

*There is the suspicion that the experimental tasks and trivial sums of money involved often reduced the influence of prior outcomes (Slovic, Lichtenstein and Edwards, 1965).

amount won made any separate contribution, only Greenberg & Weiner tested this hypothesis directly (see above) and suggested that it did not; but their negative findings may have been due to the small amounts of money involved. Kogan & Wallach (1967) comment that increasing the subsequent stake might be less likely to occur where previous wins had resulted in the accumulation of considerable capital, and it may be that the apparent consistency of the above results is something of an artifact of the methods used. Dessant (1976), for example, argues that the betting-shops' imposition of payout limits on combination bets stems not only from their desire to maximise their profits on this form of betting but also to prevent the potential 'win' from becoming large enough to tempt the winner to use it for purposes other than re-betting.

The impact of a prior loss or of a substantially greater proportion of losses over wins is an intrinsically more relevant consideration as far as commercial gambling is concerned, but here the research evidence is rather more variable. Although some studies (Cohen, Boyle & Shubsachs, 1969; Hochauer, 1970; Blascovich, Veach & Ginsburg, 1973) indicate that experience of a prior loss will either maintain staking at existing levels or reduce it, other studies have revealed conflicting findings. McGlothlin (1956), for example, found that racetrack bettors who had had a losing sequence tended to raise their stakes more than those (see above) who had had a winning run. This result indicates either that losing may enhance risky betting or that winning promotes relatively more conservative behaviour - both interpretations implying the saliency of financial considerations to staking policy. Greenberg & Weiner found that, like their winners, losers increased the riskiness of their subsequent bets; in their experiment it was those who had experienced an equal ratio of previous wins to losses who chose the less risky subsequent bets.

It is difficult to place such results into a coherent framework. Cohen, Boyle & Shubsachs (1969), who found the effects of prior outcomes upon subsequent stake level to vary across their different groups of subjects, concluded that implicit 'instructions' given by the experimental situation itself may have accounted for the tendency of their oldest and youngest groups (students and ten-year olds) to 'maximise length of play' (increasing after winning; decreasing after losing). In contrast their group of 14 year old boys tended to follow the reverse procedure - termed by the workers as 'maximising financial gain'. This form of explanation is persuasive, not so much for its applicability to other research findings as for its emphasis upon the importance of considering the possibility that other factors may modify the effects of prior outcomes upon subsequent staking practices. It suggests that no simple relationship exists between prior outcomes and subsequent behaviour in gambling, but that previous outcomes are evaluated by participants according to their expectations and aims.

The weight attached to information about outcomes may vary, and produce different subsequent gambling behaviour, not only at different times or in

relation to different gambling activities and situations, but also during the course of play in relation to one form of gambling. Where the activity is boring, or where the participation period is predetermined or short, financial considerations may be of paramount importance. This may lead to the processing of information about previous outcomes to further maximisation of gain, rather than length of play. But although one strategy will often be of primary importance in relation to a particular form of gambling (or in relation to a particular participant, perhaps), there may be times during the course of play when alternative strategies may temporarily override the main one - where, for example, an attempt has quickly to be made, before the end of the gambling session, to recoup previous losses (McGlothlin, 1956), or, on the other hand, where continued participation has been jeopardised by previous risky play. Although a previous outcome may influence subsequent behaviour, then, the direction of this influence depends on a variety of additional considerations.

Schedules of reinforcement

So far the effects of single or sequential prior outcomes on subsequent gambling behaviour have been reviewed only in relation to choice of stake or riskiness of bet. Although inferences might be made about the likely effects of prior outcomes on probability of continuing to gamble, or upon persistence, the foregoing experiments give no direct information on this matter; either no measure of persistence was available, or the effects upon persistence were not evaluated. Nor did they pay much attention to the relative effects of sequences of prior outcomes with varying ratios of wins to losses. There is a considerable body of research, however, which is specifically concerned with the study of the determinants of behavioural persistence and which in consequence has a particular relevance to the question of why some people continue to gamble under conditions of cumulative financial loss and how information about patterns of prior outcomes may be implicated in this process.

The research in question stems mainly from that area of learning theory concerned with the principles of operant conditioning (Skinner, 1953) and their application to behaviour modification, and lays great emphasis upon the importance of the relationship between behaviour and the environmental events which influence it. The occurrence of many events in everyday life, for example, is contingent on our making a particular response; the existence of contingent relationships between responses and their consequences means that in principle many human behaviours may be controlled by manipulation of the latter events. Spontaneously-emitted responses which are followed by favourable events may, as a result, be made more frequently on subsequent occasions. Consequences which lead to such an increase of the behaviour on subsequent occasions are called 'positive reinforcers'. Many rewards in life may be reinforcers*; money, for example, is known as a generalised condi-

*The term, reinforcer, is, however, a technical one and is not equivalent to 'reward'. Not all rewards are positively reinforcing and not all events which act as positive reinforcements are such as would commonly be termed, rewarding (Kazdin, 1975).

tioned reinforcer because it stands for a wide variety of potential reinforcers to which it can provide access (Kazdin, 1975).

Not every response made is inevitably followed by the appropriate reinforcing event. More often than not the event will occur only after the response has been performed several times, or after a certain period of time has elapsed since the last reinforcing event took place. Reinforcers occur, or are given, according to some schedule, which tends to be intermittent rather than continuous. Reinforcement schedules may be response-based (ratio) or time-based (interval), schedules, and the numbers of responses or elapse of time required before reinforcement takes place may be fixed, or variable - although in the case of variable schedules the variability will usually refer, not to randomness but, to fluctuations around an average response-frequency or time-period. It is these schedules of reinforcement which appear in some way related to the consistency and persistence with which responses are performed.

The gambling process of response (staking) and reinforcement (winning money)-(the generalised conditioned reinforcer) often seems very closely to resemble the sorts of operant conditioning experimental procedures which were responsible for the discovery of the principles of reinforcement. These have, in turn, led to significant advances in the scientific application of learning theory to the study of the relationship between behaviour and the environment. It is not surprising, therefore, that patterns of prior outcomes (ratios of numbers of wins to numbers of losses) should have been examined, on the hypothesis that they constitute straightforward schedules of reinforcement which have a powerful effect upon the persistence of gambling behaviour. Intermittent schedules of reinforcement, for example - although not the most efficient means of establishing a particular behavioural response - are usually considered to be very effective in maintaining that response over long periods of time, and even after the occurrence of the reinforcing event has been reduced in frequency or omitted altogether. In gambling, variable ratio (VR) schedules of reinforcement might therefore be expected to play an important part since the average probabilities of the bets offered will, over a period of time, be reflected in the ratios of numbers of wins to numbers of losses*, while obtaining the reinforcement will be dependent upon the frequency with which the betting response is made.

Dickerson (1974) has discussed some of the research evidence bearing on the question of how persistence in gambling may be maintained. In order to measure the relative powers of different schedules of reinforcement to induce persistence in activities resembling gambling, the usual experimental procedure is to train people to make the required response during an acquisition period and according to the particular schedule of reinforcement whose power to promote persistence is to be tested. At the end of the training session, the

*Since most forms of gambling offer probabilities of winning of less than .5, schedules of reinforcement will be ones where the ratio of wins to losses is less than 50%.

subject is then asked to continue making his response over a further series of trials, no further reinforcement being given. The persistence of the unreinforced response is then measured in various ways. As might be expected, intermittent schedules such as VR ones have been found to have the most powerful effect. Research of Lewis & Duncan (1956; 1957; 1958) indicated that resistance to extinction of a lever-pulling response (subjects were 'trained' to play a modified gambling 'fruit-machine') was an inverse function of the percentage of reinforcement given during the acquisition period: the lower the ratio of reinforcement during training, the more persistent the behaviour afterwards.

Lewis & Duncan explain the findings by suggesting that rapidity of extinction is related to ease of discriminating between acquisition and extinction trials. Where a person learns the response on a 100% schedule of reinforcement, the difference between this and the 0% reinforcement schedule of the extinction trials is easy to spot. Where the training schedules are partial, the difference between irregular reinforcement and regular non-reinforcement is much more difficult to identify, and may become more difficult the lower the rate of reinforced to unreinforced training trials. It is not possible to extrapolate directly from these results to real-life gambling so far as the determinants of persistence are concerned, since there is no extinction period in the latter situation: intermittent reinforcement continues to operate throughout. Nevertheless, explanations in terms of ease of discrimination are not inconsistent with real-life gambling experiences, where initial VR schedules of reinforcement, though they may be, or be perceived to be, more continuously reinforcing than later ones rarely display gross discontinuities in relation to the latter.

In two further experimental studies, using a considerably modified lever-pulling apparatus, Lewis & Duncan tested the effects of amount of reinforcement (1957) and number of acquisition trials (1958) during training on persistence. Amounts won during training appeared to be significantly and positively related to resistance to extinction - though these results were largely accounted for by the group which had accumulated the highest amount in training - while it was found that the larger the number of acquisition trials, the shorter the response took to extinguish. This last result appears to contradict much of the research on reinforcement, which has generally found resistance to extinction to be a function of duration of previous reinforcement.

Lewis & Duncan's explanation for their findings seems rather unsatisfactory, and it may be that the result is accounted for by the particular range of acquisition trials they used (3-21), the restricted variability of their schedules and the relatively high ratio of reinforcement (33, 67, & 100%) used in this study. Commercial gaming-machines operate according to much lower ratios; Scarne (1975) has calculated that the Twenty-One Bell three-wheel fruit-machine, set to give a 94.45% return on money inserted, allows the player to make a 'win' of some denomination on only 13.4% of his plays - a very

intermittent VR reinforcement schedule, but one which is clearly not aversive. Since payout percentages in this country are nearer to 70% than 95% reinforcement schedules are likely to be even more intermittent (cf. Gaming Board, 1976).

Lewis & Duncan's research was in many ways a considerable simplification of a form of gambling which is itself closest in format to an operant conditioning paradigm. Research by Levitz (1971; and cf. Dickerson, 1974) on the experimental induction of compulsive gambling used money rather than subsequently-redeemable tokens and used a gambling situation which appeared more satisfactorily able to simulate real-life conditions. Paid student volunteers took part in a four-choice game which was played in two sessions. First came an acquisition period of 22 trials in which subjects were required to gamble (with capital supplied to them) under one of two variable ratio reinforcement schedules, a winning 36% schedule and a losing 14% schedule. Three conditions of feedback were also available to each of the three groups who took part in the two different schedules; the result of this variable will be discussed later.

Subsequent persistence in gambling behaviour - in terms of numbers of decisions to gamble - on a 51-trial schedule of 14% reinforcement (described by Levitz as '... a period of tangible, personal loss') was then measured for each subject in the 6 groups, all of whom had, as a result of covert manipulation on the part of the experimenter, started the second session with the same amounts of capital. It was found that subjects who had won during the acquisition trials, as a result of the 36% payoff schedule, persisted in gambling during the subsequent period of loss significantly longer than the losing subjects did. Although the relationship between ratio of reinforcement and amount won and lost within Levitz's two training conditions makes these results somewhat difficult to apply to commercial gambling - where lower ratios of reinforcement tend to have higher potential payoffs, but where all schedules, whether lower or higher, are almost invariably losing ones - they provide some further evidence of the sorts of variables which influence persistence. Nor are the results of Lewis & Duncan's and Levitz's studies necessarily inconsistent. Both found some relationship between winning money and persistence* and, although the formers' 'ease of discrimination' hypothesis might appear to conflict with Levitz's findings, it may simply be that the difference between the 36% and 14% VR schedules was insufficient to promote discrimination.

Applications to real-life gambling

There are considerable problems involved in trying to apply results from comparatively simple and controlled experimental situations to the description and explanation of persistent gambling in the more complex real-life

*Langer & Roth's (1975) research suggests a 'cognitive' explanation of these findings. Thus early success leads to attribution of skill or personal control over outcomes and this, in turn, raises expectations of future success and promotes persistence.

commercial gambling environment. One is left, for example, with little information about the likely effects of prior outcomes on subsequent behaviour where the individual has, simultaneously, choices of staking more money (or less), selecting different probabilities, betting more frequently or persisting longer. Again, so far as experimental studies of the relationship between VR schedules and reinforcement and persistence are concerned, the sorts of time-scales operating in experiments and in real-life gambling appear to be very different (Dickerson, 1974).

Nevertheless, research on the effects of previous outcomes has produced two general conclusions. These are, first, that losing does not necessarily produce a move to reduce involvement; and second, that - on the contrary - the intermittent reinforcement of gambling behaviour, which is implicit in the concept of negative expected value, may even promote persistence. VR schedules have been found in other circumstances to be associated with behavioural persistence and the facts that winning (among other situational stimuli) appears to be reinforcing, that the patterns of previous outcomes (which are determined by the probabilities of individual bets) resemble VR schedules, and that gambling behaviour is sometimes persistent, suggest that these schedules may, indeed, operate in the gambling situation.

The practical payoff of looking at gambling behaviour in terms of responses, reinforcers and schedules of reinforcement is one of approach rather than of detailed research knowledge at this stage. The analysis of gambling behaviour (and many other forms of behaviour; Kazdin, 1975) in this way makes it easier to undertake the process of identifying the environmental correlates of excessive gambling in greater detail. Applications of the principles of reinforcement offer ways of providing a better theoretical understanding of the means by which structural characteristics give rise to some of the salient features which differentiate gambling activities. In so doing, they also indicate why certain forms may be particularly well placed to offer conditions conducive to the development of persistence. While there is at this stage little research evidence to indicate how or why certain structural characteristics promote, or hinder, the use of information about previous outcomes, comparison of contrasting types of gambling such as betting and lotteries provides some basis for inferences.

Each form of gambling has its own special 'mix' of structural characteristics. These interact with and influence one another to produce a dynamic equilibrium amongst time-related factors (event-frequency; payout interval), money-related factors (minimum stake and payout ratio, for example) and reinforcement-frequency-related factors (probabilities), which is intended to maximise profitability. Such recipes, developed by trial-and-error over time, tend to give rise to characteristic - though not unmodifiable - patterns of participation. Lotteries, for example, offer little opportunity to exercise skill (though they may be exciting), but their payout ratios (high prizes for low stakes) maximise their economic appeal.

While providing for wide participation, the processing of the small stakes gives rise to low event-frequencies and lower expected values than in other forms of gambling. Any tendency on the part of a player to increase his intensity of participation is curbed by low event-frequency and lack of outlets*. It is also likely that buying more tickets for the same draw would soon reach satiation: it would be impossible materially to reduce the odds, and such expenditure would in any case tend to bring home the poor expected value of lottery gambling. High numbers of low-intensity but regular punters can be expected to take part, however. Although the main prize's VR schedule of reinforcement is so low as to be nominal its lack of effectiveness as a source of persistence may be counteracted in three ways. The smallness of the stake reduces the impact of individual losses; the low event-frequency reduces the saliency of cumulative losses and, between losses, gives time for the regeneration of hope; and a structure of supplementary prizes§ - an important facet of lottery-promotion (Weinstein & Deitch, 1974) - increases subjective probabilities of winning something. Hence, it disguises the true nature of the reinforcement schedule which is operating. The net effect of all these influences is to maintain rather than increase gambling behaviour and such forms - as at present constituted - appear to have built-in governors.

Forms of gambling such as betting or gaming, on the other hand, provide a complete contrast. Higher event-frequencies permit the development of gambling 'sessions' and, hence, of intra-sessional as well as inter-sessional VR schedules. These schedules, which are considerably less intermittent than those of lotteries or football pools, may interact in a mutually supportive way to maintain persistence. The fact that gambling sessions are encapsulated means that while wins in one session may, because of the player's self-attribution of skill (Langer & Roth, 1975), increase expectations of winning in the future, experience of loss may have little or no effect beyond that session. It will either be ascribed to error and lack of skill (which implies the possibility of improvement) or, more probably, to a 'run' of bad luck - a state of affairs which is finite and has no necessary consequences for a fresh session's play.

A variety of other situational stimuli (cf. Chapter 11) may also operate to increase subjective evaluations of the probabilities of winning and these evaluations, in turn, can be given expression in betting of different types, frequencies and stake-levels. Escalation of involvement, whether of frequency or size of stakes, is thus made relatively easy while, since each mode of involvement can be manipulated independently of the other, participation can be maintained at the chosen level for longer. In such forms of gambling,

*Simply increasing the numbers of lotteries might not be enough; it might be necessary to run the 'same' lottery more often in order to exploit people's beliefs about the subjective probabilities involved.

§A particularly important feature for lotteries (Weinstein & Deitch, 1974). A bonus for pools is that the smaller prizes which occur, will arise when a large dividend is divided up amongst many correct entries. These in turn will occur most often when teams are playing true to form. Thus skill is rewarded, even though it may not be of use in winning the largest prize.

structural limitations on degree of involvement are, for all practical purposes, non-existent: the constraints are those supplied by the player himself.

Conclusions

A brief indication of the relevance of learning theory principles to the study of gambling behaviour has been given. Whether the sorts of VR reinforcement schedules mentioned so far can, on their own, provide a satisfactory explanation for continued and for persistent gambling will be discussed in a later chapter, when some evaluation of the importance of their contribution will be made. First, however, a number of practical questions require attention. These relate to the induction of such schedules, their relationship to the subjective perceptions of the gambler, and their relationships to other reinforcers and schedules which may operate in the gambling setting*.

*T.J. Knapp's paper, 'A functional analysis of gambling behavior' (*In: Eadington, W.R. (ed.) 1976 Gambling and Society: Interdisciplinary Studies on the Subject of Gambling*. Springfield, Illinois: Charles C. Thomas), also deals briefly, but from a similar social learning theory perspective, with some of the issues raised in this and succeeding chapters. Eadington's book of readings, which is devoted primarily to papers read at the First Annual Conference on Gambling held in Las Vegas, Nevada, gives a recent overview of U.S. research. It became available to the author after the present review had gone to press.

19 The Application of Learning Theory Principles to Gambling Behaviour

Introduction

Social learning theorists (cf. Akers, 1973) have produced some persuasive theoretical accounts, backed up by research evidence, of how deviant behaviour (or behaviour, the intensity of which is deviant) develops. Application of this research, and particularly of the principles of reinforcement, to behaviour modification techniques (cf. Kazdin, 1975) has provided further evidence of ways in which influences can be brought to bear on individuals in order to increase the frequency of their behavioural responses. As was shown in Part Two, the initial exploratory gambling response may be determined by a wide variety of situational stimuli which interact with the individual's states of 'freedom' and 'readiness'. While the existence of specific motives for gambling was largely discounted, however, it was allowed (Chapter 14) that parental example or other special circumstances might be important early influences. In such cases, initial involvement may be largely determined by what Kazdin terms, 'vicarious processes'*. Individuals who watch others receive reinforcement as the result of particular behaviours are more likely themselves to engage in that behaviour: children observe the reinforcing consequences of gambling (the excitement of correcting pools entries, or of winning money).

The child is also likely to be directly introduced by his parents to parts of the gambling process and to some of the situations in which it occurs. In learning theory terms, response-priming takes place when an individual is required to take part in some of the initial steps leading to the response in question. Children who place bets on behalf of their parents, or accompany them to places where betting takes place are being given implicit 'instructions' about how to go about gambling. In such situations they may also sample some part of the reinforcement to be gained from gambling; Kazdin has remarked that for a reinforcer to become important it has to be recognised as such by the individual.

Although restrictions on advertising or on offering inducements limit the abilities of promoters to use such techniques deliberately, these mechanisms are likely to operate particularly strongly within certain socio-economic or other groups - peer-groups or occupational groups, for example - to increase the likelihood of initial involvement (cf. Livingston, 1974). At a more general level, of course, the televising of races, together with details of market prices, information on, and discussion of 'form', tipsters' selections, exciting

*For a discussion of vicarious learning, cf. Bandura & Walters, 1963.

commentaries, and information on results and potential payoffs, provides opportunities for practically the whole population to be introduced to the mechanics and potential reinforcements of some forms of gambling. And ease of access to gambling settings makes the reinforcers themselves more readily available.

For those forms of gambling which take place in particular environments, the setting will make its own contribution to these influences. It will be remembered that the Nevadan casino-owner, Harrah, went to considerable lengths to bring customers to settings where gambling took place (Wilson, 1970). Once the customer is at hand, the promoter can introduce him to reinforcements which may have played little or no part in his initial decision to gamble or to visit a setting in which gambling took place. In the more complex forms of gambling it is, indeed, difficult in any individual case to assess which reinforcements determined the original decision to participate and which (and how many) were subsequently induced as a consequence of attendance. The fact that many forms of gambling provide a wide variety of possible solutions to feelings of dissatisfaction means that the gambling response may be being 'trained' simultaneously by a variety of reinforcers, and on a number of schedules.

The induction of variable ratio schedules

It seems likely that in the early stages of gambling involvement pecuniary considerations take precedence over others, by initially attracting and defining the potential recruit's feelings of dissatisfaction. But if this is so, it raises something of a problem for learning theory explanations of gambling persistence, for while quite low variable ratio schedules of reinforcement may be claimed to maintain gambling behaviour they are not so well suited to accounting for changes in behaviour - that is, to explaining either its acquisition or growth. The learning of behaviour, for example, is best conducted under conditions of relatively continuous reinforcement. But the operation of commercial gambling makes it difficult for the promoter to arrange continuous reinforcement for every new recruit, and some commentators have therefore relied on the operation of chance, such as the reinforcement provided by an early large win or randomly-generated streak of luck (Barker & Miller, 1968; Bolen & Boyd, 1968; Moran, 1970b; Cotler, 1971; Custer, 1976) to provide the necessary enrichment of early schedules. Levitz's, and Langer & Roth's findings (Chapter 18) have somewhat similar implications. Dickerson (1974) reported that 72% of those he defined - out of his total sample of betting-shop customers - as most involved in gambling reported having had early luck, as against 15% of those least involved.

But the recruit may instead lose consistently or heavily in this initial period and, though the impact of this experience may be diluted by other factors, some are doubtless warned off by their misfortune. It seems likely, therefore, that if any hypothesised learning process is to be set in motion the rewards of

gambling must be given sufficient opportunity to achieve an impact. Those who are initially able to visit gambling settings and to gamble more frequently and for longer periods are more likely, sooner or later, to experience the big win or the run of luck. It could be argued that this account merely pushes the problem back one stage further - to the question of what caused them to stay up to the point where the win(s) occurred - and so opens the way for the introduction of special or pathological motives again. Empirical evidence, however, suggests that this is not necessarily so. As was the case with the initial decision to participate, so with early continued participation, the important personal determinants are probably still those of freedom and readiness. Downes et al. (1976) found that intensity of involvement (as well as likelihood: cf. Chapter 13) was negatively related to political or community activities, conjugal role-sharing and work-centred leisure, while their analysis of the factors which, for their sample of gamblers, predicted frequency of gambling indicated that the most important ones centred upon being single and being dissatisfied with one's job.

As might be expected, extent of freedom and readiness are particularly related to a person's age. Downes et al.'s study of the social distribution of gambling frequency found age-specific, a-typically high gambling by young single skilled working-class men from the poor (but not the poorest) income groups*. Dickerson's own results suggest that heavy gamblers tend to be younger than other punters, and that many of them reached their current level of gambling by the age of twenty-five. Thus, the greater amounts of disposable time and income available to the young create a greater opportunity to prolong the initial exposure to gambling; and their readiness is influenced by prior definitions of dissatisfaction (through parental gambling), lack of alternative activities (including satisfying work), or other difficulties arising from their age. Where dissatisfaction is channelled into gambling at an early age it is likely to be difficult to dislodge and this - and not the greater malleability of the young - is responsible for the law's concern to control early exposure to the gambling experience.

But although the above discussion might seem to suggest a simple 'early vulnerability' theory of both initial and later involvement, this is not its intention. The many and varied short and longer term variables which interact to produce greater or lesser states of freedom and readiness, are constantly changing and (while present) altering the weight of influence they are bringing to bear§. Thus, where gambling at a relatively low level of intensity has developed (though even this is not an essential condition), it is easy to understand how life crises (Bolen & Boyd, 1968), such as marital disharmony

*A similar analysis for betting indicated that sex (male), social class (working-class vs. the rest) and job dissatisfaction were important predictors.

§This may, in part, be why sociological explanations of gambling are so often disappointing. Discovering through observation a particular person-situation interaction, the theorist treats it as being less dynamic and contingent, and more the outcome of unvarying, broad sociological influences than it really is. Snapshots of 'affaires' are assumed to be portraits of more lasting alliances.

(Scodel, 1964; Goorney, 1968; Boyd & Bolen, 1970; Seager, 1970; Pokorny, 1972) might disorganise routines and existing satisfactions, leading the individual to spend more time in the gambling environment as an escape from his worries, and that this, in turn, would strengthen the likelihood that the gambling response would come under the control of the schedules of reinforcement operating there.

Apart from relying on the random operation of chance to give some of his customers early wins, and of other factors beyond his control to provide the sorts of personal circumstances which might encourage attendance and longer stays, there would seem little the promoter himself could do to strengthen the appeal of financial reinforcement, or - putting it another way - to make its schedule of reinforcement appear more continuous. Careful planning of prize structures in the case of lotteries (Weinstein & Deitch, 1974) will, of course, provide the participant with more chances of winning something (an example of reinforcer sampling, perhaps). In the case of betting, both Dickerson (1974) and the Churches' Council on Gambling (1963) have suggested that novice punters may be attracted initially by combination betting, both because this frequently results in some degree of financial or other reinforcement (a proportion of the stake-money or of correct selections - the 'near-miss') and because the high payout ratio is attractive. More continuous reinforcement may be provided by these means or by concentrating betting at short odds*. By introducing punters to combination betting (Ladbroke's publish a pamphlet which is available in their betting-shops) and by designating the shortest-odds horse as 'favourite', the promoter is able to engage in some limited shaping of the punter's behaviour.

Certain structural characteristics (cf. Chapters 11 and 17), feedback about performance relative to others (Levitz, 1971), self-attribution of skill, receiving vicarious reinforcement from the success of others, all influence the player's perceptions and expectations by increasing the visibility and significance of winning and reducing those of losing§. Most can be manipulated by the promoter, and they illustrate further ways in which the real VR schedules which operate in gambling may be spuriously 'enriched'†. When the response has been established by these means, reinforcement can be 'thinned down' (Kazdin, 1975) to a more intermittent schedule. In practice, familiarity, together with the experience of tangible loss, can be expected to reduce the grosser subjective distortions of probability which had earlier made the sche-

*The novice might in any case prefer to play higher probability bets - hence receiving higher ratios of reinforcement - until more used to gambling.

