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The Society for the Study of Gambling

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NewsLetter

The Society For The Study of Gambling

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The Society For The Study of Gambling

The Society for the Study of Gambling was formed in 1977 to provide a forum for those concerned with research into gambling; to promote its scientific study, especially as far as the psychological, social and economic aspects are concerned; and to inform the public about these matters. In more recent times the Society has broadened its focus to include a wide range of issues relevant to the field of gambling.

The membership of the Society is drawn from a wide circle of people who have interest in various aspects of gambling. They range from those that deal with problem gambling to members of the commercial gambling industry. It is a condition of the Society that there should be freedom of opinion and practice among its members. Consequently the Society does not take any particular stance in relation to gambling.

Talks and papers presented at Society meetings are often reproduced in the Newsletter. They are published at the invitation of the Editor and with the permission of the author. They are not intended to be an alternative to publication in a learned journal. The Editor welcomes unsolicited manuscripts, correspondence book reviews and other items which are of interest to SSG members.

The Society holds regular meetings twice a year in London. **Date of the next meeting - to be advised.** For further details please contact the Treasurer.

Information about the Society and a précis of the articles that have been published in recent Newsletters can be found on the Society's website:

www.societystudygambling.co.uk

Membership

The Society for the Study of Gambling has in the past recruited its members by invitation. We do not propose to change this, but we would like to encourage our existing members to issue invitations to those who they feel could both make a contribution to and reap a benefit from The Society.

Any member may bring any potential new member free of charge to one meeting (including lunch). We hope this small inducement will help us to expand our membership.

NEWSLETTER

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A review of David Miers' Book "Regulating Commercial Gambling, Past, Present, and Future" published by Oxford University Press, will appear in the next edition.

EDITORIAL

So what lessons should we have learnt from the past five years? I suggest three.

First, it is always a mistake to expect any legislation which authorises an increase in gambling opportunities to be uncontroversial. Why? Because, as with liberalisation of the law relating to other activities traditionally regarded as vices, there will always be a substantial number of people who disapprove on moral grounds even though they know that a lot of what they disapprove of happens anyway and that it doesn't do that much harm to innocent third parties.

Such people think that liberalising gambling law will somehow be inimical to the fundamental values or principles which the kind of society they live in ought to cherish and which their government ought to defend, e.g. that people should not be encouraged to try to get something for nothing and that the distribution of money should not be random but should be related to desert.

Since this is a difficult case to make in pluralist societies, anti-gamblers invariably seek to win the political argument by exaggerating, often grotesquely, the incidence of, and damage caused by excessive or problem gambling even though they concede that this only affects a small minority of those who gamble, just as incurring unaffordable debts only affects a small number of credit-card-users.

Such people are usually in a minority but they are also usually quite successful in tapping into a vein of general nervousness about gambling which is shared by the majority. The result is that in response to public opinion governments always set limits to the amount of gambling which they authorise, not least because many in government share the public's nervousness about gambling and some of them are principled prohibitionists themselves.

Limiting the availability of new gambling opportunities, however, will mitigate but not silence opposition since some opponents will continue to deplore *any* increase in gambling opportunities. Such opposition has to be carefully managed by any liberalising government and to do this successfully the government needs to be very clear in its own mind about what it is seeking to achieve by liberalisation, and in particular how it is going to minimise negative social impacts and maximise economic benefits for the general, not just the gambling public. It is usually also important to stress that there will be significant social costs as a consequence of *not* liberalising, e.g. in encouraging illegal gambling or failing to address the needs of those who are problem gamblers under the existing dispensation.

Wise governments, however, will not appeal only to pragmatic considerations leaving exclusive occupation of the moral high ground to opponents. Liberalising governments need to stress that there is a principle of liberty involved here. Opponents should, consequently, be challenged as to whether they do not also endorse the principle that, provided others are not wrongfully harmed, adults should be free to spend their own time and money and in general to live their own lives as seems best to them - even if this means that some people will make self-damaging choices and some will make choices which others deem morally reprehensible.