§Devereux (1968) suggested that positive events might be learned more rapidly by the gambler than negative ones. So far as fluctuations of stock-market prices are concerned, Ashley (1962) found that unexpected announcements of high dividends affected subsequent prices of the relevant stocks for a considerably longer period thereafter, than did announcements of low dividends.

†These sorts of mechanisms will also tend to soften the transition, for some novices, from an early experience of a genuine run of wins to the sorts of intermittent schedules more commonly found in gambling.

dules appear less intermittent, while the gambler himself - encouraged by the promoter, perhaps - may well choose riskier bets as he becomes more experienced, thus placing himself on a more intermittent schedule.

The subjective perceptions of the gambler

Given that a plausible explanation can be offered of how players initially acquire the habit of regularly making the gambling response, experimental investigations of the relationship between VR schedules and persistence might seem able to provide some account of why gambling behaviour may then continue to maintain itself at this level. But the support they can offer is limited. It is true that Levitz (1973) found that subjects trained under losing conditions were less persistent than those trained under winning ones. But the relative persistence of the latter was measured only in the short-term: indefinite continuance of these differences in persistence cannot be guaranteed over longer exposure to the experience of VR schedules of tangible loss - schedules which are frequently met with in many forms of gambling.

On the other hand, in real-life gambling players can choose within limits the most personally-satisfactory VR reinforcement schedule under which to play. This can be as high as the probabilities allow ('evens' and 'odds-on' bets, for example) or as low as financial resources permit, bearing in mind the risk of running out of money before a coup has been made. It might also be argued that variable ratio schedules of reinforcement, however intermittent, are rarely likely to be perceived as involving tangible loss. Instead, because of the negative relationship in commercial gambling between the probabilities of bets and their potential payoffs*, most schedules may be more-or-less functionally equivalent in their attractiveness. In lower VR schedules, experience of tangible loss would be diluted by the utility of the hoped-for win, and reduction of subsequent persistence would be minimised if, indeed, it occurred at all.

Even given these ameliorative effects, together with those stemming from the encapsulation of successive betting-sessions in time, it is still questionable whether accounts of persistence in terms of purely monetary considerations can explain long-term involvement in 'rapid-event' continuous gambling activities. Whether or not gamblers can make use of information about prior outcomes whilst in mid-play is a matter for empirical investigation: but it seems they do have an overall picture in retrospect. The Gallup Survey (1972) showed that gamblers in general (and heavy bettors: Dickerson, 1974) appeared to have at least enough knowledge about their performance over the previous year to know that, on average, they had lost money. Moreover, in gambling, unlike the case of many other types of behaviour, money (a general

*They might also be considered equivalent within broad limits in the extent to which they maximized uncertainty. Maximum uncertainty is, in statistical terms, provided by a 50% VR schedule, to which 'evens' bets are the nearest approach. Schedules based on gambling at lower probabilities but higher payoffs might give rise to similar feelings of uncertainty in subjective terms.

conditioned reinforcer) is being risked for more of the same - a state of affairs which both makes the experience of non-reinforcement punishing (loss of some reinforcer) and evaluations of profit and loss easier*.

These considerations suggest that, contributing though they may well do to the persistence of gambling behaviour, VR schedules of monetary reinforcement are only one out of a number of schedules and reinforcers which determine persistence. Before going on to examine these, however, there is one further set of arguments which might be used both to support VR schedules of monetary reinforcement and to suggest how other schedules and reinforcers may be introduced to the gambler. These involve an examination of the likely subjective experiences of gamblers and, although some have been mentioned already (Chapter 11) in the context of the initial decision to gamble, the experience of participation may itself create new ones.

People gambling under VR schedules are unlikely to appreciate more than the fact that they are being intermittently-reinforced and that reinforcement, though variable, is response-based§. In addition, knowledge about the average probabilities of their bets may give them a rough expectation about how long they should have to wait for a win. Now although VR schedules are usually described as requiring the respondent to make his response at a high and consistent rate (in order to maximise his chances of reinforcement), it is clear that in gambling - and especially in those forms where event-frequency is high - such rates may, since money is involved, become aversive when the ratio of reinforcement is a very low one. In other studies of behaviour it has been found that responding, though persistent under low ratio schedules, will tend to be interspersed with pauses. Whatever the reason for these pauses in other circumstances, in the case of gambling it may be that these non-responding periods are those where the gambler is trying to improve his chances of beating the odds by observing play.

Descriptions of learning through reinforcement contingencies (such as VR schedules) have tended to ignore, or explicitly to deny, the relevance of people's subjective expectations or other 'mentalistic' variables to explanations of behaviour. This essentially passive view of the individual as merely a respondent has recently been strongly criticised by more sophisticated cognitive social learning theorists such as Mischel (1973). The fact that misleading information about relevant features of the gambling process can, as it were, programme players to make responses which are objectively inappropriate already suggests the importance of cognitive factors which mediate between stimuli and responding behaviour.

*In many forms of behaviour which operate under VR schedules, the loss involved in making a response which is subsequently not reinforced is much more difficult to calculate (how is the effort of telling a joke set against the non-appearance of a smile?) or calculable only within wide limits.

§An individual's expectation of being reinforced may depend on the strength of his belief in personal luck. Where this is strong - in the gambling situation, at least - the gambler may believe his chances of winning to be determined by time factors (feeling lucky) rather than by patterns of prior outcomes.

It is likely also, however, that cognition plays a more active role. To the gambler the VR schedule - especially where it is determined solely by probability theory, as in roulette - gives very little information about winning or losing. It does, however, draw attention to the various parameters of the betting response. In a situation where he is losing money, the gambler is especially likely to construct hypotheses about how to respond (in terms of stake and riskiness of bet) and when to respond, based on evidence of previous outcomes. He may construct these hypotheses during the course of play or by observing other people gambling. In so doing he hopes to maximise his success and reduce effort: successful strategies are doubly reinforcing since they not only direct the gambler when (and how) to make his bet, but when not to respond (Myers & Fort, 1963) and so save his stake.

Rapid-event VR schedules may, like Langer's skill-related factors, provide the gambler with a skill-orientation or - more importantly - with a problem-solving 'set' which causes response-rates to become less continuous, but more persistent as the gambler constructs, pilots and discards successive hypotheses about the determinants of reinforcement (cf. Bruner, Goodnow & Austin, 1956). The fact that VR schedules appear to offer fertile breeding grounds for theories and strategies is often conveyed in claims that they maximise interest or uncertainty, or that by increasing the rarity and/or unpredictability of a win they thereby make its achievement more valued - descriptions which imply the involvement of other reinforcers as well as pecuniary ones.

Gambling activities in which the VR schedule is controlled (or apparently controlled) also by factors about which the gambler can obtain information (horseracing, for example) provide far greater opportunities for hypothesis-building and so hold out for longer the promise that a winning system for processing the information will be discovered. In these cases VR schedules may reinforce certain strategies out of all proportion to their practical value, much in the same way as superstitious behaviour and magical thinking in gambling come to be established - that is, by the fortuitous juxtaposition of response and reinforcement on a number of occasions. Not only are strategies like gambler's fallacy reinforced by these means, but where information has some real predictive value ('form' in racing, for example) the chance over-reinforcement of a certain category of information ('trainer' or 'jockey') beyond this value may lead to subsequent biasing of attention to that item alone - a strategy which is likely to reduce the effectiveness of information-utilisation*.

It has been assumed that rapid-event VR schedules induce problem-solving orientations which, in turn, prolong participation while the player searches for better winning strategies. These 'sets' are probably assisted by the sorts of skill-related factors and skill-orientation cues naturally present in, or deliber-

*Tversky & Kahneman (1974) term this over-estimation of the frequency of co-occurrence of events, 'the illusory correlation effect'.

ately introduced into*, gambling activities. There are, however, three objections which considerably reduce the value of this explanation of persistence. First, although common observation shows that some forms of gambling excite intense interest, where this interest involves the application of intellectual skills it may well lead to persistent but selective betting, rather than the continuous and frequent response likely to cause excessive gambling. Second, even if heavier gamblers were found to attribute skill to their gambling, this view might have little or nothing to do with the sort of problem-solving effort described above. Where the skill element in question did not merely refer to a quick glance at the tipsters' forecasts in the sporting papers pinned to the walls of the betting shop, it might simply be a way of rationalising their behaviour. Dickerson (1974) hypothesised that, as frequent betting without winning may be aversive, those who gamble more frequently may try to justify their betting in other ways - as by seeing their bet-selection as being more skilful. Lastly, evidence of a genuine problem-solving orientation would suggest that, during the course of play if not before, other sources of reinforcement were also influencing the betting response.

The operation of additional reinforcers and schedules

From this discussion of the role of VR reinforcement in promoting behavioural persistence, it can be seen that once the individual starts to gamble a crucial role is played by the structural characteristics of the particular form of gambling in which he is participating. The last two sections have attempted to defend traditional accounts of the growth and maintenance of persistent gambling behaviour in terms of structural characteristics, continuous and variable ratio schedules of reinforcement, and financial motivation. Some doubt was expressed, however, as to whether the intermittent reinforcement of winning money was likely on its own to provide sufficient motivation to gamble persistently under conditions of tangible loss. This being so, it seems even more open to question whether such means alone could be responsible for increasing involvement up to the higher levels associated with excessive or compulsive gambling.

There are a number of additional circumstances, however, which might make a growth in intensity of involvement more explicable. Dickerson (1974), for example, has proposed that - in relation to gambling in betting-shops at least - conjunctive schedules of reinforcement are operating. In essence this is a restatement in learning theory terms of the observation that some forms of gambling appear able to offer a variety of satisfactions, and that these satisfactions are implemented by means of particular structural characteristics. It also implies that the reinforcing events will be delivered according to their own

*James & Rotter (1958) found that by inducing skill or chance orientations in their subjects, persistence under intermittent reinforcement could be altered: the nature of the interaction in the case of their experiment is the opposite, however, of that commonly found. Levitz (1973) reported that beliefs (not in this case induced by the experimenter) that the game was skilful promoted longer persistence under intermittent reinforcement.

individual schedules of reinforcement, and that these may not always be variable ratio schedules.

It is the inter-relationship amongst these various factors - structural characteristics, range of reinforcers, and schedules of reinforcement - which, for a particular form of gambling, determines its capacity to shape and modify the behaviour of those who enter the gambling environment. 'Modification' in this context, of course, means alteration of behaviour in the direction of increasing the participant's involvement, for it is by this means that turnover can be increased*. The limiting factors on this increase will be those of the structural characteristics (and the degree to which they can be changed), the range of reinforcers which these characteristics are capable of supplying, and the ability of these reinforcers satisfactorily to define the needs of participants.

One of the most difficult problems is often that of identifying - or identifying accurately - all the reinforcers which may be operating in the gambling situation. Where people who are being reinforced under VR schedules attempt to make their winning more predictable by constructing hypotheses based on evidence of previous outcome-sequences, winning may become a source of reinforcement independently of financial considerations. In such cases reinforcement is not even predicated upon winning: the making of a losing gamble may be reinforcing where it provides the gambler with information about the accuracy of his response. It is often a moot point whether such reinforcement should be regarded as simply reinforcement-sampling (the near miss providing a foretaste of winning, rather as compensation prizes provide earnest-money) which serves to fill the gaps in VR schedules (cf. opening section of chapter); or whether it involves the operation of conceptually separate and additional reinforcers which make use of the same outcomes.

These 'intermediate' reinforcers operate very widely in gambling; fruit-machines, for example, often show not only the winning line but the lines above and below so that - even if the player has not won - there is a good chance that he may see winning combinations which he has just missed, and be tempted to try his luck again. Strickland & Grote (1967) have described the effects which another such design-feature may have upon the likelihood of repeated play. In the fruit-machine three wheels spin when a coin is inserted and the lever pulled. These wheels stop in a 1-2-3 order, from left to right, displaying in the machine's window one symbol from each of the wheels. The player reads off the combination and refers to the chart of winning combinations. The researchers noted that, on the machine they studied, the symbols did not appear equally frequently on all the wheels, wheel one having a fairly large proportion of potential winners, the second wheel fewer of these, and the

*Though, of course, it can also be increased by attracting more recruits.

third, fewer still*. Since, as they point out, the wheels stop in 1-2-3 order, the player is most likely to see a winning symbol early in the sequential presentation of results.

The authors hypothesised that a sequential display of this form, by promoting early, frequent and extended anticipation of winning, could be expected on theoretical grounds to promote replaying, and that it was no accident that slot-machine makers had adopted the practice of presenting winning symbols sequentially as a design feature. The researchers tested their hypothesis using a slot-machine so modified that it could present the player with frequent winning symbols either early or later in the display of results§. As expected, those groups of subjects who were presented with the potentially-winning symbols earlier continued to play the machine significantly longer than those who saw them later.

Though these results raise some interesting theoretical points, their practical significance is in their indication that even apparently simple forms of gambling seem to be using quite sophisticated techniques to provide extra reinforcements (or extra opportunities for reinforcement-sampling) for participants. In this case, not only do the combinations of symbols presented reinforce the player by telling him when he is 'near' to winning, but their order of presentation may maximise some such feeling as hopeful anticipation. The authors themselves feel that such reinforcements are likely to have most effect during acquisition of the slot-machine habit. It is probably a universal feature of such slot-machines that they provide the player with a graduated reduction of uncertainty: wheel 1 identifies the symbol and potential payoff; wheel 2 determines whether the player is 'in the game'; wheel 3 whether he has won - or 'just missed', perhaps.

Feedback on its own, then, appears to provide some reinforcement, even when the information it provides is merely categorical (win or not). And knowledge of the 'accuracy' of his responses may be reinforcing (instrumentally, as a measure of personal luck, perhaps) where the gambler, able only to set the event in motion can neither predict nor influence the outcomes. In these cases, feedback is probably best regarded as enabling reinforcement-sampling.

*The real position is probably rather more complicated than their necessarily short description implies. Scarne (1975) has charted the payoff combinations for the Twenty-one Bell three-wheel machine, the frequencies with which each symbol appears on each wheel, and the number of ways and amounts each combination pays off. The combination to pay out most frequently is the single cherry (wheel one), any other symbols serving on the other two wheels. The next most frequent to pay out is the two-cherry combination on wheels one and two. Together these two combinations take up 800 of the total, 1073, winning combinations. The cherry, however, is by no means the most frequent symbol on the first wheel. The next most frequent payout combination's symbols occur equally frequently on all wheels. It is likely that there is considerable variation in machine designs, however; where symbol-frequency per wheel varies between makers it may well be because manufacturers are concentrating upon different methods of stimulating replaying.

§For two groups of subjects, the frequency of potentially-winning symbols decreased from wheel 1 to wheel 3, while for the other two, the frequencies were in the reverse order. The machine was, of course, a considerably simplified version of the commercial variety.

Where more information is available, or where the response can be made in a variety of ways (in terms of choice of bets, for example) it becomes possible (though not always appropriate) to treat the situation as a problem-solving one. More sophisticated gaming-machines are designed with additional structural characteristics some of which may serve to increase the player's participation and which may even allow limited exercise of skills: examples of these are 'hold-and-draw' and 'nudger' devices (Gaming Board, 1970). Feedback may then be considered to provide evidence of skill.

Exercise of skill is likely to become a major reinforcer in its own right, however, only when it can reasonably be viewed as contributing to the prediction of events with uncertain outcomes*. For Zola's (1964) bar-room punters, for example, status was conferred primarily for skills at utilising information about 'form' in order to select runners; the backing even of losers, where choice reflected rational handicapping, was given considerably more prestige than a win gained through random selection. In such forms of gambling, a certain degree of loss may be set against the value to the punter of being able to exercise complex information-processing skills§.

Implications of the operation of additional reinforcers

It is now clear that both the betting response and the reinforcing event (winning) each stand for a wide variety of separate responses and reinforcers. As always, when looking at overt behaviour, it is not easy to determine in any particular case, why the response is being made or - to put it another way - to identify the reinforcer. If outcomes can reinforce the exercise of skills, the need for prestige, or desire for entertainment, and if the same outcome can reinforce all these in addition to financial motivation, many schedules may be operating in the gambling situation. Most of these schedules will be linked in some way with the event-outcomes. But in some cases, while winning will provide one source of reinforcement, losing may also provide evidence of skill and so constitute either an occasion for reinforcement-sampling, or a reinforcement in its own right. This means that some gambling situations may be providing combinations of separate reinforcement schedules. From the gambler's point of view these will give a very much more enriched schedule (or combination of overlapping VR schedules, based upon rather different response outcomes†) than that provided by the single VR schedule commonly put forward to explain, in financial terms, persistence in gambling.

*Outcomes which are in principle - if not always in practice - predictable, as opposed to chance events, whose outcomes are in practice, if not in principle, unpredictable. The distinction is quantitative, rather than qualitative.

§In fact, the punter's information-processing capacity tends to become overloaded with incoming information comprised of individual items of largely poor predictive value. The pools also provide similar opportunities for the exercise and reinforcement of such skills, but there is little or no connection between their exercise and the winning of the highest dividends.

†Horsrace punters may well operate two or more information-processing strategies in parallel for selecting horses (Zola's study suggests this), though only betting on one of them. Outcomes which represent a loss for one strategy may, on occasion, provide a gain for the other.

The fact that additional reinforcers may operate in the gambling setting suggests that continued participation may be influenced by different, or additional situational factors to those which influenced the initial decision to take part. Whether the factors are different or not, actual experience of the range and intensities of reinforcement available in the gambling situation undoubtedly provides the player with more precise information about the nature of the satisfactions gambling can offer him. This, in turn, might seem to offer a further way of reintroducing the concept of personal predispositions: in this instance they could be viewed as sources of preferences (or aversions) for the reinforcers encountered and, in consequence, as determinants of behavioural persistence. Strong behaviour, it might be argued, demands strong motives, strong preferences.

Many of the arguments against this traditional view of the determinants of behaviour were presented in Part Two (cf. Chapters 12 and 14). Most apply equally to the present issue of persistence. The topic is an important one and will be raised for a final time in Chapter 21. For now, however, a number of brief points may be made. First, as before, there is little evidence for the existence of such predispositions. It remains possible that more general person-variables such as locus of control and nAch might exert some influence on inter-individual differences in persistence (Weiner & Kukla, 1970). But an evaluation of their influence on gambling is complicated by the fact that many forms of gambling appear able, by virtue of their structural characteristics, either to *induce* favourable orientations (and, it may be, induce them regardless of personal factors) or to capitalise upon whatever orientation the player may bring to the gambling situation. In other words their influence may be heavily moderated by situational factors. Similar objections may also be made where other sources of personal preferences are concerned.

Although cognitive factors such as information-processing capacities and skills might seem better candidates for influencing persistence, their effect upon persistence might be expected to depend heavily upon the gambling activity involved, some forms providing the intellectual challenge to promote persistence, others not. Even within a particular form, cognitive factors such as Mischel's (1973) social cognitive person variables might have quite contrary effects upon persistence at different points in the gambling process. Moreover, if an effect were to be found, the relationships between cognitive variables like these and sociological ones (such as social class) which define 'readiness' to gamble, would make interpretation difficult.

Second, instead of accounting for persistence in gambling in terms of personal predispositions one might equally well ascribe the behaviour to other features of the gambler's life: a lack of other, competing, expressive outlets, and an absence of constraints upon the way he disposes of his time or money. Given the power of structural characteristics and situational factors in gambling, the wide appeal of many of its reinforcers, and its creation (with the assistance of past consumers) of a product tailored to maximise its potential appeal to

traditional markets, it seems reasonable to attribute persistent gambling to factors similar to those which determined the individual's initial decision to gamble. In this respect, young people in particular, with relatively fewer constraints on their use of time and money and fewer competing expressive outlets, might be expected to be especially at risk of continued involvement. In these circumstances, personal preferences - insofar as these are developed from earlier learning experiences in relation to other, potentially competitive expressive satisfactions - might be expected to reduce the likelihood of further involvement more often than they increased it.

Last, the view that continuing to gamble is not evidence of the influence of strong personal predispositions or similar motives would imply that instead of preferences leading to persistence, persistence itself may create and shape a person's preferences. Initially gambling largely in default of anything better to do the gambler comes to value and become dependant upon the reinforcement he is offered. What are commonly regarded as being motives are more properly to be seen as outcomes or learned consequences of the person-situation interactions to which - given the opportunity and lack of competing outlets - the gambling experience gives rise. Instead of trying to explain why people gamble persistently, the question becomes one, rather, of explaining why they do not.

Conclusions

Even so, the reinforcers and schedules so far discussed do not seem to provide a satisfactory explanation for the higher levels of gambling involvement - particularly that characteristic of compulsive gambling - though they imply that its explanation, too, is likely to be related primarily to factors of the gambling situation rather than to specific personal predispositions. Apart from the work of Dickerson (1974) little attempt has been made to identify and describe the possible operation of such additional reinforcers and schedules within the gambling situation. The next chapter discusses, for one such environment (the betting-shop), a source and schedule of reinforcement which may go some way towards filling the explanatory gap.

20 An Analysis of Gambling Behaviour in a Real-Life Setting: the Betting Shop

Introduction

Although many anecdotal descriptions of gambling settings exist (e.g. Newman, 1972), most of these - even the more rigorous (Zola, 1964; Oldman, 1974) - have examined gambling in relation to its social function, or to the meanings ascribed it by participants. Where learning theory concepts have been applied, it has usually been in the context of the treatment of compulsive gambling. Few detailed attempts have been made to provide an analysis of the behaviour for the purposes of explaining its acquisition, beyond those couched in the most general terms (e.g. Seager, 1970).

Betting-shop experiences and gambling behaviour: the work of Dickerson

A notable exception has been the work of Dickerson (1974). After reviewing relevant laboratory and real-life studies of risk-taking and gambling behaviour, Dickerson goes on to discuss the problems of defining, estimating, and treating excessive gambling. He then summarises the available evidence relating to betting-shops and the betting habits of their customers-- these customers being, so far as can be determined from the case histories of excessive gamblers, the population from which the bulk of these are recruited. Dickerson starts his own research with the assumption that betting-shop experiences are an important determinant of gambling behaviour, and that in consequence a detailed behavioural analysis of gambling in these shops is necessary. Such an analysis, in turn, requires investigation of all those variables operating in the betting-shop environment which might have an effect upon the probability of the betting response's being made. He makes two predictions: (i) that betting behaviour comes under the control of the reinforcement contingencies of the gambling environment; and (ii) that, as a result of experiencing these 'training' contingencies, the betting response will be made more and more frequently - and with greater loss of money - until a 'pathological' level of gambling, where the gambler has lost control, is reached. His research incorporates three elements: the direct observation of betting-shop behaviour; structured interviews with betting-shop clients (and a parallel written interview for members of Gamblers Anonymous); and, further unstructured interviews with these two groups, made for the purposes of gathering more general information.

Dickerson comments that although attention has been focussed almost exclusively upon the operation of VR money-reinforced schedules in the gambling

setting, other schedules and reinforcers may also operate, and that these may be important determiners of persistence. One feature of the betting-shop environment in particular, he suggests, may have an important impact: 'There is a strong and definite time-based component running through all the sequence of events in the betting-shop'. This being so, it is quite possible that such a temporally-organised chain of events might form the basis for another schedule of reinforcement - the Fixed Interval Schedule.

In the F1 Schedule, an interval has to pass before reinforcement is delivered; after its passage the first response to occur is reinforced. This schedule requires only one response to be made, and is usually characterised after the response has been made by a pronounced pause in responding until the prescribed interval has nearly elapsed (Kazdin, 1975). Reinforcement is, then, in accordance with the elapsing of a fixed interval of time, and not - as is the case with ratio schedules - as a consequence of response-frequency. Together, VR and F1 schedules of reinforcement would provide reinforcement for the betting-response both according to its frequency and according to time factors. But the F1 schedule would also be expected to reduce the variability of the betting-response, tying it ever more closely to the time-based stimulus changes occurring in the betting-shop environment.

As a result of his observation, Dickerson divides the betting-shop day into two periods: pre-racing and racing. The pre-racing period is one of quietness and slow trade, a time during which customers characteristically enter and leave quickly. Duration of stay, an average of 6 minutes, is very much less than that of customers during the racing period (averaging 54 minutes). Dickerson comments that the former trade probably represents the type of betting for which the shops were intended (cf. Royal Commission, 1951). During the afternoon racing-period, however, a whole sequence of stimulus changes, organised on a temporal basis, occur within the betting-shop environment; these are governed by the number, duration and frequency of the day's races. There are organised changes of visual stimuli, such as those of the price-board. But most important of all are those represented by the 'Blower's' publicly-broadcast pre-race information, and race commentary.

The successive behaviours of the customers, too, seem to parallel these stimulus changes, and to be related to the 'OFF' (announcement of the race's start) as relayed by the 'Blower'. For a group of five Gamblers (defined as those who attended daily and regularly bet on eight or more races), the betting-response* appeared to be triggered by the stimulus changes occurring in the last few minutes before the 'OFF', the blower's pre-race information acting as their 'clock'. Since the betting-responses of a comparison group of less regular punters showed considerably more variability in their times of occurrence, Dickerson concludes that the responses of the Gamblers show the character-

*Dickerson defines the betting-response as the passing of the completed betting-slip and stake across the counter.

istics of a F1 schedule. His observational data also provide some preliminary support for the second of his predictions, that betting-shop stimuli will 'train' participants to gamble more frequently, and with greater loss of money. Dickerson found that the larger the size of bet, the closer to the 'OFF' it was made; gamblers placed very much larger bets than others.

In the survey part of his study, Dickerson used answers from six of his questions* to construct a betting score (B.S.). By means of this score, respondents were later classified into three groups: Punters (average B.S. = 6.5); Punter/Gamblers (av. B.S. = 10.5); and Gamblers (av. B.S. = 15.4). The group of Gamblers Anonymous (G.A.) members also interviewed had the highest scores (an av. B.S. = 15.8). The questions in the survey were designed to identify the characteristics and betting behaviours which distinguished respondents with different levels of involvement, as inferred from their betting-scores.

Dickerson found certain trends running through all three§ groups: the more often a customer frequented a betting-shop, the longer he stayed, the more races he bet on and the more frequently he was to:

- i. be a man, be less than 35 years old, and know about G.A.;
- ii. have other kinds of betting outlet;
- iii. select bets in the shop;
- iv. spend more per week;
- v. have betting debts;
- vi. have felt desire to chase losses;
- vii. want to cut back or stop betting;
- viii. have tried stopping and found it hard;
- ix. rate his selection of bet as more skilful;
- x. be more certain of winning 'this time';
- xi. claim to have had beginners' luck.

When gamblers were compared with the other two groups, they were found to stake larger amounts, to report losing over a 12-month period, to have regularly lost more than intended, and regularly to have lost their cash in hand.

When G.A. members were compared with the group of 'gamblers' from Dickerson's betting-shop sample, the two were found to be quite similar: 'Although as a group the G.A. members were heavier gamblers, the scores and frequency distributions overlapped with the Gambler group, generally extending the trends established for current betting shop customers' (cf. Livingston, 1974). Members of G.A. did tend to be older, however, and Dickerson comments that the age difference between these and the 'Gamblers' may mean that the former represent the first generation of gamblers 'trained' in betting-shops.

*The questions looked at: frequency of visits per week; number of races gambled on per session; amount of personal pocket-money spent on betting; length of visit per session; whether ever spent more than planned; whether ever lost all money possessed on entry.

§Excluding at this point, members of G.A.

The 'training' of punters by betting-shop stimuli

On the basis of his observational data Dickerson, it has been shown, claimed that the responses of customers who stayed longer in the betting-shop environment became less variable and more consistently related to the temporal sequence of stimulus changes occurring there. The data from his questionnaires, he suggests, give an indication of what the long-term results of this 'training' are likely to be. He points out, however, that although the data point to the existence of behaviour having the characteristics of an F1 schedule, the fact that his study is a cross-sectional rather than a longitudinal one means that further research would be necessary to provide firm evidence for the learning hypothesis. Since the data were collected at one point in time, there is no direct evidence that the potential heavy gambler proceeds through stages of increasing involvement as the result of longer betting-shop experience, or that Dickerson's respondents are themselves involved in that progress. Nevertheless, replies to the questionnaire suggest that punter-gamblers, in particular, may be aware of experiencing greater pressure (from the schedule of reinforcement operating in the betting-shop, Dickerson suggests) to 'chase' losses, and of feelings of losing control over their behaviour. Although Dickerson comments that some individuals may be more predisposed to react to the training provided by the betting shop environment, he believes that the presence or absence of countervailing influences in the individual's life outside the betting-shop are more important in determining the extent of his involvement.

Dickerson's research continues with an interesting attempt to place his empirical data in the context of an experimental analysis of gambling behaviour and, in so doing, to answer some of the criticisms which might be made of this approach. It might, for example, be argued that the behaviour of heavy gamblers in betting just before the 'OFF' owes more to their superior skills and experience over other punters than to the influence of environmental contingencies. Dickerson's data, however, indicate that heavy gamblers tend to do most of their bet-selection in the shop. Because of this, he considers explanations in terms of skill and experience to be unsatisfactory - though it remains possible that heavy gamblers' use of information about price-changes* may be on many occasions a more powerful heuristic device than that of studying 'form' thoroughly.

Dickerson suggests that since the more a man bets the more his behaviour will come under the control of the betting-shop environmental stimuli, a parallel development in loss of control will occur in the sequence:

- i. desire to 'chase it';
- ii. spending more than intended;

*Much more information is needed about this aspect of their betting. Heavy gamblers would presumably use the option to bet at board prices when necessary, so that price-comparison might account for some late betting. Much depends on whether each heavy gambler bets late every time he bets - and whether he bets every time he can.

- iii. increasingly frequently losing cash in hand;
- iv. increasingly wanting to stop but finding it hard to do so.

Answers to the questionnaire suggest that this sequence is indeed followed.

Perhaps the most interesting suggestions, however, are those relating to the role of money in the hypothesised training programme, the identification of betting-shop reinforcers, and the nature of the training programme itself. In relation to the role of money, it has already been pointed out that one of the problems of explaining persistence in gambling is that the act of gambling itself involves spending a finite quantity of reinforcer. Dickerson suggests, however, that where the betting-shop training process can develop this prevents such potentially-aversive consequences from occurring. In particular it may change the gambler's perceptions of the role of money so that while he originally entered the betting-shop environment in order to make money for purchases outside gambling, his deeper involvement in gambling leads him to acquire money in order to enter the betting shop. The possession of money, instead of being the end-product of gambling, becomes the occasion (in learning theory terms, the discriminative stimulus) for further gambling.

In the early stages of gambling Dickerson believes money to be one of the reinforcers in operation. But it is the identification of the reinforcer for his hypothesised F1 schedule with which he is most concerned. His model of excessive gambling is constructed in terms of the gradual shaping of betting behaviour by an increasing control on the part of betting-shop stimuli. It depends, therefore, on the hypothesis that the 'blower' commentary acts as a reinforcement of the betting response. Subjective reports from his respondents, of tachycardia, sweating, muscle-tension and excitement, together with the fact that heavy gamblers place their bets nearest to the 'OFF'* all seem to identify the onset of the race-commentary as the reinforcer. Dickerson also gives an account of the factors likely to cause an increase in stake-size over time. Firstly, as gamblers become more heavily involved under the betting-shop training programme, so their betting-response will be made nearer and nearer to the 'OFF'. As a result of this they will begin to come in contact with the existing group of heavy betters in the shop and social pressures may encourage the novice to increase his stakes to match those of the experienced gambler - a factor which may operate in other forms of gambling, too (Livingston, 1974).

Together with this influence may be added the possibility that habituation to certain levels of excitement may occur as a function of experience, so that it becomes necessary over time to raise one's stakes in order to recapture the same subjective quantity of 'thrill'. The phenomenon of raising stakes after losing may be a result of the need to generate increased excitement in the face of the aversive experience of loss. Lastly, the existence of previous gambling debts at the beginning of a betting session may also have the effect of raising

*On the principle that the closer the response to its reinforcement the stronger the reinforcement.

the gambler's excitement threshold so that he has to begin his betting day with a large bet - an act which determines the criterion level of excitement and so the level of subsequent betting. In relation to this last point, somewhat similar contextual effects to those hypothesised by Dickerson in relation to the setting of sessional stake-levels, have been reported by Fryback, Goodman & Edwards (1973) in relation to variance preferences.

Summary and Conclusions

As a result of his research, Dickerson attempts to describe the steps by which his hypothetical training programme is implemented. First, entry to the betting-shop (see earlier discussion and Part Two) is determined by a variety of factors. Initially, the customer probably enters and leaves quickly, placing combination bets which were written outside the shop. At this level, money will be the main motive and, since combination bets also provide graduated feedback about handicapping skills, reinforcement of one kind or another will be fairly regular. Later, other factors may lead him to stay* in the shop for some time in the racing period in order, perhaps, to place a single bet. During this visit he may experience the reinforcing qualities (i.e. build-up of anticipation and the excitement) of the F1 schedule. Dickerson suggests that if, during one such visit, the punter is at the same time rewarded with a win on the VR schedule of reinforcement, then staying to bet in the shop will be reinforced. Gradually the F1 schedule will train him to bet nearer and nearer to the 'OFF' with larger and larger stakes, while the VR schedule will meanwhile be training the customer to stay for longer and longer on each visit, since the longer he stays, the more frequently he can bet and the greater his chance of winning. Unless prevented by other already-existing calls upon his time and money, this process will raise the frequency of the betting response until a compulsive level is reached.

Dickerson's research gives the most thorough description of betting-shop customers' behaviour so far available. It also gives a sophisticated explanation in learning theory terms of how such behaviour is acquired and 'trained' to heavier involvement. In so doing, it provides one more example of a type of social learning approach currently being applied to a variety of other problems of deviant behaviour (Akers, 1973). In its detailed attention to the operation of environmental stimuli it again emphasises the role of structural characteristics both in providing reinforcers and in governing their mode and frequency of presentation. The training model also presents a way of organising the data on determinants and structural characteristics which does not depend upon the existence of hypothesised pathological motivation as an explanatory concept. This conclusion fits in with the findings on the initial decision to gamble presented in Part Two.

*The determining factors are infinite; at this stage, it need only be recognised that reasons for staying need not necessarily be pathological; they could be the result of a change in betting behaviour to afternoon visits as the result of altered working shifts, for example.

Once the individual has entered the gambling setting, however, the scope for the exploitation of hypothesised pathological predispositions clearly increases enormously as the participant is brought - sometimes for the first time - into direct contact with a wide variety of additional potential reinforcers. But social learning theorists might argue that treating progressive involvement in gambling as a training process still enables them satisfactorily to explain the development of excessive gambling largely in terms of environmental contingencies. Apparent evidence of the existence of pathological motivation is then treated as being the result, rather than the cause of the aberrant behaviour. The fact that not every punter becomes a heavy gambler - even after years of punting (Dickerson, 1974) - is put down to countervailing influences in his life: at the beginning of a potential gambling career such factors may inhibit further involvement, even in the face of 'pressure' from the schedules of reinforcement operating in the gambling situation.

21 The Determinants of Gambling Behaviour—an Overview

The relative importance of personal and situational factors in determining gambling persistence

The recognition that human behaviour is the outcome of interactions between personal and situational factors is now relatively well established in psychology (Endler & Magnusson, 1976). Nevertheless, where deviant behaviour is concerned there is often a marked reluctance to believe that individuals can embark on or persist in such activities except as the result of deep-seated internal predispositions. Even those who accept the fact that commercial gambling often offers opportunities and inducements to the gambler may still baulk at the notion that an active training process is the primary determinant: 'We believe that if gambling did not meet a genuine, even if pathological, need, all the inducements brought to bear by those who provide the opportunities for it would not serve to keep people at it with the astonishing persistence they display.' (Social and Industrial Commission of the Church Assembly, 1950).

Mischel (1973) points out that it would be bizarre, as well as logically indefensible, to ignore the possible contribution of individual differences when accounting for particular behaviours. Future research may be successful in identifying broad predispositions towards behavioural persistence* which cannot be explained in other ways. But it has already been stressed that learning theory accounts of the development of excessive gambling do not themselves discount the influence of individual differences. What information there is, however, is consistent with the view that these differences are not related to specific predispositions and motives. Instead, broader, relatively undirected states of freedom and readiness (a state of 'receptiveness') are likely to be involved. These states are themselves largely determined by a person's social status and social roles, current life-style and more ephemeral moods, experiences and life-crises. These factors can be classified both according to their relative stability or long-term nature, and their temporal proximity to the decision or behaviour in question.

*Wallach & Kogan (1967) have suggested that persons scoring highly in 'motivational disturbance' (defined in terms of test-anxiety and defensiveness) may, if they embark on gambling at all, be predisposed to greater persistence under conditions of tangible loss, since experience of failure will for such individuals lead merely to heightened commitment. This is rather different from the concept of 'diminished sensitivity to changing consequences' or 'indiscriminate responding' (Mischel, 1973) said to be characteristic of maladaptive, severely disturbed or less mature people, but such hypotheses all seem to relate to a learned and generalisable perseveration. As such they are worth exploring, though it should be pointed out (a) that they are as likely to be consequences of gambling as causes and (b) that, in any case, they relate not so much to causes as to distinctive styles of involvement, however first established.

It is the existence of these states of freedom and readiness which, together with the appropriate situational determinants (ecologic opportunities and information about structural characteristics and associated reinforcers) largely determines the likelihood of initial involvement and subsequently, through continued exposure, longer-term participation. This formulation still leaves room for a concept of personal 'vulnerability' or 'inadequacy'. Dickerson, among others, has noted the often solitary nature of betting, its association with relative personal isolation outside the betting-shop and with acute personal problems and low self-esteem (though these may as often be consequences as causes). But the state to which these terms refer is here considered to be one of *a non-specific and contingent degree of receptiveness, determined as much by current events and temporary states in the individual's life as by longer-term influences.*

The conclusion that both personal and situational factors are implicated in the development of gambling behaviour at all levels of intensity gives little support to the extremes of either person-centred or situationist standpoints (cf. Endler & Magnusson, 1976). There is little evidence to support the literary-romantic view that gamblers are subject to overmastering pathological motivation: instead, this has been replaced by a more passive-inadequate concept of their multi-determined receptiveness. It is unfortunate that, on their part, learning theorists have sometimes tended to allow the impression to gain currency that reinforcement schedules impose a quasi-mechanical pressure on the gambler to increase his response-rate. It is true that the F1 schedule of pleasurable-painful tension reinforcement described in the previous chapter makes maximum frequency of reinforcement dependent on maximum participation. This, indeed, may well be its intention: it is certainly the case that the organisation of the off-course betting industry has fostered the development of continuous betting facilities. And providing these opportunities may be one way of maintaining the real value of turnover in times of inflation or, more generally, in the face of consumer resistance to raising the value of their individual bets.

Providing more opportunities to receive a valued reinforcer may entice players to more frequent participation; whether it compels it is quite another matter, if by this is intended a reference to some degree of physiological dependency such as drug-addiction and alcoholism are claimed to involve. Considerably more research is required in this area; in the meantime it may be too early to employ terms like physiological or psychological dependency in relation to gambling if these are intended to refer to the intrinsic power or value of the reinforcer alone. The subjective value of a reinforcer to a player is influenced also by the availability and strength of alternative sources of reinforcement. Where these are negligible the worth of those which remain will be correspondingly magnified. The notion of psychological dependency is, nevertheless, an interesting one if taken to refer to the F1 schedule's function, together with other aspects of the betting process, of structuring the gambler's day. It may be that it is its ability to provide a continuous means and justification for keeping

unwelcome thoughts and anxieties at bay through constant, exciting activity, as much as its simple reinforcement value which is responsible for its apparent strength.

If there is little evidence that the gambler is forced into ever more intense involvement by the compelling nature of the reinforcement itself, the subjective feelings of pressure or compulsion undoubtedly experienced by some heavy gamblers can still be given an alternative explanation. Where people have begun to gamble at an early age, for example, such feelings are particularly likely to arise as rival sources of reinforcement (wife, or family) begin to make their appearance in the gambler's life. At this stage, and not before, the gambler would become aware of conflicts of interest such as those between the earlier and smaller reinforcements provided by gambling and those larger and later ones provided by people and events outside the gambling situation. These conflicts might be responsible for belated attempts at 'impulse-control' (Ainslie, 1975) and the subjective feelings of 'loss of control' frequently reported as symptomatic of the 'compulsive' gambler (Bergler, 1958; Moran, 1975)*. Since these feelings are often brought about by the recognition of financial and family obligations they seem - paradoxically - to have a distinctly non-pathological flavour, stemming as they do from the gambler's desire but lack of strategies for avoiding temptation (Ainslie, 1975).

The model of the development of gambling behaviour which has been outlined in this review has tried, with the aid of existing research findings, to provide a reasoned and defensible description of the natures of, and interactions between, personal and situational sources of variance which together account for an individual's gambling behaviour up to the most intense levels of involvement. There are still many gaps to be filled and the model is at its most conjectural in relation to the determinants of excessive gambling. Given its adequate performance as an explanation of gambling behaviour, it might still appear to offer few signposts to those concerned not only with understanding its development in the individual but also with the practical problem of regulating commercial gambling for the purpose of reducing the risks of exploitation and of excessive gambling. These practical objectives and, more generally, the implications of research findings to policy-making and policy-implementation will be discussed in Part Four. One fairly clear implication of the model is that attempts (other than those focussed on the treatment of the individual gambler) to regulate excessive gambling (or exploitation) by tackling the sources of behavioural variance contributed by personal factors would be recklessly inefficient. They would require massive and costly preventive programmes aimed at all the various determinants of 'receptiveness', both stable

*Just when these feelings will manifest themselves will depend upon the gambler's personal circumstances so that - although related to degree of involvement - they do not give a very accurate yardstick. Epidemiologists in the field of alcoholism (cf. de Lint, 1973) have suggested that for many purposes it may be more satisfactory to describe involvement in terms of more objective criteria. For gambling, Dickerson suggests frequency, duration and expenditure. Perhaps 'loss of control' feelings might have some prognostic value, however.

and ephemeral*: great difficulties would be involved in changing either the most permanent, such as socio-economic status, or the most temporary of moods or fortuitous events. Such methods, which often neglect the situational determinants of gambling, spread their nets needlessly wide.

This is not, however, to say that all attention to personal factors must be abandoned. The research on the treatment of excessive gambling is not in other respects within the scope of this review§; but it provides its own cautionary note. Dickerson (1974), summarising much of the relevant work, has remarked on the lack of conspicuous success (only 30%-40%) either of those treatments based on psychodynamic, person-centred principles, or of those derived from the largely environmentalist perspective of behaviour modification methods. This may imply that explanations of the genesis and maintenance of excessive gambling demand consideration both of factors specific to the individual and of those contributed by the gambling setting - and that stressing only one or other side of the person-situation interaction is misleading. Thus, they emphasise again the defects of extreme environmentalist views, and the social policies associated with these. Those concerned with the treatment of excessive gamblers (cf. Victor & Krug, 1967; Barker & Miller, 1968) have themselves commented upon the need to fill the vacuum created by removal of the desire to gamble, by introducing or reactivating alternative sources of reinforcement in the patient's life. Methods recently advocated for the treatment of alcoholism (cf. Hunt & Azrin, 1973, for details of a community-reinforcement approach involving contingency-contracting) and excessive gambling (Cotler, 1971) now give much fuller recognition than before to such problems of relapse†.

In doing so, of course, they also imply that acquisition of the undesirable behaviour is itself not only a function of the availability and strength of the reinforcements provided by commercial gambling. It is also brought about by the lack of countervailing influences in the gambler's personal life. Such alternative reinforcers tend to impose limits on involvement. The young, for example, are particularly likely to be at risk. But this is not to say that, where it is considered necessary to protect people against the dangers of premature introduction to gambling, this is necessarily best achieved by attempting to reduce their vulnerability or to increase the attractiveness of other expressive activities. It may well be that prevention of exploitation and of excessive gambling are most directly, speedily, effectively and economically pursued by

*This is not to say that broad programmes to improve the quality of life are ineffectual, but merely that they are only justified in terms of cost when directed at tackling a large number of problems simultaneously.

§Useful reviews of treatment research are to be found within many of the papers already cited in connection with discussions of pathological motivation (cf. Chapter 14).

†Under the guise of 'symptom substitution' and the 'functional equivalence' (cf. Adler & Coleman, 1969) of different (undesirable) behaviours, these issues have long been raised by psychodynamic theorists as major criticisms of traditional behaviour modification approaches, which have tended to concentrate merely upon elimination of the undesirable behaviour.

policies which attend to the situational, rather than the personal determinants of gambling behaviour, though this essentially practical assessment in no way detracts from the explanatory importance of sources of variance located on the 'person' side of the person-situation interaction.

Implications for the control of gambling behaviour

In the light of Parts Two and Three it seems probable that the key to selective and sensitive regulation of gambling is the manipulation of situational determinants, whether of ecologic opportunities or of the structural characteristics which play a crucial role in establishing the essential nature of the gambling activity in question. Structural characteristics are of particular importance since they dictate the range, nature, amount and frequency of reinforcement(s) which will be available to participants. Thus they determine the extent of adverse social and economic consequences which can be suffered by a minority of gamblers. The relationship between structural characteristics and consequences holds whether individual differences are held to be of account only insofar as they bring about differential exposure to these characteristics or whether they are considered to encompass more active predispositions which may steer people towards particular types of reinforcements. It holds also whether promoters are considered merely to be making such reinforcers available or whether they are believed to play a more active role in producing a gambling environment which 'trains' those sufficiently exposed towards higher levels of involvement.

In the final Part of this review the implications of research - and particularly of the relationship between structural characteristics and consequences in gambling - will be made explicit. Special attention will then be paid to the issue of how far, given its potential effectiveness as a means of preventing excessive gambling or exploitation, the regulation of situational determinants can be justified and in practice carried.

Part Four: Implications for Policy and Research

INTRODUCTION

THE ASSUMPTIONS BEHIND CURRENT POLICIES ON GAMBLING

THE IMPLICATIONS OF THE RESEARCH FINDINGS FOR THE
REGULATION OF GAMBLING

THE CONTRIBUTION OF RESEARCH TO POLICY-MAKING

POSTSCRIPT — DIRECTIONS FOR FUTURE RESEARCH

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22 Introduction

Few people would argue with the general statement that gambling should be subject to regulation. As A.W. Peterson (1957) has remarked: 'There are very few forms of personal conduct which are quite clearly matters of no concern to the State.' But when it comes to the practical issue of formulating simple, acceptable and enforceable social legislation in a sensitive field (Erroll, 1972), policy-makers have to contend with the considerable disagreement which exists over the circumstances in which, and extent to which, State intervention is justifiable.

In an attempt to restrict the area of debate a distinction is often made between the intrinsic moral worth of gambling, and questions of its social consequences, the latter alone being considered an appropriate field for legislative regulation. Leaving aside the question of whether considerations of moral worth are ever entirely separate from implicit assumptions about practical consequences*, it is clear that some sorts of consequences are easier to measure than others. The last Royal Commission, while sympathetic to the view that gambling was '... a self-regarding and essentially uncreative activity', felt that it had not received sufficiently clear evidence that serious social consequences were involved. This stress on measurable consequences has tended to shift the debate from questions of the morality or aesthetic value of gambling as a leisure-pursuit, to a more detailed examination of particular types of gambling and their relationship with extent of participation and probability of tangibly harmful effects.

Despite this more utilitarian approach, however, echoes of the older debate still survive to influence the value which different interest groups are prepared to attach to evidence of public demand for gambling facilities when this demand is to be used as a basis for determining how to hold the balance between the enjoyment of the majority and the dangers of potentially harmful consequences to a minority of participants. In the area of liquor licensing, the Erroll Committee accepted the principle that legislation should give some priority to public wishes:

'With moderate social drinking such an established feature of the country's day to day life, it is difficult to accept the principle that changes in the law governing availability should be conditioned entirely either by the needs of

*The Report of the Social and Industrial Commission of the Church Assembly (1950) contains a cogent discussion of this issue.

those most vulnerable to its excessive use or by attitudes based on the social conditions prevailing at the turn of the century.'

It might reasonably be argued that the position governing the regulation of alcohol consumption is rather different from that of gambling, since in the former case restrictive measures over a long period may have trained consumers into adopting a moderate pattern of participation*. In the case of gaming, moreover, there is considerable doubt as to whether the activity would have achieved any significant role in national life at this time, had it not been for the means provided by the Betting & Gaming Act, 1960. Given the task of correcting manifest abuses with which the Gaming Board was faced as a preliminary to enabling '... a pattern of controlled gaming to evolve' (Gaming Board, 1969), it is hardly surprising that the Board's pronouncements on gaming - which arose directly from its roles in enforcing, supervising and (when it recommends the Home Secretary to make regulations) formulating the law in accordance with Parliament's intentions - should have held greater reservations both about the acceptability of gaming *per se* as a leisure-pursuit§ and, in consequence, about the extent to which the interests of the majority of participants should be taken into consideration. Those given direct responsibility for the satisfactory regulation of a potentially dangerous activity, or who have a special concern for its casualties (cf. Popham, Schmidt & de Lint, 1975, on alcoholism; Moodly, 1974, on gambling) are inevitably especially aware of the possibilities and nature of adverse consequences for the minority of consumers:

'It is frequently argued that the innocent enjoyment of the majority should not be interfered with for the sake of a small minority whose weakness leads them into difficulties. For want of information, this argument must be broadly accepted, but with important reservations. It may well be less expensive in the long run (both in money and in terms of human suffering) to limit somewhat the opportunities for people to be led into gaming in the first place, than to attempt to cure those who subsequently develop compulsive cravings.' (Gaming Board, 1969).

Although there are differences of opinion over how gambling should be evaluated as a 'legitimate' leisure activity, there has been broad agreement over the sorts of consequences to be regarded as undesirable. Attempts have been made to define examples of individual exploitation - though not usually in a wider 'value-for-money' context - while taking into consideration the structural characteristics of different games and the effects of these promoters' overheads. In gaming, a policy of attempting to reduce opportunities for making excessive profits has been followed (the outlawing of 'sucker bets', for

*The Committee estimated, however, that between 200,000 and 400,000 alcoholics existed in the United Kingdom.

§The tendency to view activities which are difficult to regulate as if they were in themselves morally reprehensible occurs in the writings of those in the United States with extensive knowledge of the links there between gambling and organised crime (cf. Peterson, V., 1951; Turner, 1965; King, 1969).

example), though so far as betting is concerned the possibility that analogous practices might be occurring (cf. Chapter 24) has been subject to little or no investigation. More generally, a main concern has been to protect the individual from becoming excessively involved in gambling, and to protect him, his family and society at large from the adverse consequences flowing from such involvement. As will be shown in the next chapter, this concern has been accompanied by certain general assumptions about the determinants of these consequences, and these assumptions have influenced both the policies followed by the Gaming Board and those advocated by the Churches' Council on Gambling. The Gaming Board has, in addition, two further concerns; first, to prevent the infiltration of gambling by criminal elements and, second, to retain sufficient power and capacity to enable it to continue carrying out its function of regulating gambling in the face of commercial expansion - a consideration which has caused the Board to view the development of gambling and leisure conglomerates with some concern.

The first part of this review concentrated upon examining and evaluating evidence about the direct consequences of participating in different forms of gambling. The conclusions of Part One agreed broadly with those of the Royal Commission which reported 25 years ago: '... we can find no support for the belief that gambling, provided that it is kept within reasonable bounds, does serious harm either to the character of those who take part in it, or to their family circle and the community generally. It is in immoderate gambling that the dangers lie ...'. The need to keep gambling 'within reasonable bounds' - and the difficulties of so doing - are underlined both by information about the commercial organisation of gambling (Chapter 5) and the impact upon participation of the industry's responses to the twin pressures of taxation and inflation, as well as by greater knowledge about how the more potentially dangerous forms of gambling facilitate excessive involvement (cf. especially Chapters 4 and 6, as well as Parts Two and Three). It is a curious fact, however, that while there is general agreement on these matters, there is little information about the size of the excessive gambler group or of its composition (Chapter 8). Nor is it clear whether it has grown over the last quarter of a century or, if so, how closely this growth has been related to commercial developments.