The second lesson is economic. Restricting the availability of commercial gambling in response to public opinion means that governments ***never*** authorise a fully free market in gambling services. This is especially true of very large casinos which are highly visible. Almost all the UK Government's woes derived from the belief, only abandoned after the second reading in the Commons, that they could somehow leave it to the market to decide how many casinos there would be while still ensuring that there wouldn't be "too much" gambling.

Once, however, it is decided to have a restricted rather than a free market in gambling services it is crucial to manage the economic and commercial consequences of this. Because supply is restricted, those companies that succeed in getting the available licences will be to some extent protected from competition and can therefore make abnormally large (monopoly or oligopoly) profits. Indeed, if taxes are maintained at the normal level for consumption taxes and competition is substantially restricted the companies will make windfall profits. One way or another government needs to capture these excess profits for the good of the public.

It is imperative, therefore, for liberalising governments to have a clear and sustainable taxation policy from the outset. This, however, does not usually mean a high tax policy but rather a policy of requiring gambling companies to contribute to good (and popular) causes in various ways, as with the National Lottery or by getting casinos to contribute as creatively as possible to the regeneration of relatively disadvantaged areas. It was a serious mistake, therefore, - and a failure of joined-up government - to instruct Sir Alan Budd *not* to address taxation issues.

The third lesson relates to process. It is obviously very important to have a full public debate so that even those who oppose liberalisation feel that they have been heard. However, any government embarking on a consultation process should understand that the existing industry will be, for perfectly sound commercial reasons, in favour only of those changes in the law which enable them to increase their sales and against any change in the law which will expose them to more competition. It is essential therefore for liberalising governments to propound their competition policy upfront, particularly as this affects their existing domestic industry.

If you ask the industry what it wants the different sectors will always argue for legal arrangements which, while expanding their own commercial opportunities, will protect them from competition, especially from new competition. Since they cannot say this publicly they will typically claim that their arguments issue from a concern about problem gambling, about crime, about fairness, about the need to proceed cautiously etc, etc.

Government should therefore anticipate this and decide what it thinks are the legitimate interests of the existing industry and what are not. It should not seek to achieve the impossible of giving everyone the benefits of both liberalisation and protectionism. Failure to maintain a clear and firm position in this area paved the way for an unholy alliance between the existing industry who wanted to be protected from competition, the anti-gamblers who object on principle and those in parliament and the media who wanted to embarrass the government.

Having said this, the bill as it had been amended prior to “wash-up” week was a pretty good one. It would – assuming a tax of about 20% of GGR - have produced a small number of new regional casinos which would have brought substantial investment and jobs to economically deprived areas, while not encouraging impulse gambling and while still providing profitable opportunities for the existing industry. Even the Daily Mail was happy.

But, of course, by leaving it until after the second reading in the Commons to settle on a policy for limiting new casino numbers, determining where they will be located and establishing a competitive process for deciding which projects get licensed, government had laid itself irresistibly open to charges of not giving parliament a proper opportunity to debate the issues. The result was that the Conservatives could not resist the opportunity in wash-up week of pleasing all three of the constituencies in the unholy alliance of protectionists, prohibitionists and government opponents by forcing a reduction in the number of regional casinos from eight to just one.

This apparently innocuous amendment will, if it is allowed to stand, have precisely the opposite consequences of those intended. It will make it harder for Blackpool to get a regional casino; there will be no investment in regeneration in economically disadvantaged areas apart from the one regional casino; and it will lead to a massive increase in applications under the existing rules and the emergence of internet cafés in which it will be possible to play casino games. It will thus lead to the very proliferation which the Conservatives and the anti-gamblers wished to avoid.