This is a serious omission both for policy and research. As far as policy is concerned, it is of fundamental importance that accurate estimates of the numbers of excessive gamblers, rather than guesswork, should be available. Without its own independent sources of information the state is hampered both as regards its job of protecting the interests of the gambling consumer (whether moderate or excessive) and in relation to its ability to withstand pressures from groups with sectional interests in restricting or liberalising laws and commercial practices. Where research into social problems evolves piecemeal or develops through the initiative of particular interest groups, there is always a danger that the latter's assumptions and preoccupations will cause

more to be read into the available data than it can legitimately bear. In the case of gambling enough is known about its structural characteristics and their role in facilitating particular types and intensities of participation to allow quite a sophisticated degree of regulation. Yet the development of knowledge about how to regulate has not been accompanied by a corresponding evaluation of the degree to which regulation is necessary. On the contrary, what should have been proved has often been assumed as self-evident, particularly by the 'moral entrepreneur' (Becker, 1963), concerned to present alleged temptations as being overwhelmingly powerful, as growing in strength, and as requiring control. So far as gambling is concerned, this effect can be achieved by setting figures on size and growth of turnover in gambling side-by-side with allegations that the problem of excessive gambling is growing - the implication being that the one group of factors leads inevitably to the other. The existence of such a relationship is not in question, but its relevance to policy-making is a rather more complicated issue. The problems are examined in the following chapter.

23 The Assumptions behind Current Policies on Gambling

Introduction

So far as excessive gambling is concerned, the implications of the research reviewed in Parts Two and Three for policy are by no means straightforward. It is true that it seems likely that, if the regulation of gambling is to be effective and minimally-intrusive, a detailed knowledge of its determinants is required. It also seems fairly clear that situational determinants, such as the ecological opportunities provided by the relative availability of gambling outlets and structural characteristics with their associated reinforcers, are more easily and effectively manipulated than those determinants which influence an individual's receptiveness - important though these may be for the purpose of providing causal explanations. The probability of occurrence of the behaviour in question is very directly reduced by reducing in one way or another people's opportunities and abilities to display the behaviour, regardless of their personal desires and intentions. Moreover, the fact that a survey of the research has produced little evidence of the existence of specific 'pathological' predispositions or motivations to gamble holds out little hope of being able to use alternative strategies such as the screening-out of potential victims in advance.

A basic assumption and its alternative formulations

The use which is made of this research, and of the model of acquisition, maintenance and increase of gambling behaviour to which it lends some support depends - so far as the formulation of policy is concerned - on the sorts of additional assumptions which have to be made. The most general and pervasive of these is that, in some way, excessive gambling is related to the total amount of gambling taking place in a community, such that the latter determines the extent of the former. Some such 'theory' about excessive gambling seems to underpin the Churches' Council on Gambling's emphasis upon the importance of turnover figures, the significance of any growth in these, and on the need to control them while the Gaming Board's concern to limit opportunities for gaming may be said to spring from similar considerations.

Translating this rather vague assumption into practical policies or recommendations for policy, however, requires a fuller and more precise understanding of how overall levels might affect those of excessive gambling. In fact, this general assumption - aided and abetted by the use of turnover as a measure of 'volume of gambling' - conceals two more particular ones: that the number of excessive gamblers is related to the total number of gamblers; and

that the number of excessive gamblers is related to the mean consumption-level (however this is to be measured) of the total population of existing gamblers. As such the two assumptions are clearly related to different stages in the development of gambling behaviour. The first (number of participants) refers to the process of starting to gamble, the determinants of recruitment from the non-gambling population (cf. Part Two) and, by implication, with policies which might prevent or reduce recruitment. The second assumption refers to the subsequent gambling behaviour of the existing (i.e. already recruited) population of gamblers, the determinants of its acquisition, maintenance and increase of intensity (cf. Part Three) and of policies which might hinder or prevent the punter's progression to harmful levels of gambling*.

The problem with using fluctuations in turnover as a guide to escalations in recruitment or intensity of gambling is that - as was shown in Part One (cf. Chapters 2 and 3) - turnover figures give no clue to the source of any growth. They may be caused by increases in numbers of participants, or by the increasing amounts which, or frequency with which existing participants bet. In the longer-term pricing and taxation policies together with changes in the value of money add to the problems of making meaningful interpretations. These sorts of problems make it unsafe to regard turnover figures as any more than an inaccurate indication that changes of some sort are taking place and that these may be dangerous. A more precise evaluation of the extent and location of any such danger requires, in addition, detailed information about the various sources of influence - and especially about numbers of participants and patterns of participation. An example of the sort of analysis required was given in relation to the discussion of the significance of changes in off-course betting turnover to punters' betting habits (Chapter 4)§.

Overall turnover and the issue of generalisation

In the past, the use of turnover figures as a measure of the need for controls on gambling has been complicated further by uncertainties about whether overall gambling turnover should be used for this purpose, or whether only figures for forms characterised as being potentially dangerous should be considered. So far as alcoholism is concerned, all the relevant beverages share a common active ingredient, alcohol, and - since there is little evidence that specific ones can be characterised as beverages of moderation or excess (Popham, Schmidt & de Lint, 1975) - can therefore probably be regarded as being equally likely to be implicated in alcoholism. This means that overall alcohol-consumption, regardless of beverage, can be used to measure intensity of consumption. So far as gambling is concerned, however, the position is rather different;

*Though not their primary purpose, such policies might also be expected to have some effect on recruitment.

§It was argued that given a stable number of participants, resistant to raising their individual stake-levels, and given the need of promoters to raise turnover in order to keep pace with inflation (price increases being difficult to impose), a possible solution would be to encourage clients to bet more frequently.

although it might be suggested that all forms of gambling have, likewise, certain active ingredients (excitement, financial incentives) in common, and although in different countries excessive gambling, like alcoholism, may occur within the context of that country's preferred medium for gambling*, previous discussion (cf. Chapter 17) of the structural characteristics of different forms of gambling suggests that some forms of gambling are intrinsically more dangerous than others.

Study of the publications of the Churches' Council on Gambling, however, indicates that the C.C.G. nevertheless believes that overall gambling turnover figures are a useful guide to the probable extent of excessive gambling. Their preoccupation with total turnover seems to be based upon three main considerations:

- i. that growth in turnover is always significant insofar as it reflects greater public acceptance of gambling. Even growth in participation in less dangerous forms may create a climate more favourable to gambling. This lowers people's moral resistance to trying it, and enables promoters to expand their operations, including the introduction or development of harmful forms;
- ii. that the more forms of gambling available, and the more numerous their outlets, the more likely the potential gambler will be to enter 'the system';
- iii. that participation in less dangerous forms of gambling may lead, by a process of generalisation (accompanied, possibly, by satiation with the frequency and strength of reinforcements offered in less dangerous forms) to experimentation with more dangerous ones. Once he has entered the system, at whatever point this occurs, the novice is at risk of becoming an excessive gambler.

Growth in overall turnover figures is here being used primarily as an argument for restricting the expansion of any gambling activity, on the grounds that only by limiting recruitment to gambling overall can the otherwise inevitable progress of a minority of recruits towards excessive gambling be prevented. It is difficult to assess the strength of these connected hypotheses from existing evidence. It seems likely, however, that the social acceptability of gambling has been enhanced over the last forty years or so by the growth in popularity of the football pools§, and that this may have created a climate of public (or political) opinion more favourable to the legalisation of off-course betting and

*In countries where lotteries are the primary form of gambling, excessive gambling - at least in terms of excessive expenditure - might be more frequent in connection with this activity than its structural characteristics might otherwise predict. It is also true, of course, that promoters would make correspondingly greater efforts to improve the reinforcements offered - by increasing event-frequency, improving prize-structure, creating conditions of pseudo-activity, etc - where lack of alternative forms made the exercise profitable.

§Alternatively, however, it has been argued that the increase in the popularity of the pools led to a parallel reluctance to regard such participation as genuine gambling.

relatively indifferent to the unforeseen growth of gaming and bingo. Rubner (1966) has also remarked that legalisation of an activity will inevitably lead to an increase in the number of participants. Information presented in Chapter 3, on the other hand, provides some qualification; although turnover (and, presumably, the respectability of gambling) has risen in real terms over the last 25 years, this rise has by no means been consistently in favour of the more dangerous forms. While, for example, there has been some rise in off-course betting turnover, there have been falls in on-course betting. Lastly, the evidence given in Chapter 4, as has already been mentioned, suggests that off-course turnover is maintained largely by a limited pool of punters and not a constantly expanding one.

Nor does it seem likely that such pools of gamblers in the more dangerous forms of gambling are fed primarily through a process of generalisation, though here the empirical data bearing on the question is not very helpful. While it is true that many gamblers participate in more than one form of gambling (Kemsley & Ginsburg, 1951; Downes et al., 1976) and that number of gambling outlets used is related to heaviness of gambling (Sewell, 1969; Dickerson, 1974; Borrill, 1975), other evidence questions the relevance of these findings to the generalisation issue. Downes et al., for example, have shown that 48% of regular pools-punters, and 37% of bingo-players take part in no other form of gambling. Although the heaviest gamblers more often appear willing to gamble on anything, Dickerson noted that, even in his sample of G.A. members, 72% used no more than two outlets, the most preferred combination being that of on- and off-course betting - evidence of the extension of interests to additional betting settings rather than generalisation to fresh forms of gambling.

While these findings are in no way a conclusive rebuttal of the concept of generalisation - heavier gamblers may have begun their careers in less dangerous forms but later discarded them through lack of time or interest - they are more consistent with the arguments emphasising the specificity of gambling behaviour, and its relationship to particular structural characteristics and reinforcers. The generalisation issue presented here has something in common with the sorts of escalation hypotheses advanced to explain the alleged progression from marihuana to heroin. These hypotheses are notoriously hard to prove (cf. Duncan, 1975) where 'hard' drug users come from populations in which 'softer' drugs are commonly used. In the gambling context, where non-continuous forms such as the pools have a national following, the fact that a high proportion of participants in 'harder' (i.e. continuous) forms had a history of participation in 'softer' ones would clearly be of doubtful significance so far as the question of generalisation was concerned*.

*The same sorts of objection can also be raised with regard to studies which claim to show the significance of early or large wins, parental example, etc., in the aetiology of excessive gambling, unless this information is accompanied by data showing their incidence in the general gambling and non-gambling populations.

Overall gambling turnover figures, then, are of limited usefulness except (appropriately deflated, of course) as a very rough means of measuring changes in the social acceptability of gambling over time. Their use as an 'early warning' device is equally limited: they may conceal important developments in the gambling industry as easily as they raise false alarms. Lack of information about gambling, however, has inevitably led to over-reliance on such figures and this stress has, particularly in the past, seemed as much the result of concern about the morality of gambling, considered as a class of similar activities, as of hypotheses about the role played by generalisation in the development of a gambling 'career'. Given this mixture of concerns it is understandable that the Churches' Council on Gambling, anxious to limit not only the prevalence of excessive gambling but, more generally, the spread of overall participation should have sought to increase the visibility of the behaviour as a whole by whatever means came to hand. An emphasis upon the significance of overall turnover figures, however, is essentially propagandist: where employed as a means of creating publicity or moulding public opinion, this use of inadequate information is akin to the process whereby 'moral panics' are created and sustained (Cohen, 1972).

While there is still some reluctance to describe any form of gambling as being inherently benign, there is - despite the qualifications mentioned above - widespread recognition on the part of those concerned with social policy issues in relation to gambling that in practice some forms of gambling are relatively harmless and self-limiting. This is especially likely to be true of forms like the football pools, lotteries, raffles and premium bonds which do not require attendance at a special gambling setting. When the possibility of escalation from 'softer' to 'harder' forms of gambling is discussed what is often being implied is, not that processes of satiation and generalisation make all forms potentially dangerous, but that in many cases the commercial organisation of 'softer' forms renders players vulnerable to exposure to 'harder' forms within the same setting. Mention was briefly made to this danger in Chapter 13, and both the C.C.G. and the Gaming Board have drawn attention to some of the methods used*. These can be broken down into four groups, all but the first of which refers to manipulations of structural characteristics:

- a. presenting participants in a relatively harmless, or well-controlled form of gambling with a special opportunity to engage in a more potentially harmful one. Offering bingo-players the chance to take part in a modified form of roulette, or other interval game on highly unfavourable terms, is one example given by the Gaming Board (1969);

*To underline the importance of these devices and their consequences, descriptive terminology has been borrowed by the Gaming Board from the addictions field. Inevitably, the moral and theoretical preoccupations of that area have, in consequence, tended to spill over into gambling. The classification of gambling into 'hard' and 'soft' forms is convenient but requires care if expectations and prejudices which may turn out to be less appropriate to their new subject-matter are not to be generated in advance of supporting evidence.

- b. changing softer or more-controlled forms into harder ones: the Gaming Board have been constantly vigilant to prevent bingo promoters from trying to speed up the games unduly (Reports - especially 1976);
- c. increasing the pace and/or other relevant characteristics of hard forms; the Churches' Council on Gambling has kept extremely detailed records of this process in relation to horseracing in its annual reports (1962-1968) and in separate books by the same author (Moody, 1972; 1974);
- d. attaching, or increasing the importance of, softer types of gambling as aspects of harder forms; the introduction of the Saturday ITV '7' and the BBC equivalent, are examples of this development in relation to horserace betting.

Although the operation of generalisation cannot be ruled out, the four strategies discussed above suggest that it will be most likely to occur (if such a concept is useful at all) where, usually through the deliberate manipulation of the promoter, soft and hard forms are introduced into the same setting (the first strategy) or where hard forms can also provide ways of playing which make them sufficiently similar to some of the softer forms, such as pools, lotteries or bingo, to attract participants from the latter activities (the last, strategy). To say this is to reiterate the findings of Parts Two and Three, that hard and soft forms of gambling have very different structural characteristics or profiles and associated reinforcements, and that ordinarily they are probably brought to potential participants' attention in separate ways. This being so, it seems unlikely that generalisation across both settings *and* types of gambling activity should ever be a significant factor in recruitment to the 'harder' forms of gambling. Instead (but with the limited exception of the first and last strategies discussed above) it is likely that most people become involved in the more potentially-dangerous forms of gambling directly, rather than through progression from 'softer' forms. Not only does this once more cast doubts on the usefulness of overall gambling turnover figures as a guide to policy-formulation but in addition suggests that the assumption mentioned at the beginning of this chapter must be cast in a more restricted form. This is that the number of excessive gamblers in a particular type of gambling activity is related either to the total number of participants in that activity alone, or to the mean consumption-levels of all participants therein.

A twin-pronged policy: the Gaming Board

These alternative formulations of the assumption suggest the possibility and need for a twin-pronged policy of controls in relation to gambling: those relating to restrictions on recruitment and those concerned with restricting the intensity of involvement of those recruited. Choice of policy will depend not only upon the nature of the gambling activity but also - in the ordinary way - upon its popularity. The operation of these considerations and the implications for policy of the restricted assumption can be seen quite clearly in the development of social policies towards gambling over the last 25 years.

They are, however, most easily described in relation to the methods adopted by the Gaming Board to regulate gaming. The Board, in fulfilment of its duties under the Gaming Act, has developed two broad approaches to the regulation of gaming: these can be summarised as approaches based on the notion of 'unstimulated demand', and those based on that of an activity's 'essential nature'. They involve the restriction of recruitment (by the restriction of opportunities to gamble) and the manipulation of structural characteristics (in order to prevent excessive involvement), respectively.

As mentioned in Chapter 6, bingo has been described as 'a neighbourly game played for modest stakes'. Because of this, and because of its social nature the Board has placed relatively little restriction upon participation. But if recruitment is not to be limited attention must be given to preserving the existing balance amongst the game's reinforcers and, in particular, to resisting attempts to 'harden' the activity by manipulation of its structural characteristics. The concept that bingo has an 'essential nature' can be used to encourage promoters to expand certain features of bingo - such as its social side - rather than others*. The Royal Commission (1951) appear to have had a mind a similar consideration in relation to the legalisation of off-course betting, when they recommended that it should not be developed in a fashion which provided facilities for continuous betting. Had the activity been legalised in a way which preserved the 'essential nature' of street-betting before the 1960 Act, it would have remained a relatively 'soft' form of gambling, off the course§.

Where a gambling activity is already 'hard', the concept of 'essential nature' is more likely to work against, rather than for, regulation. The 1960 Act had attempted to divorce turnover from profits and by so doing reduce promoters' interests in encouraging excessive play. But this attempt to 'soften' gaming was not pursued by the Gaming Board. Quick to recognise the theoretical difficulties of, and practical objections to, such proposals, it has confined itself to modifying the rules of bankers' games in ways which strike a balance between preserving the games' traditional natures and reducing the more glaring examples of profiteering. But, unlike the case in bingo - where the issue is that of preventing consumption-levels from rising - in gaming the conditions for high levels of consumption to take place already existed and could not materially be reduced. Though some less popular games were simply prohibited, the only remaining practicable way to limit the likely size of any excessive gambler group was to restrict recruitment. By 1968 the prohibition of gaming was probably not feasible, and it is doubtful whether the provision of gaming facilities could (or would) have been reduced on the grounds of the

*Recently, in their evidence to the Royal Commission on Gambling (1976), the Gaming Board have recommended the introduction of a legal definition of bingo, and sought new powers to make regulations in respect of the activity.

§This difference between betting and gaming (which is always 'hard') makes it possible to regulate the former in more sophisticated ways (cf. Chapter 24).

desirability of limiting recruitment alone. In fact, the uncontrolled expansion of gaming during the 1960's and its alleged infiltration by criminals (cf. Chapter 7) made it imperative that the industry be reduced to a manageable size for the purposes of adequate inspection and regulation. The Gaming Board was able to limit the numbers and geographical location of gaming clubs by appealing to the concept of 'unstimulated demand' - a notional 'approved' level of demand which was chosen more for its suitability to the Board's objectives than to the gaming public's needs*.

In addition, the ability of clubs to attract new players has been further curtailed by Board's support for 'closed clubs'§ - a recommendation of the Churches' Committee on Gambling Legislation:

'This Committee believes that the principal attraction to join a gaming club should be to game. It recognises that the resulting club and its activities may seem more hardened and be more depressing to most onlookers than a dining and cabaret club with some gaming provided, but if the intention is to limit the impact of gaming on society the closed club concept is essential.' (Churches' Committee on Gambling Legislation, 1968).

Both aspects of the Gaming Board's policies - those based on the notion of 'unstimulated demand' and those flowing from a 'closed club' viewpoint - have received some indirect support: evidence is available (N.O.P., 1969) that between 51% and 67% of those interviewed during the course of a sample survey of people attending a number of London and provincial gaming clubs had started gaming only since 1960, the year when the Betting and Gaming Act was passed. As few as 31% of players had, on their first visit to a club, gone mainly to game.

This discussion of the Gaming Board's policies and the sorts of assumptions upon which they appear to be based raises some general points in relation to policy-formulation. First, given the difficulty of modifying the structural characteristics of existing 'hard' forms of gambling, it might seem that regulating the size of any consequent excessive gambler group is best achieved at point of entry to the system, rather than afterwards. But where facilities already exist it may be just as difficult to reduce their numbers as to modify the structural characteristics of the activities they offer. Whatever the approach - whether aimed at recruitment or consumption-levels - of social policies towards gambling they are considerably easier to implement before facilities have multiplied and activities 'hardened' than after. Second, it is clear that the policies and assumptions which have been examined are consistent with the model of acquisition, maintenance and increase of gambling behaviour developed in

*No sample survey was undertaken to determine the demand for gaming facilities and, indeed - given the intentions of Parliament - information about public demand would have been of little use. It would simply have reflected the consequences of the growth of gaming facilities since 1960.

§Both gaming and bingo clubs were already 'closed' in the sense of being open only to members and their guests - though this is of little consequence as a restriction in the case of bingo.

Parts Two and Three of this review. Thus, numbers of participants are influenced by ecological opportunities, together with the relative 'visibilities' of particular types of gambling in a person's environment, while the consumption-levels of existing gamblers are influenced by the structural characteristics of the activity. Though the Gaming Board refers to the 'weakness' of some gamblers, its policies suggest that pre-existing differences in vulnerability to gambling are regarded more in terms of a relatively general 'receptiveness' than as having their source in specific, stable and possibly pathological predispositions to gamble.

Quantifying the basic assumption

So far in this discussion no attempt has been made to quantify the hypothesised relationship either between the number of participants taking part in a gambling activity and the size of its excessive gambler group, or between the consumption-level of all participants in the activity and the number of its excessive consumers. To pose the problems baldly, *there is little reliable information about the size of the excessive gambler group [cf. Chapter 8] and no empirical evidence that its size is influenced by numbers of participants or consumption-levels and their determinants - ecological opportunities and structural characteristics*. Indeed, the only comments with a bearing on the subject are those of Moran (1970a) and Dickerson (1974), both of whom assert that the increase in betting facilities after 1960 may have influenced the onset of excessive gambling for a few members of their samples. Instead, virtually every aspect of the question of excessive gambling rests upon assumptions, and these in turn have contributed to the comparative lack of information about any of the policy-relevant parameters of gambling behaviour*. While the suggestion that the absolute size of the excessive gambler group should be made the basis of some kind of utilitarian hedonistic calculus is a distasteful one, it is clearly important so far as determining social policy priorities is concerned. Again, while resisting the opinion that a gross disparity between the size of the excessive gambler group and that of the total participant-group in a particular gambling activity is evidence of the pathological abnormality of the former, the ratios have a practical relevance to the sorts of social policies people believe should be implemented, and the extent to which they can, in fact, be carried out. Comments such as Preston's (1974), that '... we cannot run society in general on prohibitions designed for the benefit of addicts', are not only true in the sense that policies aimed at reducing the 'addiction' of existing gamblers, alcoholics, etc., would probably entail a severity quite unacceptable to the large numbers of moderate consumers. They also apply to measures which impinge to a lesser extent on the freedom of choice of the majority by manipulating the situational determinants of gambling in the interests of protecting those 'at risk'. Environmental arrangements tend to

*In this respect, turnover figures for individual forms of gambling share the same failings as overall turnover figures.

reflect majority rather than minority wishes, and re-arrangements may in consequence be difficult to implement unless a new majority can be found to support them*.

Recently, attempts have been made in the alcoholism field to quantify both the size of the excessive-drinker group and its relationship with mean consumption levels (and with variations in these levels) of the drinking population as a whole. Examination of the frequency distributions of alcohol consumption for a number of drinking populations has revealed these distributions to be approximately lognormal in character (cf. de Lint, 1973): most consumers, that is, drink a small amount while a few drink large quantities (Miller & Agnew, 1974). So far, this is merely a statistical description, though already it is based on, and provides, considerably more sophisticated information than is available for the gambling field. From a social policy viewpoint, however, the most interesting feature of this research has been the attempt by Ledermann (1956) to develop a general formula (the Ledermann distribution) which could be used to describe any alcohol-consumption data. The resulting Ledermann model of alcohol-consumption was a 'special one-parameter case of the lognormal distribution where the mean of the consumption completely defines the distribution' (Miller & Agnew, 1974). Subsequent application, and validation of the Ledermann formula against data from societies and social groups with varying mean per capita consumption levels have given rise to claims not only that (given information about mean consumption) the sizes of consumer groups at all (and especially 'heavy') levels of alcohol consumption can be predicted, but also that overall mean consumption in a particular drinking population in some way determines the size of its heavy-drinker group[§], such that 'the prevalence of consumption by those we label 'alcoholic' is inextricably linked to general consumption' (Popham, Schmidt & de Lint, 1975). It is a short step from this hypothesis to propose that social policies which change the mean consumption-level for a particular society's total drinking population will thereby effect proportional changes in the size of its heavy-drinker group, and even that decreasing overall consumption levels (by raising the price of liquor, for example) is 'the only feasible approach to the reduction of hazardous drinking and alcoholism' (Popham et al., 1975). In the same way it is claimed that social policies which allow mean consumption levels within a drinking population to rise are in effect legislating for a corresponding proportional increase in the size of the heavy-drinker group.

*A case in point is the proposals for further restrictions on public smoking: these have become increasingly politically practicable as recruitment to the 'non-smoker' group has grown.

§It cannot predict the prevalence of 'alcoholism', however, but only of excessive drinking, defined as intake in excess of a predetermined level. Similar problems would arise in the case of 'compulsive' gambling, which would have, first, to be operationalised as excessive in terms of some such measure as annual outlay.

The Ledermann model of alcohol-consumption is concerned primarily with the existing group of consumers and with ways of halting the progression of its members to higher levels of consumption. Though such measures might also be expected to have some effect upon entry to the consumer-group, the model has little to say about recruitment. In the same way, recruitment-oriented measures, while they may have some effect upon the consumption-levels of existing consumers, are not primarily designed with this aim in view. So far as gambling is concerned, Ledermann-derived policies would be those directed against the expansion of opportunities for existing punters to gamble more heavily (as, for example, lengthening the opening hours of betting shops so that gambling can take place on an increased number of events) rather than against the increases in the ecologic visibility of gambling outlets, though the two approaches are never completely separate*. Although the model has been criticised for having no clear theoretical basis (Miller & Agnew, 1974), it is consistent with the emphasis placed in this review on the importance of structural characteristics, in interaction with gamblers' receptiveness, in determining continued gambling. The belief that unless constrained, bettors may proceed through stages (punter; punter-gambler; gambler) to heavier levels of involvement (Dickerson, 1974) is analogous to explanations put forward to account for the shape of the Ledermann distribution (both are at present supported only by cross-sectional data, too), and policies aimed at reducing recruitment work on the assumption that such a progression occurs, but doubt the possibility of substantially hindering it. Lastly, some such consumption-model is probably behind the Churches' Council on Gambling's emphasis upon turnover figures and their implications for social policy, though the figures reflect recruitment as well as participation factors.

Despite its apparent compatibility with the model developed in this review, there are serious doubts about whether at present the Ledermann formula provides much more than an air of spurious precision to the assumption that the number of excessive consumers is related to mean consumption for all, and to changes therein. Quite apart from the difficulty of applying it to gambling at the present time[§], its potential value to the study and prevention of alcoholism is still a matter of considerable controversy, and Miller & Agnew have put forward a number of cogent objections both in relation to the assumptions governing the derivation of the general formula, and its usefulness in prediction. It is probably fair to say that while such general formulae, once derived and validated, may eventually provide a means of monitoring the

*Time is also an important determinant of ecologic opportunity; if betting shops open for longer hours - particularly during the leisure-time of the majority - this will affect recruitment as well as intensity.

§There is at present insufficient data about the consumption of individual participants, though credit bookmakers could provide a ready source of information without betraying their clients' affairs. Even if the lognormalcy of the resulting distribution was established, however, it would still be necessary to develop a general formula capable of dealing with all such distributions, regardless of their consumption-means.

effects of social and fiscal policies upon the members of homogeneous populations of consumers, they offer no short-cuts. The important policy-decisions - choice of method; intervention-point (recruitment or later); intensity of intervention - can be made and justified only through more detailed knowledge of the determinants of gambling behaviour.

Conclusions

Little is yet known for sure about the sizes of excessive-gambler groups in relation to the various 'hard' forms of gambling. But were more exact estimates available, the fact that the ratio of excessive gamblers to moderate ones would probably be low must inevitably limit policy-options so far as regulation is concerned. While the conclusions of this review are that the virtue of non-gamblers and moderate gamblers is a cloistered one - that they are protected to a great extent by their other commitments - gambling's casualties, though vulnerable through their freedom and readiness rather than more specific, stable and predispositional factors, are nevertheless a minority. Information about the determinants of the rate of growth of this group relative to the rest of the gambling population or, more generally, about the determinants of recruitment-levels, may be relevant to policy-decisions. But on their own they may be unable to raise the 'visibility' of the problem enough to justify action, particularly if only obtrusive policies are available. In this context, the ethical question, 'How much harm are we willing to tolerate in return for how much benefit?' (Popham et al., 1975), often seems more of an exhortation than a question, and it diverts attention from the very much more pertinent one of how much of the former we *need* to tolerate for the latter; the ratios are not fixed at each level of recruitment or consumption. As a preliminary attempt to explore the sorts of policy-options which may be open for bringing about reductions in the harmfulness of gambling without unnecessarily affecting its benefits (though the accent is upon benefits to the consumer) the next chapter examines the implications of existing research for the regulation of exploitation and excessive gambling.

24 The Implications of the Research Findings for the Regulation of Gambling

Introduction

Without better information about the size of the excessive-gambler group, its relationship to the total number of gamblers in a particular activity or to their mean consumption, and its rate of increase (if it increases) relative to growth in these indices of total participation, it is difficult at present to be precise about the degree of regulation needed to limit the adverse consequences attributed to the 'harder' forms of gambling. Nevertheless, the research findings and the model of gambling behaviour discussed in Parts Two and Three still have some immediate and relatively uncontroversial implications for the design of social policies towards gambling. Their relevance to more general questions of formulating appropriate aims and means will be postponed until Chapter 25. Meanwhile, in the present chapter, two particular issues are tackled - those of exploitation and excessive gambling. In both cases, it will be argued, policies can be (and have been) devised which need not intrude greatly upon the freedom of choice of the majority of gamblers. Those aimed at reducing exploitation are the least open to objection since, where this is found, its elimination is likely to be in the interests of the bulk of consumers. Even in the case of excessive gambling, however, the research findings suggest that approaches could be developed which focussed their attention largely upon those factors - especially situational ones - determining this behaviour, and without necessarily interfering unduly with the enjoyment of those whose gambling is moderate. Whether such approaches are practicable is, of course, another matter and the following discussion should be viewed not as advocating the need for any particular regulatory policy at the present time, but as illustrative of the problems involved and the direction in which potential policy-solutions might best be sought.

Exploitation and its regulation

In many respects gambling seems to develop much like any other hobby: greater amounts of time and money are invested in the pastime as the result of the progressive acquisition of knowledge, skills (real or imagined), and experience. Together these influences increase or augment the original reinforcers, creating a situation (a 'positive feedback loop') which predicts yet further involvement, until the point is reached where competing interests or obligations set limits to this progression. But it is the central role played by money which both distinguishes gambling from other hobbies and gives it additional dangers. There are always likely to be problems where financial speculation is made the basis of a leisure-pursuit, since its similarity to other

speculative activities facilitates the encouragement of expectations and behaviours which are not appropriate in an entertainment context. The commercial organisation of gambling naturally promotes financial aspects at the expense of hobby aspects (cf., for example, the discussion of tipsters' advice in Chapter 5) and it is this which is partly responsible for the combination of high involvement and expenditure characteristic of the 'harder' forms of gambling. In betting, this 'illusion of speculation' is deliberately fostered, stakes being termed 'investments' (Horserace Betting Levy Board, 10th Report, 1970-1), market prices and payoffs emphasised, and the importance of previous performance stressed.

Given these sorts of commercial pressures to define participation in terms of frequency and expenditure, the development of exploitative practices is an ever-present danger. Some of the issues involved were discussed at length in Chapter 11, where the determinants of subjective evaluations of probabilities and payoffs were examined. But despite the fact that something is known about the mechanisms responsible for gamblers' evaluations of their likely success in the gambling setting, this is not to say that instances of exploitation are easy to define, identify or prevent. The issue of exploitation is a delicate one, since an essential component of the gambling experience is the creation of illusions - of probabilities, hopes, conditions of personal luck - which could not possibly have an objective existence, given the costs of providing commercial gambling facilities.

Tampering with the sources of these illusions, including those which stress gambling's speculative, instrumental aspects, might well take the fun out of gambling. Participants in any case seem to recognise that part of the money they lay out is in the nature of a service-charge*, and the line between entertainment and exploitation is further blurred by the facts that, not only can a person's 'importance-beliefs' and lack of mathematical sophistication be manipulated in the gambling setting; the gambler may himself deliberately collude in such manipulation by his willingness to suspend disbelief in the relevance of personal luck or to ignore his knowledge about objective probabilities of winning in order to derive the maximum amount of entertainment. In other cases the informational complexity of the activity itself is sufficient to distort the player's judgment.

Because of these difficulties, there has been a natural reluctance to become too closely involved in the regulation of the way in which gambling is conducted. This reluctance has been partly due to lack of knowledge about how gambling works and partly (perhaps) to the belief that, since it is largely only discretionary income which is involved, the need for stringent value-for-money controls is less pressing than would be the case for more essential expenditure. Where the issue of exploitation has been tackled, successful regulation has

*As Oldman (1974) comments, '... the base-line from which punters calculate profit is not the amount of money with which they start but is, in fact, a point considerably below this. Profit is calculated after subtracting the entrance fee.'

usually been achieved indirectly - by defining exploitation in terms of value-for-money considerations which, in turn, have been related to the reasonableness of profit-margins - rather than by attempting directly to remove or counteract sources responsible, in the gambling setting, for distorting the gambler's judgment or expectations. Even this more limited aim depends upon a considerable knowledge of many of the structural characteristics of gambling, however, and research has been influential in providing much of the information upon which successful regulation is currently based. In the following discussion two types of gambling, gaming and betting, are examined in relation to problems of exploitation and the extent to which existing controls safeguard the consumer against these dangers.

(a) Gaming.

Although, as was suggested in Chapter 11, there is plenty of evidence that punters, through their own ignorance about probability theory or through subtle situational cues, may be encouraged to view chance-determined activities such as roulette as though their outcomes could be influenced by players' skills, it is difficult to use this information directly in the regulation of these activities. Nevertheless, research in this area - by underlining the compelling nature of these situational determinants and judgmental biases, and the complexity of many forms of gaming - has emphasised both the need for careful regulation and methods of control which are most likely to be successful. Since its establishment, the Gaming Board has sought to minimise the likelihood of exploitation through its regulation of profit-margins in gaming, bingo and gaming-machine gambling*. Its success in so doing is an interesting example of the way in which research can assist in developing such policies.

Cairncross (1966) has commented:

'In general, it is wise to leave the consumer to learn from his own mistakes and not to dragoon him too insistently into paths of wisdom and virtue prepared by a very fallible government. But there are times when, in fixing prices, the State may properly disregard individual valuations as short-sighted, mistaken or wrong ...'.

In the case of bankers' games like blackjack, where both skill and chance are involved (Downton, 1969; Crabb & Downton, 1970; Holder & Downton, 1972), the mathematical complexity of the game not only makes it difficult (and a matter of skill) to work out and apply optimal strategies to maximize expected gain[§], but also may lead inexperienced players to participate in black-

*Details of the Board's activities in this respect, and of its more general supervisory role in relation to the provision of facilities, certification, licensing, etc. can be found in its 'Evidence to the Royal Commission on Gambling', (1976).

§As May (1976) has pointed out, even casino operators may not always choose strategies which optimise profitability. With some justification he puts this down to the difficulties of assessing the mathematical consequences of small chances to the ways in which games are operated, such as instructions to bankers in *chemin-de-fer*, or the numbers of packs used in blackjack when played under pontoon rules (Holder & Downton, 1972). Choice of strategy will also be determined, however, by the amount of discretion the operator feels able to give his staff.

jack on very unfavourable terms. Although the essential nature of such games demands that skill be rewarded, the Gaming Board have been concerned to remove the more exploitative 'mug bets' from bankers' games while endeavouring to preserve as many opportunities as possible for the experienced player to use his skills to improve his chances of winning. Although there is still plenty of room for argument about whether the Gaming Board's rules have struck the right balance in this respect (cf. Downton & Holder, 1972), mathematical analysis of play provides a much better basis for determining appropriate rules of play. In enabling the Board to pursue a flexible and pragmatic policy towards the regulation of gaming, the Gaming Act of 1968 is in marked contrast to earlier gaming legislation which attempted - albeit in a rather different context - to divorce turnover from profits at the same time as it opened the door to the introduction of forms of gaming with regard to which such policies were, for statistical and logistic reasons, never very practicable (cf. Kendall & Murchland, 1964). The suggestion that the zero not be played in roulette, for example, failed to take into account the inevitability of ruin for the promoter, forced to play against an opponent (the public in aggregate) with unlimited financial resources (Moore, 1967), and the difficulty of so organising sessional charges in order to guard against this danger.

The early work of Kendall & Murchland (1964) on the uselessness of the option to 'stop' in roulette, together with information about optimal strategies, and gain ratios (cf. Chapter 11) are, of course, of use to the regular or professional gambler. But the direct educational value of mathematical analyses of gaming is for obvious reasons limited. Most players neither want to, nor could, benefit from their findings, which could reach and help only the more educated and dedicated gamblers. A certain amount of basic education about probability theory and the difference between games of chance and skill could doubtless be done - though it might also serve to raise the profile of gaming - but there are inherent difficulties in conveying such information simply. Although the Gaming Board have also made it their policy to see that profit-margins on individual bets, or for gaming-machines, are displayed publicly whenever this is feasible (cf. Gaming Board Reports 1969 - 1976) it is likely that the punter himself is more interested in payoff parameters, such as prize structures and payout ratios (Weinstein & Deitch, 1974), than in value as represented by percentage payout. While there may be some limited place, then, for policies which attempt to reduce the gambler's (or potential gambler's) exploitability, on most occasions limiting the promoter's ability to exploit is likely to be the most fruitful approach. Other methods may tend merely to filter out the more educated.

In Chapter 5 it was mentioned in passing that controls against exploitation and reduction in value for money cannot simply be secured by determining profit-margins, since promoters may respond by trying to secure greater profitability in other ways - by increasing turnover, for example. In Chapter 23 it was shown how the Gaming Board has used the concept of an activity's 'essential

nature' to reduce the risks of such occurrences. A recent example of their policy has been the securing, after consultation with trade associations, of a voluntary code of conduct for the playing of mechanised cash bingo which limits it to the status of an 'interval' game (Gaming Board, 1976). In this and other respects the experience of the Board seems to suggest that, given that the State is always likely to have to shoulder the major part of the burden for regulating whatever gaming activities are legalised, there remains a need for continual vigilance once this decision has been taken. It follows that permanent monitoring facilities (preferably self-supporting ones, like the Gaming Board) are required to prevent promoters from frustrating the intentions of parliament at a later date, either by covertly altering profit-margins or by altering the structural characteristics of sanctioned forms of gaming.

Alongside these more sensitive regulatory devices which depend upon considerable knowledge about the structural characteristics and processes involved in different forms of gaming, there exist rather blunter instruments of control which affect the visibility of gaming (cf. Chapter 13). Prohibitions on advertising, and on the numbers, geographical location and neighbourhood siting of gambling outlets have a number of very practical advantages. Besides enabling the policy-maker to avoid or postpone the making of difficult and controversial value-judgments about the nature and extent of exploitation taking place in gambling settings, such limitations on recruitment - and hence upon the number available for 'exploitation' - place restrictions on the extent to which aggressive marketing practices can be employed in an area in which regulation is at once necessary and difficult. Given the difficulties of controlling advertising in other areas of social concern*, and recalling the central role in gambling played by illusion, it may be wisest to continue to prohibit direct advertisement of gambling facilities, since this might merely foster these illusions. The influence of advertising should not be overstated, however. The fact that the gambling industry has been able to expand so rapidly even when denied these services suggests that promoters' needs have been satisfactorily met in other ways. The media, in providing comprehensive information about some gambling activities§, for example, often act as something of a marketing board.

(b) Betting.

Because of our extensive knowledge of gaming, its structural characteristics and potential problems, and as a result of its careful and comprehensive regulation by the Gaming Board, exploitation in that area of gambling is more a danger than a fact. In betting the situation is very different. Not only is it a considerably more complex activity than most forms of gaming; it has, partly

*The difficulties of regulating advertising are notorious. It has proved very hard to prevent the appearance of cigarette advertising which subtly links smoking to a luxurious way of life or to healthful activities ('Which?', June, 1976).

§The showing of the gradual accumulation of potential winnings for the I.T.V. '7' combination bet provides both information and, perhaps, inducement.

as a consequence, been very much less studied. Unlike the case in gaming, therefore, there are few research findings with any direct relevance for regulation, though knowledge of the structural characteristics of betting and the social distribution of participation suggest that proper regulation is likely to be as necessary in betting as in gaming. Moreover the fact that in gaming the regulation of profit-margins provides one of the main defences against exploitation suggests that attention might usefully be directed to looking at profit-margins in betting, which are at present determined solely by market-forces, to see whether the latter can on their own provide the punter with adequate protection.

In Chapter 5 it was seen that gross overall profit-margins in betting lie at around 12% of turnover, assuming the trade's figures to be more reliable than statistical analyses based upon theoretical models of efficient bookmaking. This figure, of course, includes each-way and combination betting as well as straight bets to win. About 75% of gross profits go on necessary expenses, leaving approximately 3% of turnover as pre-tax profits - a percentage which has remained relatively constant over the last 25 years. Leaving aside the question of whether the industry's pre-tax profits (about £55 millions for all betting in 1975/6: 'Financial Times', 9.3.77) provide punters with enough value for money, there is little evidence that bookmakers have substantially contributed to the loss of value experienced by punters over this period. Although there has been some suspicion that prices offered by bookmakers worsened somewhat after the imposition of the betting levy (the reduction of place odds may have been one result) and following the betting tax - only 80% to 90% of which could be levied on punters' returns - such effects must be considered marginal compared to the loss of value which occurred as a direct consequence of fiscal policy over this period.

Overall profit-margins do not tell the whole story, however. Just as different forms of gambling vary in the percentage of stake-money they return to the punter, these variations reflecting differences in processing costs, taxes and levies, so are there somewhat similar variations within particular forms of gambling. In gaming for example, different games may operate upon different profit-margins and in betting processing-costs are likely to vary according to the size and complexity of the bets which are laid. But it has already been mentioned (cf. Chapters 4 and 11) that, even allowing for differences in overheads, some bets may be offering disproportionately poor returns on money laid out. It is clear from the various statistical analyses of flat-racing results (Royal Commission, Appendix 2, 1951; Figgis, 1951 and 1974; Dowie, 1975) that expected values of bets placed at different odds are very dissimilar, and consistently so over the years. Much better value for money is obtained by placing bets at shorter odds, than by betting at longer odds, and it seems unlikely that such a discrepancy could be accounted for solely in terms of differential processing costs. In the case of combination bets the discrepancy is even greater. The reason for this seems to be that, just as the payoffs for

multiple bets are determined by reference to the accumulated odds*, so the real probabilities against winning increase in a similar fashion. Since probabilities against winning are, for each constituent event in the multiple bet, likely to be higher than those implicit in the odds offered by the bookmaker, the probabilities against winning rise more rapidly than the payoffs (should the punter win) as more events are added to the multiple bet. The more complicated the bet, in other words, the greater the disparity between probabilities and payoffs and the lower, in consequence, its expected value.

That combination betting is more profitable to the bookmaker is common knowledge in the industry (cf. Consultation on 'Compulsive' Gambling, 1975; Bull, 1977). Information provided by the trade about profit-margins, overheads and net profits as a percentage of turnover for bookmaking businesses of varying sizes, catering for different types of customers, and for different sizes and types of betting (Churches' Council on Gambling, 1965) has in the past indicated that net profits depend not only on the amount of turnover but on how it is made up. Big trade firms handling betting slips averaging £5 or over might retain only 5% or less of turnover, out of which operating costs of 3% or more had to be paid. At the other end of the scale, the small one-man firm taking under 15 pence per slip might nevertheless, after deducting considerably higher operating costs of 10% or more, still end up with about 9½% of his turnover as net profits. Such discrepancies are due to differences in gross profit-margins which even corresponding differences in processing costs cannot account for. It is likely that the explanation of the differences in profit-margins lies in the betting habits of the businesses' respective clients and, in particular, the willingness of some sections of the betting public to accept bets at relatively disadvantageous terms.

The suggestion that some groups of consumers might be more profitable than others was made by the Royal Commission (1951) in relation to street bookmakers' clientele, on the basis that these punters were less well-informed, bet at longer odds - either in straight betting or through combinations bets - and had to accept any limits on payouts which the bookie cared to impose. This, together with the information presented in the preceding paragraphs, seems to provide *prima facie* evidence that a certain amount of price-discrimination operates in the betting market, such that distinct groups of consumers are being asked to pay a similar price in respect of bets of very different expected values.

On his part, however, the promoter might well argue that bets at long odds cannot be offered at similar expected values (with appropriate adjustments for differences in processing costs) to those at shorter odds. This is because in the

*To find the payoff for the simpler combination bets, Figgis (1974) suggests adding one point to the starting prices of each horse backed. The resulting figures are then multiplied together. The quotient, minus one point, then represents the number of points won. This method of calculation gives a rather better payout than would be obtained from using simple multiplied odds.

short-term - and especially in relation to longer-odds, and hence higher-variance bets - the promoter has to insure himself against the large fluctuations about his mean percentage return which are likely to occur. As Downton & Holder (1968) comment, larger variance implies larger risk, for which the bookmaker might reasonably demand to be compensated by way of a higher expected return*. While there may be some truth in this argument it does not explain why longer-odds betting should have become so much more profitable to the bookmaker than betting at shorter odds. A more satisfactory account may be found by looking at the way the betting market is formed.

Information about how the bookmaker makes his 'book', together with more general information about the nature of the horserace betting market can be found in Stevenson (1971), Mitchell (1972), Ewart (1974), Figgis (1974) and Dowie (1975). It would be foolhardy to attempt detailed discussion of the precise mechanisms underlying the formation of the betting-market, given the present lack of research on this topic. It is clear from analyses of starting-price returns, however, that the bookmaker is prepared to accept relatively low profit-margins in relation to betting at very short odds; at the shortest odds, indeed, the bookmaker may be consistently out of pocket over a season's racing - though this percentage in favour of the punter is not sufficient to make indiscriminate betting at these odds a paying proposition (Dowie, 1975). Better value has to be offered, the trade claim, because by definition the short-odds end of the market is a strong one; the majority of punters bet at these odds\$, and they include the most marginal of gamblers - those betting on 'form', looking for value, and prepared to shop around until they find it. Because of this, competition is said to be intense, and bookmakers can only cover the costs of the service they provide at this end of the market by subsidising it out of the greater profits made in other areas.

The use of profits on certain commodities to subsidise 'loss-leaders' is a common retailing practice in competitive markets. How competitive the betting-market is cannot be clearly ascertained until much more information about patterns of betting is available from the trade itself. The fact that the value for money which different groups of punters are able to obtain appears to be influenced by their knowledgeableness and economic power suggests that consumers do, indeed, play a part in determining prices. How large a part is another matter, however, since differences in bargaining-power amongst consumer-groups by no means rule out the existence of a betting-market dominated by bookmaking oligopolies with considerable powers to dictate their own terms to punters. Given that the expected value of bets at different odds is

*Downton & Holder suggest that their concept of 'gain ratio' might help commercial operators to quantify such risks appropriately (cf. Chapter 11).

\$More accurately, most of the money is laid at these odds; although this suggests that most punters bet at these odds, the difference in numbers participating at shorter and longer odds may be very much smaller than the relative amounts of money indicate.

determined in the way just outlined there are also social implications which flow from this example of price-discrimination.

Those betting at longer odds need not necessarily be a minority. They need not necessarily be economically unimportant in terms of their contribution to total gambling turnover - though this is more likely to be true of combination punters than of straight bettors at very long odds. Given that this market is apparently a weak one, the weakness seems primarily to be determined by these punters' relative lack of interest in obtaining value for money or, to put it another way, their preoccupation with payoff parameters such as payout ratios. These 'windfall' gamblers, operating on a hazy ordinal scale of probabilities, provide a market which is relatively tolerant in terms of the prices it is prepared to accept. Expansion of their numbers offers a useful means both of subsidising other more discriminating and important consumer-groups, and of maintaining profitability in the face of increased overheads and taxes. Subsidies, however, are normally used to channel money from areas of greatest affluence to areas of greatest need and, while the bookmaker may reasonably argue that such financial operations maintain his competitiveness and the overall volume of turnover, it is also reasonable to ask whether these benefits justify the costs.

Bearing in mind the Gaming Board's efforts to reduce the numbers of 'mug bets' in gaming, the existence of rather similar categories of bet in betting raises the same sorts of questions as to whether punters should be unreasonably penalised for their ignorance or for their preoccupation with payout ratios. It is interesting in this context to note that money taken by betting-offices during the morning hours is often described as 'mug money'. Although there is little evidence available it is probable that a substantial proportion of this 'mug money' consists of combination bets, and that the unflattering description refers to these bets as well as to the practice of laying bets on the basis of forecast prices alone. More importantly, however, the existence of mug bets in betting raises the question not only of whether such punters deserve to be penalised for their betting habits over and above the costs of the service involved, but also of whether they can afford to subsidise the more skilful and economically-powerful sectors of the market. Commentators like Paley & Glendinning (1963) have suggested that such price-discrimination involves social discrimination, too, since those betting at longer odds are more likely to come from the poorer sections of the community, and the Churches' Council on Gambling (1965) made a similar suggestion on the basis of their examination of the varying profit-margins reported in relation to different bookmaking operations.

At the present time there is insufficient evidence to justify these fears. What information there is (cf. Downes et al., 1976), however, suggests that the elderly and poorest are most likely to back outsiders, though working-class punters as a whole were considerably less likely to do so than upper-middle-class ones. Again, combination betting was preferred most by

members of the lower working class, though the most complex ones which attracted very high stakes were, as might be expected, placed by the most affluent. Such findings suggest that this sector of the market may well be made up of a mixture of 'windfall' gamblers, some of whom are very poor, some ignorant, and some neither of these things, but simply glad of the opportunity to organise a rapid and exciting lottery-like event at a price to suit their pockets. If, as Downes et al.'s data indicate (though they are not given this interpretation by the authors), these punters are providing the rest of the betting public with more, or less, of a subsidy it can always be argued that this is the price which has to be paid if off-course betting is to survive. The truth of this assertion rests, in turn, on the assumption that the betting-market cannot be regulated so as to offer all participants equal value for money or that the social benefits of doing so are not worth the costs which would be involved.

Whether these arguments are reasonable ones can only be determined by acquiring considerably more information about the way in which betting-markets operate, and about the betting habits of the various consumer-groups involved. Similarly, much more information is required on these topics in order to determine the extent of such loss of value as may be occurring. Given the importance attached by the Gaming Board to controlling profit-margins in gaming, however, there seems little reason to believe that their oversight should be less necessary in betting, bearing in mind the social distribution of the latter and the complex information-processing required to provide best estimates of the probabilities involved.

Unlike the case with gaming, research in relation to betting is only just beginning to identify potential areas of concern so far as the issue of exploitation is concerned. For this reason there can be no immediate implications for policy. It may be that little in the way of practicable modifications will be either possible or desirable: one important factor to be taken into consideration, for example, will be the need to preserve skill-related elements in betting with bookmakers, such as the option to bet at board prices. In this context, totalisator betting cannot be considered a satisfactory substitute since, as at present constituted, it fails at present even to give the punter a clear idea in advance about the price he will get for his bet. In terms of its structural characteristics, then, totalisator betting is a less active form of gambling, though there is evidence both from Figgis (1973) and from its own figures (Horserace Betting Levy Board Reports, Nos. 10 - 15) that price-for-price the Totalisator is highly competitive with bookmaker betting throughout the odds-range.

It could be argued, however, that despite its drawbacks compared with bookmaker betting, the Tote's *pari-mutuel* operation would better enable it to offer bets at relatively constant expected values through the odds-range and that this advantage could be used to argue for a Tote monopoly* on the grounds of

*That is, a *pari-mutuel* betting monopoly. As will be seen in the next chapter the Tote's current policy is very different.

social equitability. In fact, the Tote has traditionally tended to give better odds at longer odds than bookmakers, and to this extent such a policy might be justified, though it might equally be argued that - with its 'place' pool, but lack of facilities for betting at fixed odds - the Tote is better seen as a complementary alternative than as a competitor, since the abolition of bookmaker betting would both reduce choice and, in the long term, probably lead to reductions in value for the punter. If the Tote is to serve as a genuine alternative to bookmaker betting in terms of the value it offers to some of those betting at longer odds, this implies two things. First, the Tote's method of calculating dividends, which was altered in 1969 in order to improve payouts on favourites at the expense of those on outsiders, with the aim of improving its competitiveness with Starting-Price bookmakers on their own ground, should be kept under review in order to ensure that the quality of its alternative service does not suffer unduly*. Second, insofar as the Tote still provides a more equitable distribution of 'value' than the betting-market, steps should be taken to educate the public about this service (cf. Figgis, 1974): at the present time, 85% of class DE punters bet only at bookmakers' prices, whether on or off the course (Gallup, 1976). Such a move, while not disposing of the need for a thorough economic analysis of the betting-market, would do something to protect the interests of those bettings at longer odds.

The regulation of excessive gambling

The precise reasons why some punters become excessive gamblers are still unclear. It may be, as Dickerson suggests, that sufficient exposure to the types of reinforcements which operate in the gambling setting, together with the occurrence of chance juxtapositions of reinforcements - such as winning while attending during the racing period and listening to the racing commentary - are enough to set the process in motion, assisted at later stages by mechanisms like habituation to given levels of excitement or uncertainty. The dependence of profit upon turnover, which constitutes the main potential danger of commercial gambling, certainly creates considerable pressures on the punter in many forms of gambling to define involvement and enjoyment in terms of frequency of staking and amount staked rather than more selective participation. In betting and gaming it is those reinforcers and structural characteristics such as 'action', excitement, amount to be won, and payout ratios which will increase turnover which tend to be stressed. Where, as appears from Dickerson's work, reinforcement is made dependent solely on the act of staking, the danger of excessive involvement may be at its most acute, since the alternative of not staking is never viable so long as the reinforcer (anticipation or excitement) maintains its value. By increasing event-frequency the promoter can step up the presentation-rate of this type of reinforcement and, over time,

*Methods have been changed frequently since 1969. The Select Committee (1977) recommend that the Tote should ensure at all times that punters know the basis upon which they wager their money. A return to a flat-rate deduction for the win pool was made in May 1977; this may reflect a lessening of the Tote's desire to compete with SP now that it has entered that market itself.

perhaps redirect the whole emphasis of the activity from bet selection to bet placement. As indicated in Chapter 4, promoters may themselves be under considerable pressures, too. Unable to change profit-margins to any great extent and faced by the reluctance of punters to increase stake-levels on individual bets, the promoter may be left only with the alternative of increasing his clientele or the frequency of participation of existing punters, in order to preserve the real value of his turnover.

Reducing exploitative practices in gambling, and maintaining a relatively low profile for the activity may have some indirect effect upon the problem of excessive gambling but, as was indicated in Chapter 23, the lack of firm information about the prevalence of excessive gambling makes crude and intrusive recruitment-restriction policies difficult to justify. This is especially the case in betting, which is well-established. The lesson of 'Prohibition' - an environmentalist social policy at its most restrictive - was that, although the incidence of adverse consequences (in that case, cirrhosis of the liver) specific to a particular behaviour may be reduced, measures which fail to recognise or respect the wishes and abilities of the majority of people to regulate their own lives satisfactorily may achieve their aims only at the expense of unacceptable costs in other areas of social policy.

Costs of a different nature are involved in attempts to modify the person-centred determinants of excessive gambling since, given the lack of evidence for specific predispositions to gamble and, in consequence, the impossibility of screening-out the potentially gambling-prone, the policy-maker is left only with the alternative of 'blunderbuss' approaches to improve 'quality-of-life' factors in the environment, in the hope that this will help to reduce the receptiveness of the more vulnerable. This is not to say, however, that policies which focus upon protection of the vulnerable are always doomed to failure. Although it is obviously impossible to protect existing punters against accidental happenings and life-crises which increase - perhaps only temporarily - their freedom and readiness to engage more intensively in gambling, it is still possible to reduce the impact of some commonly-occurring hazards. Since drinking can affect people's judgment, it seems reasonable to ensure that alcohol should not be made available at gaming-tables or in betting-shops. This separation has been largely achieved, though attempts to ensure that betting-shops are not sited too near to public houses have not always been successful.

An individual's vulnerability is not always determined by ephemeral needs and moods, however; it may also be a function of age and social role. It has already been indicated that some people may, from an early age, be more vulnerable than others to the attractions of gambling, either through parental example or for other reasons. The dangers of introducing people to gambling too early in life arise not so much because young people are more malleable as because their lives have not yet been sufficiently structured by the obligations, constraints (and reinforcements) which go with adult roles, and which can serve to

prevent excessive involvement. Early vulnerability has long been recognised as a reason for protecting special populations from unnecessary exposure to, or involvement in, gambling during adolescence. Betting-shop regulations, for example, prohibit entry to those apparently under the age of eighteen years. Attempts are usually also made to ensure that betting-shops are not placed too close to schools.

Research can hardly claim to have discovered any of the preventive measures referred to above, and this discussion has done no more than to place them more clearly within the conceptual framework implied by the model of gambling behaviour developed during the course of this review. It might be expected, however, that the more which is discovered about the dynamics of gambling and excessive participation, the more likely it is that policies can be developed which will be selective in their effects and, hence, minimally intrusive so far as the moderate majority of punters is concerned. For alcoholism, Popham et al. (1975) have argued persuasively that general objections to regulation become, in practice, exercises in finding and maintaining a judicious balance between competing interests. In gambling, general statements about what participants want, or are prepared to put up with, are often made with very little evidence and may be capable of considerable modification. More knowledge about the betting behaviour of off-course punters, for example, would make it easier to identify who, and how many like to use betting facilities on a continuous basis, and how often they do so. More particularly, Dickerson (1974) has suggested that the majority of the betting public would probably be quite adequately catered for within a gambling setting which did not provide the structural characteristics and reinforcers which facilitate continuous betting. Excluding public broadcasting of the racing commentary, ensuring that all bets were placed before the published time of the 'Off' and delaying announcement of the results would, he suggests, disrupt the conditions favourable to continuous involvement.

There are many ways of establishing betting facilities without necessarily providing the structural characteristics of continuous betting (cf. Royal Commission, Chapter 6, 1933; Royal Commission, Chapter 6, 1951; Peterson, A.W., 1957; Churches' Council on Gambling, 1960; Weinstein & Deitch, 1974; Moody, 1974). There are no studies, so far as this author knows, which have attempted to determine the demand for, and use of, continuous facilities. As Dickerson remarks, it is by now probably too draconian a restriction to attempt the elimination of all provision for continuous betting. Quite apart from obvious objections to such a course - the lack of demonstrable need for such an action, and the likelihood that it would continue on a *sub rosa* basis - it would be inequitable, considering that the option of continuous betting would still be available to the more affluent gambler on-course, at home with television, telephone and credit account, or (perhaps) in his gaming club's

racetrack*. Instead, Dickerson suggests a two-tier system of betting-shops, one catering for the minority who like to bet continuously, the other (operated along the lines of his original suggestion) catering for the majority.

There are, no doubt, economic and other practical objections which might be raised to this particular suggestion. Bookmakers might well object to such a scheme, for example, on the grounds that its long-term effects might be to reduce the size of the pool of continuous gamblers on whom much of their turnover depends. It would indeed, make continuous gambling - and the recruitment of continuous gamblers - a less casual affair and to this extent is open to the objection that such a policy would be unduly restrictive. In terms of theoretical sophistication, however, the idea is an attractive one since it recognises the existence of at least two separate betting activities, having very different structural characteristics but sharing the same facilities - though often at different times of day. The first, 'non-continuous' betting, takes place in the morning period; bets are selected on the basis of 'form', forecast prices, and the day's racing information; they may consist of straight or simple combination bets placed for settlement at Tote or starting-price odds, or more complex combination bets at SP. The second, 'continuous' betting, takes place during the racing-period. This form of betting has much more information at its disposal and is in a better position to achieve maximum 'value'. Separation of the two forms of betting is, of course, likely to penalise those punters who do not bet continuously but who look for maximum value when they bet, by putting them to more trouble when it comes to placing their bets. It might also penalise the less-affluent if these facilities - which would be for members only - were too expensive or developed the wrong ambience.

It still remains an open question whether such measures are necessary. Given the need, however, it would be hard to criticise such proposals for being particularly intrusive or restrictive - though much would depend upon a careful evaluation of existing punters' betting habits. Whether necessary or practicable, however, the proposals illustrate the possibility, given adequate information and knowledge about the determinants of gambling behaviour, of more careful regulation of betting. Such proposals are directed primarily at reducing casual recruitment to excessive gambling, and not to modification of its structural characteristics. The experience of the Gaming Board, however, indicates that once an activity can be restricted to club premises regulation of its structural characteristics (should this prove necessary) becomes much easier. This occurs through use of the stick - certification and licensing procedures; determining rules of play - or the carrot - giving proper consideration to promoters' rights to make a reasonable profit, providing informed

*Opponents of continuous gambling would no doubt argue that it is debatable how far such egalitarian considerations should hold where the right in question is that of exposure to a potentially dangerous activity - particularly in view of the evidence that those most at risk of gambling excessively (or, at least, of damage from its social and economic consequences) come from the lower socio-economic groups.

advice, and encouraging the development of facilities in appropriate directions.

25 The Contribution of Research to Policy-Making

Introduction

One of the problems of making decisions about the regulation of gambling activities without sufficient information about their likely effects (let alone their effectiveness) is that the question of imposing or relaxing controls becomes subject to *a priori* views about the need for State intervention. Those in favour, characteristically pessimistic about people's ability to regulate their own lives, tend to interpret the available information in accordance with this view: evidence (or the mere possibility) of adverse consequences is used to support intervention, but lack of evidence is allowed no equivalent weight in relation to the relaxation of controls. Where no positive effort is made to collect information which might be relevant to these decisions - and this includes the tapping of public opinion - policies may either become unnecessarily restrictive or, where relaxation does occur, may respond primarily to commercial or fiscal pressures rather than to social considerations.

This review has suggested that, while the need to regulate cannot always be determined from existing research findings, these provide the basis for a clearer understanding of the determinants of gambling behaviour which, taken in conjunction with other information about the gambling industry and about the social distribution and habits of gambling, may enable policies to become better-articulated and more effective. As well as contributing to the more sensitive regulation of existing forms of gambling, the accumulation of such knowledge can also be expected to make it more difficult for those seeking to prevent further expansion of current facilities or legalisation of new types of gambling to rest their case on the difficulties of drawing up adequate legislation or regulations (King, 1964). It will still, however, be open to objectors to argue that in some circumstances the pleasures of the gambling public have to be weighed against the costs of providing machinery for regulation (Bilek & Ganz, 1965) or the dangers of criminal infiltration - although there are limits to the legitimacy of using what are essentially law enforcement problems as justifications for interfering with freedom of choice of leisure activity (Gitchoff, Ellenbogen & Ellenbogen, 1973).

But sophisticated, flexible and responsive regulation can only be achieved on the basis of sound legislation. Some of the problems in the way of more coherent and consistent policies towards gambling will be discussed in the remainder of this chapter, using examples of typical difficulties derived from consideration of gambling policy over the last twenty-five years or so. The

resulting analysis, which benefits from both hindsight and better information about gambling, intends no criticism of those who have to make or implement social policies in this area. Rather, it points to the enormous complexity of the practical job of policy-formation. The sorts of problems which arise can conveniently be divided into those relating to the definition of policy aims, and those relating to the means used to implement these aims.

The aims of gambling policy

Social policy is concerned with protection and prevention - protection of the individual as citizen and consumer, and prevention of exploitation or other harm. It is usually conceded that social policy considerations should where necessary take precedence over other ones but, so far as policy in relation to gambling is concerned, this has not always been the case. Instead, policies have tended to reflect the influence of fiscal, economic and commercial pressures and, because adequate attention has not always been given to the design of an overall approach which would take explicit account of these very different interests in order to establish priorities, conflicts and inconsistencies have sometimes developed. 7 ✓

(a) Conflicts between aims: conflicts can develop between social and other aims, or between different social aims. Although the aims in question are usually those being pursued by different government departments, or other agencies and groups, conflicts of aim can occur within as well as between these. Perhaps the greatest potential for conflict is that created by the contrasting requirements of revenue-raising and social control activities. Although taxation may be used deliberately as a means of discouraging consumption, its primary aim is to maximise revenue - a process which requires that sources should not be economically damaged as a result. On the contrary, it is arguable that successful taxation policies can stimulate growth by providing the necessary impetus for price increases or market expansion. There is in consequence always likely to be some measure of conflict between fiscal policy in relation to commercial gambling, and social policies which may wish to see both carefully regulated growth on the part of the gambling industry and its abandonment of plans to expand in directions which, although commercially and fiscally lucrative, may have undesirable social consequences.

Once activities are taxed they become part of fiscal planning and economic budgeting and, unless steps are deliberately taken to assert the primacy of social objectives (cf. Gaming Board, 1976: Evidence to the Royal Commission on Gambling)*, these may go by the board. Moreover, as was indicated in Chapter 5, fiscal policy may also have powerful and all-too-often unanticipated consequences for the form of the gambling industry and the direction in which it develops. It can create pressures to increase turnover, and

*'In the Board's view, the arrangement in Great Britain, whereby the law on gaming is the responsibility of one Minister and is settled with regard to social requirements before another Minister accepts the resultant position as the context within which his tax proposals may operate is clearly right.' (p.11).

for companies to follow policies of horizontal and vertical integration: the growth of gambling and leisure conglomerates in the industry as a whole or, in betting, the development of large chains of betting shops owes something to taxation policies. It may even affect the composition of consumer-groups and their betting habits as taxation reduces 'value', forcing many professional gamblers out and changing remaining gamblers' styles of betting (from straight or each-way bets to combination ones, for example).

If, in the last-mentioned case, taxation hinders people from gaining money without earning it productively, it is no part of its intention to dissuade them from continuing to gamble. Despite the existence of social considerations which urge caution in relation to its expansion, the stimulation of gambling - by increasing the involvement of existing gamblers, by recruiting new ones, and by introducing new forms of gambling - in order to increase revenues is widely favoured. The Report of the Interdepartmental Working Party on Lotteries (1973) certainly anticipated that the large charitable and local authority lotteries they advocated would '... generate some entirely new custom, and revenue with it.'

Where 'soft' gambling is involved the conflict between fiscal and social policy objectives is minimal. There is, however, one well-documented example - that of the horserace betting levy (Moody, 1972; 1974) - where fiscal aims seem to be in rather greater conflict with social ones, albeit that the latter are largely unstated and can only be identified by inference. It seems somewhat paradoxical that while steps should have been taken, in the Betting and Gaming Act 1960, to limit the impact of the legalisation of off-course betting on the public, the Peppiatt Committee were at about the same time discussing the means whereby some of the proceeds of betting could be earmarked for the benefit of the racing industry - a policy which was bound from the start to create pressures towards expanding the new off-course market. As a result of the Committee's report (Report of the Departmental Committee on a Levy on Betting on Horse Races, 1960), the Horserace Betting Levy Board, which collected and administered the levy on bookmakers' turnover, developed policies* designed to enable bookmakers to increase their turnover and to facilitate continuous betting, thus creating a situation where it was in the mutual interests of the Levy Board, bookmakers, and the racing industry itself (Report on the Racing Industry, 1968) to encourage maximum participation. As Bull (1977) comments: 'The punter, on the racecourse or in the betting office, is the paying customer of the racing entertainment, and all the entertainers, bar the horse, are after his money ...'. Nevertheless, Bull himself recommended, in his evidence to the Royal Commission on Gambling, that

*The number of racing days was increased (3rd Report), some seven-race programmes were introduced (8th Report). Arrangements were also made to stagger the starts of races held at different meetings. Bookmakers followed this lead, entering into agreements with greyhound racing interests to hold afternoon dog-races whenever there were less than three horserace meetings (Moody, 1974).

changes in betting-shop regulations should be made, enabling them to open in the evenings and on Sunday so that punters could bet on the extra racing it would then become commercially viable to arrange.

It is not denied that racing may need more finance to 'maintain its quality and vitality' (Thoroughbred Breeders' Association: 'Times', 31.8.76); nor has it been established that the conditions brought about by imposing the levy have materially increased the numbers of excessive gamblers. From the point of view of the present discussion the important fact is that fiscal policies so clearly opposed to the original intentions of Parliament in relation to the development of off-course betting should have prevailed. A somewhat similar conflict of policies occurs in relation to the aims of the Horserace Totalisator Board. On the one hand the Tote, which devotes its proceeds to the racing industry, is anxious to secure as large a share of the betting market as it can; on the other, its main duty has been defined as being to provide '... pool betting with adequate outlets so as to provide an alternative method of betting to the public ...'. Stress on being 'competitive' in the execution of both these roles has tended to conceal the potential conflicts involved in trying at one and the same time to provide a commercial substitute for bookmaker betting while still functioning as a genuine alternative to it. This conflict has been responsible for the many apparent changes in direction and emphasis in the Tote's policies over the years as it has tried, within the limits imposed upon it by the nature of its *pari-mutuel* betting service, to strike a balance between these two objectives.

So far as providing an alternative consumer-service goes, the Tote has not done too badly (cf. Chapter 24). It has operated over the years a form of betting with different structural characteristics and price-structures to that of bookmaker betting, and in doing so its dividends have, overall, been competitive with those of starting-price returns. Whether it has acted as a price-leader in this respect and, hence, as a control mechanism to curb starting-prices (another function often ascribed to the Tote) is another matter. In fact, its method of calculating dividends - a feature which, over the years (Figgis, 1951; 1974), has enabled it to offer relatively uniform value-for-money betting throughout the odds range - has hindered its commercial competitiveness with bookmakers so far as the short-odds end of the market is concerned. Thus the characteristics which enable the Tote to provide a genuine alternative betting service are those which prevent it from providing a commercial substitute. Attempts to provide the latter - by altering its methods of dividend calculation, for example - have arguably been at some expense of the distinctiveness of its price-structure, though it is only fair to say that Figgis's comparison of Tote with starting-prices led him to claim that his 1973 survey '... gave no evidence

*Mr Mark Carlisle, in the Second Reading of the Horserace Totalisator and Betting Levy Bill, 3rd Feb. 1972, Col. 1348. Parliamentary Debates: House of Commons Official Report, Fifth Series, 830, Session 1971-2.

that it pays to accept SP if you have the tote alternative at any time, or for any range, except perhaps for the more important races ...'.

Price competitiveness apart, the Tote's structural characteristics have limited the services with which it has been able to provide its punters, particularly as regards pre-race information on prices and price-changes. These defects, together with the off-course bookmaker's longstanding community power-base, have meant that the Tote has been less successful in achieving commercial viability, much less competitiveness. Empowered by recent legislation to make a limited entry into the SP bookmaking field* in order to secure its continued commercial viability, however, the Tote now appears to be emphasising in a very practical way its intention to secure commercial domination of the off-course market, if necessary by operating a State monopoly of SP, as well as totalisator betting§. But although such proposals may ultimately secure for the Tote a major slice of the off-course market, its entry into - let alone monopoly of - this field has important implications for its duty to provide an alternative method of betting and for the effective functioning of the latter as a means of regulating bookmaker betting†. Divided within itself in its operations as well as its aims, and with little or no pressure from external competition, the Tote might well, under these circumstances, secure commercial success at the eventual expense of the consumer - by eroding value for money and choice in both totalisator and bookmaker betting.

In the broadest sense, all such conflicts between social and fiscal or commercial aims are questions about social priorities. A clear example of conflicts between two explicitly social objectives, however, is exemplified in the setting-up of the New York Off-Track Betting Experiment (Samuels, 1973; Weinstein & Deitch, 1974), where off-course *pari-mutuel* facilities were established for the twin purposes of revenue-raising and of offering alternatives to illegal bookmaking. For once, fiscal and social policies were in harmony. But the Corporation's own stated expansionist policies (Samuels, 1973) while possibly weaning some punters away from illegal bookmakers, are likely not only to increase its share of an existing market but create new ones as people are encouraged by the legalisation of off-course betting and provision of local facilities to participate. Since, like the Tote, these betting-offices are not capable yet of providing a service which is competitive in terms of its structural characteristics with that of the bookmakers, it is at present doubtful whether any but fiscal objectives are being served. Examples of real or potential

*The aim of the Horserace Totalisator and Betting Levy Board Bill was '... to give the tote an entry but on a scale which would be carefully controlled.' (Speech of Home Secretary, Col. 704, Second Reading Debate, op. cit.).

§Speech of Mr Woodrow Wyatt, Chairman of Horserace Totalisator Board, reported in the 'Financial Times', 9.3.77.

†Whether, as the recent Select Committee (1977) hoped, its expansion into SP cash betting will enable it to be used by the Levy Board and the Government as 'a monitor of the betting industry' only time can tell.

conflicts between policy aims could be multiplied. One interesting example was the suggestion that betting-shops should be provided in prisons, using tobacco as the currency, in order to combat the influence of the prison bookie (Jones, 1966). Not all such conflicts are of practical significance, but they emphasise the complexity of the policy-maker's task when called upon to set aims and determine priorities.

(b) Inconsistency in policy-making: it seems reasonable to expect that the various forms of gambling should be subject to similar degrees of regulation and taxation - that is, that the principles of social justice should operate not only as regards ease of participation but as regards value-for-money, protection from exploitation and undue risk of adverse social and economic consequences. In fact, although harmonisation and uniformity have administrative appeal they are not necessarily (even if practicable) always in the consumer's interest, and the concept is considerably easier to defend and implement in relation to forms of gambling which have similar structural characteristics. On the positive side, efforts have been made to remove gambling legislation which has in the past been socially and economically discriminatory (the laws against off-course cash betting, for example). Although fiscal demands now seem to bear relatively fairly on different forms of gambling (Royal Commission on Gambling, Interim Report, 1976), discriminatory treatment in the past in relation to similar forms of gambling - pools vs. fixed odds; horseracing vs. greyhound racing; off-course vs. on-course betting - whether justified on economic grounds or not, has probably made a considerable impact upon the nation's betting habits.

No less important have been the differences in social policies pursued towards similar types of gambling and, at different times, even towards the same form of gambling. Many examples, particularly in relation to betting and gaming, have been mentioned in the course of this review, and the Gaming Board in its evidence to the Royal Commission (1976, Appendix 7) has listed a wide variety in pursuit of its objective to secure greater uniformity of control over gambling as a whole through the establishment of an overall Gambling Authority. It is no part of the purpose of the present discussion to evaluate the need for such an entity, or for the additional suggestion that it should supervise three operational boards (for gaming, the Tote, and betting) organised along the lines of the Gaming Board, and with similar powers and responsibilities for the supervision and regulation of their respective areas of gambling activity. Nevertheless, the apparent lack of consistency in policies towards betting and gaming, particularly in relation to consumer-protection - and given the social distribution of participation in the two activities - suggests that a coherent overall policy for gambling has yet to be developed.

Finding means appropriate to policy aims

Even where policy aims are clear and consistent, the methods designed to secure their implementation may fail to do so, and may in addition have quite unanticipated consequences (cf. the Betting & Gaming Act, 1960). One of the

most common sources of difficulty arises from the failure to take differences in structural characteristics between forms of gambling sufficiently carefully into consideration. This issue comes to the fore where, for social policy reasons, attempts are being made to replace one form of gambling by another - the question, that is, of 'substitutability' (Weinstein & Deitch, 1974). The suggestion of the Interdepartmental Working Party on Lotteries (1973) that large lotteries should be introduced in competition with commercial pools was made in the hope of attracting existing custom away from the latter as well as perhaps of creating new markets for gambling. Thus they recognised the need to limit the size of pools dividends in order to give lotteries a chance to develop. But the structural characteristics of lotteries - the lack of opportunity given for the exercise of judgment and the fact that they are based upon an artificial and uninteresting 'event' in which the lottery-player takes neither an active nor pseudo-active part - places major limitations upon their competitiveness with similar but more interesting forms of gambling. Those who have sought to use lotteries as legal alternatives to the 'numbers racket' (Kaplan & Maher, 1970) have not so far been successful. Lotteries are less active and less frequent (Peterson, A.W. 1957) and Weinstein & Deitch have summarised their impact as being negligible.

Greater success has apparently been achieved by the New York City Off-Track Betting Corporation, although here again this legal form of betting has not been able to provide a fully satisfactory alternative to illegal bookmaking. Some of the reasons are those responsible for the limited competitiveness of the Tote in the off-course betting market, though in addition the OTB is not always able to match the illegal bookmakers' prices. More importantly, bookmakers in the United States gain a far greater proportion of their total turnover from illegal sports betting than from betting on the horses so that, successful though the OTB may be in reducing the amount of the latter which is conducted illegally, its ability to put the bookmaker out of business is much more limited.

On a more general level it is not always easy to determine the best means of implementing policies designed to control the impact of a particular form of gambling. Where people are to be protected against the dangers of excessive betting or gaming, for example, intervention can take place at two points (cf. Chapter 23): access to facilities can be restricted and/or structural characteristics within the gambling setting can be regulated. Unfortunately, these two approaches produce seemingly contradictory proposals for regulation. As Dickerson (1974) has pointed out, the requirements of the 1960 Act, that the physical surroundings of betting-shops should not constitute an inducement to bet may have discouraged many a casual passer-by from entering. But the lack of comfort or of sources of distraction may have been counterproductive so far as the shop's existing customers are concerned, since isolation from stimuli unrelated to betting provides an ideal learning environ-

ment, which may be more conducive to encouraging, than preventing continuous betting.

By operating 'closed clubs' in conjunction with restrictions on recruitment the Gaming Board has been able to minimise this risk so that it effects primarily only those already intending to game - a factor which is regarded as an acceptable cost, and should be distinguished clearly from the case of the betting-shop, where the provision of a setting conducive to concentrated gambling has no such compensatory restrictions on recruitment. Even with 'closed clubs', however, similar conflicts of principle may still occur. Thus, the need to reduce the risks of novices being exploited have to be balanced against those of making games too easy and, hence, attractive to beginners. While on the one hand the Gaming Board have simplified the rules of some of the banker's games, the Churches' Council on Gambling, on the other, have advocated the banning, or separation from other games, of 'beginners' games like roulette, on the grounds that the latter provide an easy introduction to gaming. There are arguments on both sides of these issues but the Gaming Board, perhaps, have arrived at the most practical ranking of priorities: that while recruitment should be restricted, there is little that can be done within the club to influence the gambling behaviour of those who have come in order to game, beyond ensuring that they are not unduly exploited.

Conclusions

This chapter has surveyed some of the practical problems which lie in the path of devising coherent and workable policies in relation to gambling as a whole, and to different forms of gambling. Identifying and resolving many of these problems have in the past often been hindered by the fact that policy-makers have rarely - unlike the case in many other areas of social concern - been able to draw upon adequate sources of research evidence and information upon which to base their policies. But if the development of consistent and useful policy depends upon detailed knowledge both of the determinants of gambling behaviour and their commercial correlates in order to achieve clear definition of aims and priorities, it also depends for their implementation upon the ability to monitor subsequent developments so that policies can quickly be adjusted in the light of experience or of commercial developments. It has been argued, for example, that the limitations on commercial gaming provided by the 1960 Act could have been made to bite - and, indeed, were beginning to achieve this effect - had it been possible to act swiftly in order to combat abuses instead of having had to proceed through the courts, and to depend upon the police, understandably reluctant to become involved in complex, costly and lengthy prosecutions. The need to establish a better information-base and means of monitoring gambling and the gambling industry will feature, in the last chapter, as the most important current research objectives.

26 Postscript—Directions for Future Research

Introduction

A constant theme of the present review has been the lack of relevant research on, and information about, gambling behaviour and the gambling industry. This is not a novel complaint; the Royal Commission on Betting, Lotteries and Gaming and, recently, the Departmental Committee on Liquor Licensing (the Erroll Committee) have each stressed the difficulty of making policy recommendations in the absence of basic facts. When it came to assessing the effects of previous policies in relation to liquor licensing, the latter were outspoken in their criticisms:

'We feel it right at this stage, however, to record our concern at the lack of previous research into the effects of past changes in the liquor licensing law Given the social importance of the subject, this is a remarkable omission ...'

In relation to gambling, Weinstein & Deitch (1974) have recently commented, of the position in United States:

'In the course of this study it became apparent that decision-makers at various levels of government are faced with a serious deficiency of valid empirical information about gambling behaviour and its consequences.'

The position in this country is strikingly similar. Even after the comments and recommendations of the Royal Commission (1951) official statistics about gambling have remained rudimentary and, with the exception of those of the Gaming Board, come without useful interpretation. 'Social Trends', which was established in 1970, has not yet dealt with this multi-million pound leisure industry, apart from reprinting, in 1975, turnover estimates made by the Gaming Board in 1973.

This position can be contrasted with the efforts of the industry to monitor and improve its commercial effectiveness. In 1963 the Horserace Betting Levy Board (3rd Report) commissioned Batten, Barton, Durstine & Osborn Ltd. ('one of the larger international marketing and advertising agencies') to determine the reasons for the decline in attendances at racecourses, and to make proposals for improving the situation. In their 8th Report the Board referred to the work of their Racing Information Bureau in promoting an interest in racing; in their 9th, to their statistical service which monitors trends and short-term changes in betting turnover. In 1968, the Stewards of the Jockey Club and National Hunt Committee gave their Committee of Inquiry

(the Benson Committee) the task of assessing the financial requirements of the racing industry as a whole.

For a long time, however, the Churches' Council on Gambling was the only body, without direct or indirect commercial interests in the matter, to produce detailed financial and economic information about the gambling industry. Apart from the more recent work of the Gaming Board (since 1969) it has remained the only one to provide interpretation of existing statistics, to show a longstanding and informed concern about the social implications of all forms of gambling, and to stress the importance of considering the relationship between gambling behaviour and commercial developments in the gambling industry. Nevertheless it is unsatisfactory that the primary source of information about an industry with allegedly wide - and, for a minority of its customers, adverse - social and economic consequences should for so long have been that provided by those with an interest in limiting, if not actually reducing, gambling.

Although it is often argued that lack of time and money prevent the State from doing more than responding to social problems as, by one route or another, they become 'politically visible', a pragmatic strategy such as this may have drawbacks in the case of gambling. In Chapter 8, for example, it was shown that there may be good reasons for arguing that lack of information about the prevalence of excessive gambling does not necessarily betoken its unimportance as a social problem. Where, in addition, there is no proper machinery for collecting information on a regular basis, or for monitoring developments throughout the gambling field, problems which do crop up may be unnecessary as well as unexpected. There are two basic flaws in such an approach. First, where action occurs largely as a reaction to emergencies, remedies tend to be *ad hoc*, piecemeal and ineffective. Second, since problems are often not tackled until they become glaring, the delay involved allows developments in commercial practices and public expectations which limit the options available to policy-makers when regulation eventually becomes necessary.

The need for better information

For gambling, most of the currently-available information is derived from a few official sources and there is probably little more that can be squeezed out of the published material. It is, of course, regrettable that turnover figures for the different types of gambling, together with other information, are not published annually in one place. In this respect the Gaming Board reports are exceptional in providing such information and in sketching longer-term trends in commercial growth and its direction, not only for the various sections of the gaming industry, but also for gambling as a whole. The general problem with existing information is that, as has been shown, it is not always in a form which can answer the sorts of questions with which policy-makers are concerned. Turnover data alone, for example, offer an uncertain basis upon which to construct hypotheses about the relative social significance of

particular forms of gambling, rates of participation, expenditure, or the likely size of any excessive-gambler group.

There is a pressing need, therefore, for much more accurate information about the distribution of participation for all forms of gambling, not just in terms of variables like sex, age, socio-economic status, marital status and other traditional sociological factors but also about the more detailed habits of gambling. Taking off-course betting on horseracing as an example, more information is required about numbers of visits to betting-shops; whether morning or afternoon; length of stay; numbers of bets made; stake; whether at board or SP; types of bet (straight or combination); odds taken; time of collection of winnings; re-betting of winnings; and, more generally, about betting-shops and their populations (whether stable or shifting, etc.). Information about interrelationships amongst similar gambling activities - horse and dog-racing, on- or off-course, cash or credit, Tote or bookmaker betting - is also necessary if a complete picture of participation is to be obtained. Given that the risks of potential social problems seem *a priori* to be higher in off-course betting than in any other form of gambling - though this is not to assume that they are significantly high - gathering more information about this activity would appear to be a priority. In the case of gaming, the Gaming Board have already made some start in determining some of the basic facts in the case of gaming clubs and bingo - though the published information is by no means sufficiently detailed.

From a purely social policy standpoint the most important need is for more data on excessive gambling, its incidence, prevalence and development in the individual case*. There are considerable technical obstacles in the way of collecting this information, not the least of which is that of arriving at satisfactory operational definitions. Although it is necessary to collect complete statistics upon participants, whatever their level of participation, so that the excessive-gambler group can be more closely defined in terms of size, frequency of betting, expenditure, gambling habits and so on, this alone may not be enough. In addition, special epidemiological studies may be required in order to provide the most accurate estimates of the numbers of excessive gamblers.

Besides needing details of consumer habits, policy-makers need much more accurate information about growth and developments in the gambling industry itself if they are to be able both to monitor the effects on the industry of new policies or commercial changes and to provide an adequate level of consumer-protection. In this respect financial information would be of particular interest, and much of this parallels that required for an understanding of participation. An understanding of the betting market and of how and when prices are made requires information about various aspects of the inflow of money: its source (credit or cash); its destination (horses, dogs, or other); and,

*Detailed retrospective studies of the development of excessive gambling would be of considerable help in fleshing out the model presented in Parts Two and Three of this review.

most importantly, information about how the weight of stake-money is distributed - temporally (the build-up of betting on a race during the course of the day) and in relation to odds-range, SP vs. board prices and straight vs. combination. In particular, the amount of money placed during the racing period, together with better information about whether or not betting-shops have a 'core' population of excessive gamblers, would enable some estimate to be made about the contribution of continuous betting, and excessive gambling to the commercial viability of the average betting-shop (cf. Dickerson, 1974).

Policy-makers need to know the composition and strength of commercial interests in socially sensitive areas like alcohol-consumption and gambling. Here, the Gaming Board are already providing information about the growth of gambling conglomerates but there seems to be a dearth of research into the subject of industrial concentration in the overlapping fields of the leisure, entertainment and service industries - areas which are all ripe for investigative research and economic analysis. In relation to gambling, Moody (1972) has provided a pioneering effort in this direction.

Use of existing sources

So far, this chapter has been taken up with a list of informational and research requirements, and further ones will be presented in due course. But the Erroll Committee, albeit in another context, have questioned the validity of such routine and almost obligatory recommendations, commenting:

'There is an all too frequent assumption on the part of people unable or unwilling to make the best use of available material, to assume that more research is needed in a particular field.'

A similar point was also made by the Report of the Central Policy Review Staff (1975) when it was discussing ways to improve social monitoring (Report, Annex A). To some extent the issue of whether more research is, or is not needed on gambling is a matter of semantics. It was earlier noted that, although much of the official information currently available did not seem suitable for providing a core of key statistics of use to policy-makers, this might well represent only the tip of the iceberg, and that much more unpublished data - particularly in the cases of the Gaming Board, Horserace Betting Levy and Totalisator Boards, and Customs & Excise - exists. It is unlikely, however, that this information could be rendered useful without an active research effort in this direction.

Besides official sources, however, there is a great deal of information in the hands of the gambling industry itself, and of commercial and market research organisations, which might be made available for research purposes. There are two main problems in gaining access to this information. First, one has to know whether it exists or not and where it is likely to be found. This often involves a fairly detailed knowledge of the day-to-day workings of the industry concerned, together with knowledge of its informational services, records and

accounting methods. Obtaining accurate measures of participation might, for example, be considerably simplified were one to have access to betting-slips or - with suitable measures to ensure confidentiality or anonymity - credit-betting accounts. Second, utilising information to which access has been gained is rarely a simple clerical-statistical exercise, but requires a considerable amount of ingenuity and imagination allied to a clear grasp of the research questions and hypotheses to which this information might be applied. Examples of how such material can often be turned to unexpected use are to be found in Webb, Campbell, Schwartz & Sechrest's (1966) study of the use of unobtrusive measures in social research.

Given that the requisite information can be obtained, effective social policy also presupposes some knowledge of how to bring about change and recognise when change is occurring, and this involves the ability to identify those factors which are responsible for change and to assess their relative power. In the field of alcoholism attempts have been made to measure the effects of factors such as state control, availability, type of beverage, strength, opening hours, etc., on the prevalence of alcoholism, and these sorts of exercises can improve the way policies are subsequently formulated. So far as gambling is concerned, Parts Two and Three of the present review have attempted to place existing research findings on the situational determinants of gambling into the framework of a model of the development of gambling behaviour, while the Gaming Board's policies have long given explicit recognition to the importance of structural characteristics and ecologic opportunities and the significance of changes to these determinants.

Social monitoring

The stress on the need for detailed, regularly-available and up-to-date information; on the ability to recognise when changes are occurring in respect of factors which determine the level and intensity of gambling; on the ability to make such changes, when appropriate, for the purpose of regulation; and lastly, on the ability to monitor the course and consequence of changes and evaluate their effects or effectiveness - all these requirements might seem to suggest the need for some sort of permanent body with responsibility for the continuous oversight of the gambling industry or, at least, for forms of gambling - such as betting - which, though potentially dangerous, are not yet subject to the level of supervision provided in the case of gaming by the Gaming Board. Suggestions for overall Gambling Authorities and Betting Boards have, in fact, been made from time to time by the Churches' Council on Gambling (Moody, 1974) and the Gaming Board (Evidence to the Royal Commission on Gambling, 1976), and the matter is now under review by the Royal Commission on Gambling. Control Boards, however, whatever their functions in relation to the collection and interpretation of statistics and evaluation of commercial developments, are in business to supervise and regulate - that is, they are commonly established as a consequence of the need for control, rather than the need for information. The implications of this

chapter, on the contrary, are that there is a need for better quality information, better channels for its communication, and means to be provided for the more effective monitoring of events, so that policy-makers and the public can be placed in a better position to establish whether, in the light of existing social and economic consequences of gambling, further regulation of the industry as a whole, or of particular forms of gambling is called for. A permanent social monitoring service of this type need have no other duties.

Some modest proposals

Until this data-base has been established it seems premature to suggest the need for research on more specific topics. There are two caveats to this conclusion, however. The first, to which reference has already been made, is that a careful epidemiological survey of the prevalence of excessive gambling already seems called for, if only to establish some crude criterion against which to measure the strength of arguments for the further regulation of gambling and as a basis for establishing future research needs and strategies. The second - and one which brings this review full circle - is that it should not be forgotten, amidst all the talk of the potential dangers of some forms of gambling and the need for regulation, that gambling is a multi-million pound business because people enjoy it. The assumption that gambling is intrinsically worthless (if not morally reprehensible) and bad for people has invested it with a peculiarly unglamorous social disapproval which until recently has given little impetus to the investigation of any positive value it might have. Pared down to the act itself, many forms of gambling may well look sterile and boring to the onlooker. But, as bodies like the Daily Mirror Punters' Club have shown, the act of wagering is only one aspect of what can be - and is already for many - an absorbing hobby. The creation of an informed, selective and demanding gambling public is likely to be furthered by taking into consideration their views as well as the views of those with a commercial stake in the industry itself. Although surveys of consumer satisfaction and views are commonly associated with commercially-commissioned market research, the Social Survey Division of the O.P.C.S. produced a survey on public attitudes to liquor licensing laws in Great Britain (Bradley & Fenwick, 1974). There may be a case for making similar surveys in the gambling field, both of public reactions to proposed policies or policy alternatives, and of consumers' opinions about other aspects of the services with which they are provided (cf. Gallup, 1976).

References

- Abelson, R. 1973 'Comment on 'Group shift to caution at the race-track'.' *Journal of Experimental Social Psychology*, 9, (6), 517-21.
- Adler, J. 1966 'Gambling, drugs and alcohol: a note on functional equivalents.' *Issues in Criminology*, 2, (1), 111-118.
- Adler, N. & Coleman, D. 1969 'Gambling & alcoholism: symptom substitution and functional equivalents.' *Quarterly Journal of Studies on Alcohol*, 30, 733-736.
- Ainslie, G. 1975 'Specious reward: a behavioral theory of impulsiveness and impulse control.' *Psychological Bulletin*, 82, (4), 463-496.
- Akers, R.L. 1973 *Deviant Behavior: A Social Learning Approach*. Belmont, California: Wadsworth.
- Andriessen, J. 1971 'Comments on a new risk-taking model.' *Acta Psychologica*, 35, (3), 173-187.
- Ashley, J.W. 1962 'Stock prices and changes in earnings and dividends: some empirical results.' *Journal of Political Economy*, 70, 82-85.
- Atkinson, J.W. 1957 'Motivational determinants of risk-taking behavior.' *Psychological Review*, 64, 359-372.
- Bandura, A. & Walters, R. 1963 *Social Learning and Personality Development*. New York: Holt, Rinehart & Winston.
- Barker, J. & Miller, M. 1966 'A version therapy for compulsive gambling.' *Lancet*, 1, (7435), 491-2.
- Barker, J. & Miller M. 1968 'A version therapy for compulsive gambling.' *Journal of Nervous and Mental Disease*, 146, (4), 285-302.
- Baron, R.A. 1968 'Authoritarianism, locus of control, and risk-taking.' *Journal of Psychology*, 68, 141-3.
- B.B.D.O. Ltd. 1963 'Increasing racecourse attendance.' A Report By Batten, Barton, Durstine & Osborn Ltd., to the Horserace Betting Levy Board. In: *The Third Report (1963-4) of the Horserace Betting Levy Board*. London: Horserace Betting Levy Board.
- Becker, H.S. 1963 *Outsiders: Studies in the Sociology of Deviance*. Glencoe: The Free Press.
- Bergler, E. 1958 *The Psychology of Gambling*. London: Hanison.
- Bilek, A. & Ganz, A. 1965 'The pinball problem - alternative solutions.' *Journal of Criminal Law, Criminology and Police Science*, 56, (4), 432-45.
- Blascovich, J. & Ginsburg, G. 1974 'Emergent norms and choice shifts involving risk.' *Sociometry*, 37, 205-18.
- Blascovich, J., Ginsburg, G. & Howe, R. 1976 'Blackjack, choice shifts in the field.' *Sociometry*, 39, (3), 274-276.

REFERENCES

- Blascovich, J., Veach, T. & Ginsburg, G. 1973 'Blackjack and the risky shift.' *Sociometry*, **36**, (1), 42-55.
- Bloch, H.A. 1951 'The sociology of gambling.' *American Journal of Sociology*, **57**, (3), 215-221.
- Bloch, H.A. 1962 'The gambling business: an American paradox.' *Crime and Delinquency*, **8**, (4), 355-64.
- Bolen, D.W. & Boyd, W.H. 1968 'Gambling and the gambler.' *Archives of General Psychiatry*, **18**, 617-630.
- Borrill, J. 1975 'Study of gamblers and drug-takers in H.M. Prison Pentonville.' Paper prepared for discussion at the Consultation on 'Compulsive' Gambling, May 22nd, 1975 (mimeo).
- Boyd, W.H. & Bolen, D.W. 1970 'The compulsive gambler and spouse in group psychotherapy.' *International Journal of Group Psychotherapy*, **20**, (1), 77-90.
- Bradley, M. & Fenwick, D. 1974 *Public Attitudes to Liquor Licensing Laws in Great Britain*. An enquiry, carried out on behalf of the Home Office and the Scottish Home and Health Department, by the Social Survey Division: Office of Population Censuses and Surveys. London: H.M.S.O.
- Breen, T.J.A. 1974 'Report on investigation into the experience of social workers within the Borough of Greenwich of families or persons with a gambling problem.' Paper presented to the Consultation on 'Compulsive' Gambling, organised by the Churches' Council on gambling, 27 November 1974 (mimeo).
- Brown, I. 1976 'Addictive gambling and patterns of crime.' Paper prepared for the Consultation on 'Compulsive' Gambling, December 1976 (personal communication).
- Bruner, J.S., Goodnow, J.J. & Austin, G.A. 1976 *A Study of Thinking*. New York: Science Editions Inc.
- Bull, P. 1977 *Submission to the Royal Commission on Gambling*. Halifax: Timeform Publications. (also serialised in 'Sporting Life' from 12.2.1977 - 26.2.1977.)
- Cairncross, A. 1966 *Introduction to Economics*. (4th Edition) London: Butterworths.
- Cameron, B. & Myers, J.L. 1966 'Some personality correlates of risk-taking.' *Journal of General Psychology*, **64**, 51-60.
- Carey, S.H.D. 1968 'Personality and compulsive gambling.' Paper to the Annual Conference of The British Psychological Society, 1968. *Bulletin of the British Psychological Society*, **21**, (71), 88.
- Central Policy Review Staff. 1975 *A Joint Framework for Social Policies*. London: H.M.S.O.
- Central Statistical Office. Annually *Annual Abstract of Statistics*. Government Statistical Service. London: H.M.S.O.
- Central Statistical Office. Annually *National Income and Expenditure*. Government Statistical Service. London: H.M.S.O.
- Central Statistical Office. Annually *Social Trends*. Government Statistical Service. London: H.M.S.O.
- Chapman, D. 1968 *Sociology and the Stereotype of the Criminal*. London: Tavistock Publications.
- Churches' Committee on Gambling Legislation. 1968 *The Gaming Act 1968: Views and Statements*. London: C.C.G.L.

GAMBLING: A REVIEW OF THE LITERATURE

Churches' Council on Gambling. 1960-68 *Annual Reports of the Churches' Council on Gambling*. London: C.C.G.

Clark, W. 1966 'Operational definitions of drinking problems and associated prevalence ratios.' *Quarterly Journal of Studies on Alcohol*, 27, 648-68.

Coggins, R. (ed.). 1966 *The Gambling Menace*. Nashville, Tennessee: The Broadman Press.

Cohen, J., Boyle, L.E. & Shubsachs, A.P. 1969 'Rouge et Noir: influence of previous play on choice of binary event outcome and size of stake in a gambling situation.' *Acta Psychologica*, 31, 340-52.

Cohen, J. & Chesnick, E.I. 1970 'The doctrine of psychological chances.' *British Journal of Psychology*, 60, 323-334.

Cohen, J. & Cooper, P. 1960 'A Study of a national lottery: premium savings bonds.' *Occupational Psychology*, 34, 170-183.

Cohen, S. 1972 *Folk Devils and Moral Panics: The Creation of the Mods and Rockers*. London: MacGibbon & Kee.

Committee of Inquiry. (Benson Report). 1968 *The Racing Industry*. Report to the Stewards of the Jockey Club and National Hunt Committee. London: Trustees of the Jockey Club.

Consultation on 'Compulsive' Gambling. 1975 Report on Proceedings (November 1975, mimeo).

Consumers Association. 1976 'Advertising controls. Part 1: cigarettes.' *Which*, June, 142-3.

Cotler, S.B. 1971 'The use of different behavioral techniques in treating a case of compulsive gambling.' *Behavior Therapy*, 2, 579-84.

Crabb, R. & Downton, F. 1970 'Black-balling blackjack.' *Criminal Law Review*, March, 128-31.

Cressey, D.R. 1950 'The criminal violation of financial trust.' *American Sociological Review*, 15, 738-743.

Cressey, D.R. 1953 *Other People's Money*. Glencoe, Illinois: The Free Press.

Csikszentmihalyi, M. & Bennett, S. 1971 'An exploratory model of play.' *American Anthropologist*, 73, (1), 45-58.

Custer, R. 1976 'Description of compulsive gambling.' Draft paper prepared for the American Psychiatric Association Task Force on Nomenclature, for inclusion in its Diagnostic Statistical Manual III (mimeo).

Customs and Excise. *Annually Reports of the Commissioners of Her Majesty's Customs and Excise*. London: H.M.S.O.

Davenport, W. & Middleton, M. 1973 'Expectation theories of decision-making for duplex gambles.' *Acta Psychologica*, 37, (3), 155-172.

de Lint, J. 1973 'The epidemiology of alcoholism: the elusive nature of the problem, estimating the prevalence of excessive alcohol use and alcohol-related mortality, current trends and the issue of prevention.' Paper to the 1st International Conference on Alcoholism, London. In: *Alcoholism: A Medical Profile*. Eds: Kessel, N., Hawker, A. & Chalke, H. London: Edsall.

Department of Employment. *Annually Family Expenditure Survey*. Government Statistical Service. London: H.M.S.O.

REFERENCES

- Dessant, J. 1976 'The betting office industry in Glamorgan, 1961-7.' In: *Gambling, Work and Leisure*. By: Downes, D.M., Davies, B.P., David, M. & Stone, P. London: Routledge & Kegan Paul.
- Devereux, E.C. 1968 'Gambling in psychological and sociological perspective.' *International Encyclopedia of the Social Sciences* 6, 53-62.
- Dickerson, M.C. 1974 *The Effect of Betting Shop Experience on Gambling Behaviour*. Ph.D. thesis. University of Birmingham.
- Dickerson, M.C. (ed.) 1975 *Gambling: Associated Problems. A Guide for the Helping Agencies*. Report No.1. London: Consultation on 'Compulsive' Gambling.
- Dowie, J. 1975 *On the Efficiency and Equity of Betting Markets*. Studies in Economics. Canterbury: University of Kent (Mimeo).
- Downes, D.M., Davies, B.P., David, M.E. & Stone, P. 1976 *Gambling, Work and Leisure: A Study across Three Areas*. London: Routledge & Kegan Paul.
- Downton, F. 1969 'A note on betting strategies in compound games.' *Journal of the Royal Statistical Society, Series A*, 132, 543-547.
- Downton, F. & Holder, R.L. 1972 'Banker's games and the Gaming Act 1968.' *Journal of the Royal Statistical Society, Series A*, 135, 336-364.
- Duncan, D.F. 1975 'Marijuana and heroin: a study of initiation of drug use by heroin addicts.' *British Journal of Addiction*, 70, 192-197.
- Edwards, G. 1973 'Epidemiology applied to alcoholism: a review and an examination of purposes.' *Quarterly Journal of Studies on Alcohol*, 34, 28-56.
- Edwards, W. 1955 'The prediction of decisions among bets.' *Journal of Experimental Psychology*, 51, 201-14.
- El-Gazzar, M.E., Saleh, S.D. & Conrath, D.W. 1976 'Situational and individual difference variables in chance-determined activities.' *Journal of Personality and Social Psychology*, 34, (5), 951-59.
- Endler, N.S. & Magnusson, D. 1976 'Toward an interactional psychology of personality.' *Psychological Bulletin*, 83, (5), 956-974.
- Epstein, R.A. 1967 *The Theory of Gambling and Statistical Logic*. New York: Academic Press.
- Ewart, A. (ed.). 1974 *Win at Flat Racing with the Experts*. London: S. Paul.
- Figgis, E.L. 1951 *Focus on Gambling*. London: Arthur Barker.
- Figgis, E.L. 1974 *Betting to Win*. Playfair Publications. London: The Queen Anne Press Ltd.
- France, C.J. 1902 'The gambling impulse.' *American Journal of Psychology*, 13, 364-407.
- Freud, S. 1928 'Dostoevski and parricide.' In: *Collected Papers*, 5. Ed.: Strachey, J. (1959). New York: Basic Books.
- Friedman, M. & Savage, L. 1948 'The utility analysis of choices involving risk.' *Journal of Political Economy*, 56, 1073ff.
- Fryback, D., Goodman, B. & Edwards, W. 1973 'Choices among bets by Las Vegas gamblers: absolute and contextual effects.' *Journal of Experimental Psychology*, 98, (2), 271-78.

GAMBLING: A REVIEW OF THE LITERATURE

- Galdston, I. 1951 'The psychodynamics of the triad; alcoholism, gambling and superstition.' *Mental Hygiene*, 35, 589-598.
- Gallup. 1972 *Gambling in Britain*. London: Social Surveys (Gallup Poll) Ltd.
- Gallup. 1976 *Gambling in Britain*. London: Social Surveys (Gallup Poll) Ltd.
- Gaming Board. *Annually Reports of the Gaming Board for Great Britain*, for the years 1969-1976. London: H.M.S.O.
- Gaming Board 1976 *Evidence to the Royal Commission on Gambling*. London: Gaming Board for Great Britain.
- Gardiner, J.A. 1967 'Public attitudes towards gambling and corruption.' *Annals of the American Academy of Political and Social Science*, 374, (Nov), 123-34.
- Gardiner, J.A. & Olsen, D.J. 1967 'Wincanton: the politics of corruption.' In: *Task Force Report: Organized Crime* (Annotations and Consultants' Papers). By: The President's Commission on Law Enforcement and Administration of Justice. Washington, D.C.: U.S. Government Printing Office.
- Gitchoff, G., Ellenbogen, J. & Ellenbogen, E. 1973 'Victimless crimes: the case against continued enforcement.' *Journal of Police Science & Administration*, 1, (4), 401-408.
- Goffman, I. 1972 'Where the action is.' In: *Interaction Ritual*. London: Allen Lane.
- Goorney, A.B. 1968 'Treatment of a compulsive horserace gambler by aversion therapy.' *British Journal of Psychiatry*, 114, 329-33.
- Greenberg, M.E. & Weiner, B.B. 1966 'Effects of reinforcement history upon risk-taking behavior.' *Journal of Experimental Psychology*, 71, 587-92.
- Greenson, R. 1947 'On Gambling.' *American Imago*, 4, 61-77.
- Griffith, R.M. 1949 'Odds adjustment by American horserace bettors.' *American Journal of Psychology*, 62, 290-294.
- Groner, R. 1971 'Hellsehen beim Zahlenlotto? Statistische Bemerkungen zu Maché's Analyse des irrationalen Spielverhaltens.' (Clairvoyance in number lotteries? Statistical comments on Maché's ...). *Schweizerische Zeitschrift für Psychologie*, 30, (3), 230-236.
- Gross, W. 1965 'Betrachtungen zum Spielerproblem.' (Reflections on the gambling problem). *Kriminalistik*, 19, (12), 611-15.
- Halliday, J. & Fuller, P. (eds.) 1974 *The Psychology of Gambling*. London: Allen Lane.
- Harris, H.I. 1964 'Gambling addiction in an adolescent male.' *Psychoanalytic Quarterly*, 33, (4), 513-525.
- Henslin, J.M. 1967 'Craps and magic.' *American Journal of Sociology*, 73, 316-330.
- Herman, R.D. (ed.). 1967 *Gambling*. New York: Harper & Row.
- Hess, H.F. & Diller, J.V. 1969 'Motivation for gambling as revealed in the marketing methods of the legitimate gambling industry.' *Psychological Reports*, 25, 19-27.
- Hirschi, T. 1969 *Causes of Delinquency*. Berkeley & Los Angeles: University of California Press.
- H.M.S.O. *Annually Betting, Gaming and Lotteries Act, 1963: Permits and Licences* [re-titled, *Betting Licensing Statistics*, in 1974]. London: H.M.S.O.

- H.M.S.O. 1960 *Betting and Gaming Act*. London: H.M.S.O.
- H.M.S.O. 1963 *Betting, Gaming and Lotteries Act*. London: H.M.S.O.
- H.M.S.O. 1968 *Gaming Act*. London: H.M.S.O.
- Hochauer, B. 1970 'Decision-making in roulette.' *Acta Psychologica*, **34**, (2-3), 357-66.
- Holder, R.L. & Downton, F. 1972 'Casino pontoon.' *Journal of the Royal Statistical Society, Series A*, **135**, 221-241.
- Holloway, R. 1973 'More gambling, less tax?' *Lloyds Bank Review*, October (no. 110), 31-43.
- Home Office. Annually *Criminal Statistics for England and Wales*. London: H.M.S.O.
- Home Office. Annually *Report of the Commissioner of Police of the Metropolis*. London: H.M.S.O.
- Home Office. 1960 *Report of the Departmental Committee on a Levy on Betting on Horse Races*. Cmnd. 1003. London: H.M.S.O.
- Home Office. 1972 *Report of the Departmental Committee on Liquor Licensing*. Cmnd. 5154. London: H.M.S.O.
- Home Office & Scottish Home and Health Dept. 1973 *Report of the Inter-departmental Working Party on Lotteries*. Cmnd. 5506. London: H.M.S.O.
- Hood, C. 1972 'The development of betting taxes in Britain.' *Public Administration*, **50**, Summer, 183-202.
- Hoover, J.E. 1933 'National bank offences.' *Journal of Criminal Law and Criminology*, **24**, 655-663.
- Horserace Betting Levy Board Annually *Reports of the Horserace Betting Levy Board* (including those of the Horserace Totalisator Board). London: H.B.L.B.
- Hunt, G.M. & Azrin, N. 1973 'A community reinforcement approach to alcoholism.' *Behavior Research & Therapy*, **11**, 91-104.
- Hunter, J. & Brunner, A. 1928 'The emotional outlets of gamblers.' *Journal of Abnormal and Social Psychology*, **23**, 38-9.
- Jackson, D.N., Hourany, L. & Vidmar, N.J. 1972 'A four-dimensional interpretation of risk-taking.' *Journal of Personality*, **40**, (3), 483-501.
- James, W. & Rotter, J.B. 1958 'Partial and 100% reinforcement under chance and skill conditions.' *Journal of Experimental Psychology*, **55**, 397-403.
- Jamieson, B.D. 1969 'The influences of birth order, family size and sex differences on risk-taking behaviour.' *British Journal of Social and Clinical Psychology*, **8**, 1-8.
- Jones, F.L. 1966 'A betting shop in prison.' *Prison Service Journal*, **5**, (19), 37-40.
- Kaplan, L. & Maher, J. 1970 'The economics of the Numbers game.' *American Journal of Economics and Sociology*, **29**, (4), 391-408.
- Kazdin, A.E. 1975 *Behavior Modification in Applied Settings*. Homewood, Illinois: The Dorsey Press.
- Kemsley, W.F. & Ginsburg, D. 1951 *Betting in Britain*. The Social Survey, Consumer Expenditure Series. London: Central Office of Information (mimeo).

- Kendall, M.G. & Murchland, J.D.** 1964 'Statistical aspects of the legality of gambling.' *Journal of the Royal Statistical Society, Series A*, **127**, 359-383.
- King, R.** 1964 'The rise and decline of coin-machine gambling.' *Journal of Criminal Law, Criminology and Police Science*, **55**, (2), 199-207.
- King, R.** 1969 *Gambling and Organized Crime*. Washington D.C.: Public Affairs Press.
- Kogan, N. & Wallach, M.A.** 1967 'Risk-taking as a function of the situation, the person and the group.' In: *New Directions in Psychology, III*. Ed: Newcomb, T.N. New York: Holt, Rinehart and Winston.
- Kusyszyn, I.** 1972 'The gambling addict versus the gambling professional: a difference in character?' *International Journal of the Addictions*, **7**, (2), 387-393.
- Langer, E.J.** 1975 'The illusion of control.' *Journal of Personality and Social Psychology*, **32**, (2), 311-328.
- Langer, E.J. & Roth, J.** 1975 'Heads I win, tails it's chance: the illusion of control as a function of the sequence of outcomes in a purely chance task.' *Journal of Personality and Social Psychology*, **32**, (6), 951-955.
- Ledermann, S.** 1956 *Alcool, Alcoolisme, Alcoolisation; Données Scientifiques de Caractère Physiologique, Économique et Social*. Institut National d'Études Démographiques, Trav. et. Doc., Cah. No.29. Paris: Presses Universitaires de France.
- Lee, D.R.** 1969 'Utility analysis and repetitive gambling.' *The American Economist*, **13**, (2), 87-91.
- Lefcourt, H.M.** 1966 'Internal versus external control of reinforcement: a review.' *Psychological Bulletin*, **65**, 206-20.
- Levitz, L.S.** 1971 'The experimental induction of compulsive gambling behaviours.' *Dissertation Abstracts International*, **32**, B, 1216-1217.
- Lewis, D.J. & Duncan, C.P.** 1956 'Effect of different percentages of money reward on extinction of a lever-pulling response.' *Journal of Experimental Psychology*, **52**, 23-27.
- Lewis, D.J. & Duncan, C.P.** 1957 'Expectation and resistance of extinction of a lever-pulling response as functions of percentage of reinforcement and amount of reward.' *Journal of Experimental Psychology*, **54**, 115-120.
- Lewis, D.J. & Duncan, C.P.** 1958 'Expectation and resistance to extinction of a lever-pulling response as a function of percentage reinforcement and number of acquisition trials.' *Journal of Experimental Psychology*, **55**, 121-128.
- Lichtenstein, S.** 1965 'Bases for preferences among three-outcome bets.' *Journal of Experimental Psychology*, **69**, 162-169.
- Lichtenstein, S. & Slovic, P.** 1971 'Reversals of preference between bids and choices in gambling decisions.' *Journal of Experimental Psychology*, **89**, (1), 46-55.
- Lichtenstein, S. & Slovic, P.** 1973 'Response-induced reversals of preference in gambling: an extended replication in Las Vegas.' *Journal of Experimental Psychology*, **101**, (1), 16-20.
- Lichtenstein, S., Slovic, P. & Zink, D.** 1969 'Effect of instruction in expected value on optimality of gambling decisions.' *Journal of Experimental Psychology*, **79**, (2), 236-40.
- Lindman, H.** 1971 'Inconsistent preferences amongst gamblers.' *Journal of Experimental Psychology*, **89**, (2), 390-397.

- Lindner, R.M. 1950 'The psychodynamics of gambling.' *Annals of the American Academy of Political and Social Science*, **269**, 93-107.
- Littig, L. 1962 'Effects of skill and chance orientations on probability preferences.' *Psychological Reports*, **10**, 67-70.
- Littig, L. 1963 'Effects of motivation on probability preferences.' *Journal of Personality*, **31**, 417-427.
- Liverant, S. & Scodel, A. 1960 'Internal and external control as determinants of decision-making under conditions of risk.' *Psychological Reports*, **7**, 59-67.
- Livingston, J. 1974 'Compulsive gamblers, a culture of losers.' *Psychology Today*, **7**, (10), 51-5.
- Lupfer, M & Jones, M. 1971 'Risk-taking as a function of skill and chance orientations.' *Psychological Reports*, **28**, (1), 27-33.
- McCall, G.J. 1964 'Symbiosis: the case of hoodoo and the numbers racket.' In: *The Other Side: Perspectives on Deviance*. Ed: Becker, H.S. Glencoe, Illinois: The Free Press.
- McCauley, C., Stitt, C., Woods, K. & Lipton, D. 1973 'Group shift to caution at the race-track.' *Journal of Experimental Social Psychology*, **9**, (1), 80-86.
- McClellan, J.L. 1962 *Crime without Punishment*. New York: Duell, Sloan & Pearce.
- McGlothlin, W.H. 1954 'A psychometric study of gambling.' *Journal of Consulting Psychology*, **18**, 145-149.
- McGlothlin, W.H. 1956 'Stability of choices among uncertain alternatives.' *American Journal of Psychology*, **69**, 604-15.
- Maché, G. 1971 'Statistische Analyse des irrationalen Spielverhaltens.' (Statistical analysis of irrational gambling behaviour). *Schweizerische Zeitschrift für Psychologie*, **30**, (1), 46-50.
- Mannheim, H. 1940 *Social Aspects of Crime in England between the Wars*. London: Allen & Unwin.
- Martinez, T.M. & La Franchi, R. 1969 'Why people play poker.' *Trans-action*, **6**, (9), 30-35 & 52.
- Mass-Observation. 1970 *Gambling and Women*. London: Mass-Observation Ltd. (mimeo).
- Maurice, R. (ed.). 1968 *National Accounts Statistics: Sources and Methods*. Central Statistical Office. London: H.M.S.O.
- May, R.M. 1976 'Mathematics and casinos.' *Nature*, **264**, (5586), 508-9.
- Middlesex Addictions Committee. 1974 Minutes of meetings: 11th December 1974 (mimeo).
- Miller, G.H. & Agnew, N. 1974 'The Ledermann model of alcohol consumption: description, implications and assessment.' *Quarterly Journal of Studies on Alcohol*, **35**, 877-898.
- Mischel, W. 1973 'Toward a cognitive social learning reconceptualization of personality.' *Psychological Bulletin*, **80**, (4), 252-283.
- Mitchell, J. 1972 *Betting*. London: Pelham Books.
- Moody, G.E. 1965 *Gambling - Hidden Dangers*. London: S.P.C.K.
- Moody, G.E. 1972 *The Facts about the 'Money Factories'*. London: Churches' Council on Gambling.

GAMBLING: A REVIEW OF THE LITERATURE

- Moody, G.E. 1974 *Social Control of Gambling*. London: The Churches' Council on Gambling.
- Moody, G.E. 1975 *Personal Submission of Views to the Commission on the Review of the National Policy toward Gambling, Washington, D.C.* (mimeo).
- Moore, P. 1967 'Bankers' ruin.' *The Statist*, 27 Jan.
- Moran, E. 1970(a) 'Varieties of pathological gambling.' *British Journal of Psychiatry*, **116**, (535), 593-597.
- Moran, E. 1970(b) 'Gambling as a form of dependence.' *British Journal of Addiction*, **64**, 419-28.
- Moran, E. 1970(c) 'Clinical and social aspects of risk-taking.' *Proceedings of the Royal Society of Medicine*, **63**, 1273-7.
- Moran, E. 1975 'Pathological gambling.' In: *British Journal of Psychiatry, Special Publication No. 9: Contemporary Psychiatry*.
- Morris, R.P. 1957 'An exploratory study of some personality characteristics of gamblers.' *Journal of Clinical Psychology*, **13**, 191-3.
- Mosteller, F. & Nogee, P. 1951 'An experimental measurement of utility.' *Journal of Political Economy*, **59**, 371-404.
- Mowrer, E.R. 1950 'Social crises and social disorganisation.' *American Sociological Review*, **15**, 60-66.
- Munson, R.F. 1962 'Decision-making in an actual gambling situation.' *American Journal of Psychology*, **75**, 640-643.
- Myers, J.L. & Fort, J.C. 1963 'A sequential analysis of gambling behavior.' *Journal of General Psychology*, **69**, (2), 299-309.
- National Opinion Poll. 1969 *Gaming Survey*. N.O.P./3544. N.O.P. Market Research Ltd. (mimeo).
- Nettler, G. 1974 'Embezzlement without problems.' *British Journal of Criminology*, **14**, 70-77.
- Newman, O. 1972 *Gambling: Hazard and Reward*. London: Athlone Press, U.L.
- Nogee, P. & Lieberman, B. 1960 'The auction value of certain risky situations.' *Journal of Psychology*, **49**, 167-179.
- Oldman, D. 1974 'Chance and skill: a study of roulette.' *Sociology*, **8**, 407-26.
- Olmsted, C. 1962 *Heads I Win, Tails You Lose*. New York: Macmillan.
- Opp, K.D. & Sack, F. 1966 'Study of men who gamble on slot-machines.' *International Bibliography on Crime and Delinquency*, **3**, (7), 526.
- Paley, H.D. & Glendinning, J.A. 1963 *Pattern for New York? A report on off-track betting in England*. A Study authorised by the New York Assembly.
- Payne, J.W. 1973 'Alternative approaches to decision-making under risk: moments versus risk dimensions.' *Psychological Bulletin*, **80**, (6), 439-53.
- Payne, J.W. 1975 'Relation of perceived risk to preferences among gamblers.' *Journal of Experimental Psychology*, **104**, (1), 86-94.

- Payne, J.W. & Braunstein, M.L. 1971 'Preferences among gambles with equal underlying distributions.' *Journal of Experimental Psychology*, **87**, (1), 13-18.
- Perkins, E.B. 1950 *Gambling in English Life*. London: The Epworth Press.
- Peterson, A.W. 1951 'The statistics of gambling.' Paper read before the Royal Statistical Society, February 27th 1952. *Journal of the Royal Statistical Society, Series A*, **115**, Part 2, 199-211.
- Peterson, A.W. 1957 *Gambling in the United States of America*. Home Office Library (mimeo).
- Peterson, V. 1947 'Why honest people steal.' *Journal of Criminal Law and Criminology*, **38**, 94-103.
- Peterson, V. 1951 *Gambling ... Should it be Legalized?* Springfield, Illinois: Charles C. Thomas.
- Peterson, V. 1965 'A look at legalized gambling.' *The Christian Century*, **82**, (21), 675-679.
- Phillips, H. 1955 *Pools and the Punter*. London: Watts & Co.
- Phillips, R. 1972 'Probability preferences of gamblers and non-gamblers.' *Psychological Reports*, **31**, 652-4.
- Pokorny, M.R. 1972 'Compulsive gambling and the family.' *British Journal of Medical Psychology*, **45**, (4), 355-364.
- Popham, R.E., Schmidt, W. & de Lint, J. 1975 'The prevention of alcoholism: epidemiological studies of the effects of government control measures.' *British Journal of Addiction*, **70**, 125-144.
- Preston, M. & Barratta, P. 1948 'An experimental study of the auction-value of an uncertain outcome.' *American Journal of Psychology*, **61**, 183-93.
- Preston, R. 1974 'Ethical aspects of gambling- a new look.' *Crucible*, October (reprint).
- Pruitt, D.G. 1962 'Pattern and level of risk in gambling decisions.' *Psychological Review*, **69**, (3), 187-201.
- Rapoport, A. & Wallsten, T. 1972 'Individual decision behavior.' *Annual Review of Psychology*, **23**, 131-76.
- Riemer, S. 1941 'Embezzlement: pathological basis.' *Journal of Criminal Law and Criminology*, **32**, 411-423.
- Roberts, A.K. 1969 'Reflections on gambling and organized crime.' *Criminologica*, **7**, (1), 26-31.
- Roberts, J.M., Arth, M.J. & Bush, R.R. 1959 'Games in culture.' *American Anthropologist*, **61**, 597-605.
- Roberts, J.M. & Sutton-Smith, B. 1962 'Child training and game involvement.' *Ethnology*, **1 & 2**, 166-185.
- Rosett, R. 1965 'Gambling and rationality,' *Journal of Political Economy*, **73**, 595-607.
- Roston, R. 1965 'Some personality characteristics of male compulsive gamblers.' (abstract). *American Psychologist*, **20**, (7), 548.
- Rothbart, M. & Snyder, M. 1970 'Confidence in the prediction and postdiction of an uncertain outcome.' *Canadian Journal of Behavioral Science*, **2**, (1), 37-43.
- Royal Commission. 1933 *Interim and Final Reports of the Royal Commission on Lotteries and Betting*. Cmd. 4341. London: H.M.S.O.

- Royal Commission. 1951 *Report of the Royal Commission on Betting, Lotteries and Gaming, 1949-1951*. Cmd. 8190. London: H.M.S.O.
- Royal Commission 1976 *Interim Report of the Royal Commission on Gambling*. Cmd. 6643. London: H.M.S.O.
- Rubner, A. 1966 *The Economics of Gambling*. London: Macmillan.
- Samuels, H.J. 1973 'The off-track betting experiment in New York.' *Howard Law Journal*, 17, (4), 731-57.
- Scarne, J. 1961 *Scarne's Complete Guide to Gambling*. New York: Simon & Schuster.
- Scarne, J. 1975 *Scarne's New Complete Guide to Gambling*. London: Constable.
- Schachter, S. 1971 *Emotion, Obesity & Crime*. New York: Academic Press.
- Schneider, J.M. 1968 'Skill versus chance activity preference and locus of control.' *Journal of Consulting and Clinical Psychology*, 32, (3), 333-37.
- Scimecca, J. 1971 'A typology of the gambler.' *International Journal of Contemporary Sociology*, 8, (1), 56-72.
- Scodel, A. 1964 'Inspirational group therapy: a study of Gamblers Anonymous.' *American Journal of Psychotherapy*, 18, (1), 115-25.
- Scodel, A., Ratoosh, P. & Minas, J.S. 1959 'Some personality correlates of decision-making under conditions of risk.' *Behavioral Science*, 4, 19-28.
- Seager, C.P. 1970 'Treatment of compulsive gamblers using electrical aversion.' *British Journal of Psychiatry*, 117, (540), 545-554.
- Select Committee 1977 *Second Report from the Select Committee on Nationalised Industries: The Horserace Totalisator Board*. (HC 344). London: H.M.S.O.
- Sewell, R. 1969 'Survey of gambling habits of a short-term recidivist prison population.' In: Moody, G.E. (1972), *The Facts about the 'Money Factories'*, Appendix B. London: The Churches' Council on Gambling.
- Sillitoe, K.K. 1969 *Planning for Leisure*. London: H.M.S.O.
- Simmel, E. 1920 'Psychoanalysis of the gambler.' *International Journal of Psychoanalysis*, 1, 352-3.
- Skinner, B.F. 1953 *Science and Human Behavior*. New York: Macmillan.
- Slovic, P. 1962 'Convergent validation of risk-taking measures.' *Journal of Abnormal and Social Psychology*, 65, 68-71.
- Slovic, P. 1964 'Assessment of risk-taking behavior.' *Psychological Bulletin*, 61, 220-233.
- Slovic, P. 1967 'The relative influence of probabilities and payoffs upon perceived risk of a gamble.' *Psychonomic Science*, 9, 223-224.
- Slovic, P. 1969(a) 'Manipulating the attractiveness of a gamble without changing its expected value.' *Journal of Experimental Psychology*, 79, (1), 139-45.
- Slovic, P. 1969(b) 'Differential effects of real vs. hypothetical payoffs upon choices among gambles.' *Journal of Experimental Psychology*, 80, 434-437.

REFERENCES

- Slovic, P. & Lichtenstein, S. 1968(a) 'Importance of variance preferences in gambling decisions.' *Journal of Experimental Psychology*, **78**, 646-654.
- Slovic, P. & Lichtenstein, S. 1968(b) 'The relative importance of probabilities and payoffs in risk-taking.' *Journal of Experimental Psychology Monograph*, **78**, (3), Part 2 (whole part).
- Slovic, P., Lichtenstein, S. & Edwards, W. 1965 'Boredom-induced changes in preferences among bets.' *American Journal of Psychology*, **78**, 208-217.
- Smith, S. & Razzell, P. 1975 *The Pools Winners*. London: Caliban Books.
- Social and Industrial Commission of the Church Assembly. 1950 *Gambling: An Ethical Discussion*. London: Church Information Board.
- Starkey, L.M. (jr.). 1964 *Money, Mania and Morals - the Churches and Gambling*. New York: Abingdon Press.
- Stevenson, J.L. (ed.). 1971 *Daily Mirror Punters Club Guide to the Turf 1971*. London: Daily Mirror Books.
- Strickland, L.H. & Grote, F.W. 1967 'Temporal presentation of winning symbols and slot-machine playing.' *Journal of Experimental Psychology*, **74**, (1), 10-13.
- Strickland, L.H., Lewicki, R.J. & Katz, A.M. 1966 'Temporal orientation and perceived control as determinants of risk-taking.' *Journal of Experimental Social Psychology*, **2**, 143-51.
- Sutton-Smith B., Roberts, J.M. & Kozelka, R.M. 1963 'Game involvement in adults.' *Journal of Social Psychology*, **60**, 15-30.
- Taylor, A.W. 1974 *Amusements with Prizes*. An independent study of the number and distribution of amusement arcades and other premises providing similar facilities in England and Wales, and a consideration of the social consequences. London: Churches' Council on Gambling (mimeo).
- Tec, N. 1964 *Gambling in Sweden*. Totowa, New Jersey: The Bedminster Press.
- Thomas, W.I. 1901 'The gaming instinct.' *American Journal of Sociology*, **6**, 750-63.
- Thorner, I. 1956 'Ascetic protestantism, gambling, and the one-price system.' *American Journal of Economics and Sociology*, **15**, 161-172.
- Treasury. 1964 *Report on Enquiry into Gaming under Section 2 of Finance Act, 1963*. Cmd. 2275. London: H.M.S.O.
- Turner, W. 1965 *Gamblers' Money: The New Force in American Life*. Boston: Houghton Mifflin.
- Tversky, A. 1967 'Utility theory and additivity analysis of risky choices.' *Journal of Experimental Psychology*, **75**, (1), 27-36.
- Tversky, A. & Kahneman, D. 1974 'Judgment under uncertainty: heuristics and biases.' *Science*, **185**, (4157), 1124-1131.
- United States Senate. (McClellan Committee) 1962 *Gambling and Organized Crime*. Report of the Committee on Government Operations, United States Senate, made by its Permanent Subcommittee on Investigations. Report No. 1310. 87th Congress, 2nd Session. Washington: U.S. Govt. Printing Office.
- Utton, M.A. 1970 *Industrial Concentration*. Penguin Modern Economics. Harmondsworth: Penguin Books.
- Veblen, T. 1934 *The Theory of the Leisure Class*. New York: The Modern Library.

- Vernon, P.E.** 1953 *Personality Tests and Assessments*. London: Methuen & Co Ltd.
- Victor, R.G. & Krug, C.M.** 1967 'Paradoxical intention in the treatment of compulsive gambling.' *American Journal of Psycho-therapy*, **21**, (4), 808-814.
- von Schovingen, K.** 1967 'Spielbanken und Kriminalität.' (Gambling casinos and crime). *Monatsschrift für Kriminologie und Strafrechtsreform*, **50**, (2), 61-70.
- Wall Street Journal** 1968 'Mobsters abroad: American gangsters plan big investments in London's gambling.' *The Wall Street Journal*, November 8th.
- Walshe, G.** 1974 *Recent Trends in Monopoly in Great Britain*. Occasional Papers: XXVII, The National Institute of Economic and Social Research. Cambridge: The University Press.
- Webb, E., Campbell, D., Schwartz R. & Sechrest, L.** 1966 *Unobtrusive Measures: Nonreactive Research in the Social Sciences*. Chicago: Rand McNally & Co.
- Weiner, B. & Kukla, A.** 1970 'An attributional analysis of achievement motivation.' *Journal of Personality and Social Psychology*, **15**, (1), 1-20.
- Weinstein, D. & Deitch, L.** 1974 *The Impact of Legalised Gambling. The Socioeconomic Consequences of Lotteries and Off-Track Betting*. New York: Praeger.
- West, D.J. & Farrington, D.P.** 1977 *The Delinquent Way of Life*. (Third Report of the Cambridge Study in Delinquent Development). London: Heinemann.
- Whyte, W.F.** 1967 'The racketeer in his social setting.' In: *Gambling*. Ed: Herman, R.D. New York: Harper & Row.
- Wilkins, R.H.** 1975 *The Hidden Alcoholic in General Practice: A Method of Detection using a Questionnaire*. London: Paul Elek (Scientific Books) Ltd.
- Williams, R.S.** 1977 'Psychological approaches to the study of leisure.' *Bulletin of the British Psychological Society*, **30**, 8-12.
- Wilson, A.N.** 1970 *The Casino Gambler's Guide*. New York: Harper & Row.
- Worth, W.J.** 1970 *Recreation in the Betting Shop*. One of a group of M.Sc. projects entitled 'Recreation Management', carried out at the University of Technology, Loughborough, and partly funded by Ladbrokes, Ltd. (see Dickerson, 1974).
- Wortman, C.B.** 1975 'Some determinants of perceived control.' *Journal of Personality and Social Psychology*, **31**, (2), 282-294.
- Wykes, A.** 1964 *Gambling* London: Aldus Books.
- Zola, I.K.** 1964 'Observations on gambling in a lower-class setting.' In: *The Other Side. Perspectives on Deviance*. Ed: Becker, H.S. Glencoe, Illinois: The Free Press.

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