Behavioral Economics, Neuroeconomics, and Problem Gambling

What we know, what we'd like to know, and implications for regulators and industry participants

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I Behavioral economics

Behavioral economics (BE) is the sub-discipline of economics that empirically (often experimentally) studies patterns in people's responses to shifts in incentive structures and to changes in the schedules and prices of rewards and costs that they face.[1] It can be contrasted with more traditional economics as follows. Economic theories and models in the traditional vein are typically interested in what an *ideally* rational agent *would* do in a given incentive situation, given a particular profile of desires (a `utility function') and a budget constraint. Theories and models in BE investigate what *actual* people do in such situations. The second sort of question needs separate study because actual people are not ideally rational agents.[2]

BE is the relevant sort of economics for studying problem gambling. An ideally rational agent *could* gamble to the point of personal ruin, if they valued the thrill of gambling over all other goods, because ideal rationality says nothing about what a person should want. However, a person could not be ideally rational and *regret* their gambling or regard it as excessive. In this paper I'll take for granted that when we describe someone as a `problem' gambler, we mean that they experience a desire, at least some of the time, to change their behavior with respect to gambling. If they go on gambling too much anyway, this must, as a matter of definition, involve some degree of what an economist regards as irrationality.

Problem gambling is studied by behavioral economists in the context of a wider literature on so-called `addiction'. (I'll explain below what behavioral economists mean by `addiction', and why we can use it in a `non-loaded' way by comparison with the way most other people, including some other social scientists, understand the word.) In this paper, I'll first survey the leading theories of addiction in general that behavioral economists have developed. These theories are all several years old, and we don't at

[1] Kagel and Roth (1995) is the standard handbook. Camerer, Loewenstein and Rabin (2003) is a more up-to-date source. Thaler (1992) provides a popular account, but is dated.
[2] When people hear this, they often conclude that behavioral economics should *supplant* traditional economics. Shouldn't we always care more about what actual people do than about what ideal – but non-existent – agents do? No. The concepts we use to understand actual people – or actual firms, or actual governments, or actual agents of other kinds – are given their meaning by their definitions in the general theory of ideal rational agency. Without this theory, we wouldn't be able to state clear hypotheses in behavioral economics in the first place.

present know which if any of them are correct. (They might each be true of some addicts but not of others.) I'll then sketch some practical consequences each theory would have if it were thought to accurately describe problem gamblers.

There are two main reasons why we can't, at this stage, pronounce in favor of one of these theories over the others. The first is that behavioral economists have so far done very little empirical study of problem gamblers. Their general theories of addiction are based mainly on work with sufferers of the so-called `core' addictions: alcoholics, smokers, and users of street narcotics.[3] It is a matter of controversy to what extent problem gambling is another instance of this kind of addiction. The second, more general, reason why we can't anoint one theory as `the winner' is that most of our evidence about addiction so far is purely behavioral, and the three theories I'll describe are all compatible with most of the behavior commonly observed, both in everyday settings and in experimental laboratories, by addicts. This is, indeed, precisely why these three are the theories we take seriously. Fortunately, they have some important insights in common, so in considering all of them as contenders, we aren't just throwing up our hands and confessing total ignorance in a backhanded way.

Even more fortunately, we're now coming to the end of the time in which all our main evidence about addiction will be purely behavioral.[4] In the second part of the paper, I'll describe a rising approach to BE research that exploits new technology for directly observing people's brains while they engage in behavior. All behavior by a person must be partly controlled by information-processing in that person's brain.[5] When economists observe brains at work, they are especially interested in how *valuations of alternatives* are computed in particular kinds of cases. What is going on at the neural level, for example, when the problem gambler values pulling the lever on the slot machine tonight, in the casino, more than saving the money for the children's lunch, but then, tomorrow when regret sets in, values the lunch money over the prospect the gamble previously held? Can we systematically find differences in patterns of brain activity that would allow us to predict and partly explain this behavioral difference? If so, perhaps we can use this evidence to help decide amongst our three behavioral theories.

The study of brains in action by economists is known (reasonably enough) as `neuroeconomics'. Following the discussion of the three behavioral theories and their policy implications, I'll survey some general methods and findings of neuroeconomics. I'll then describe a program of coming research, partly funded by the South African

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[3] Among behavioral economists, only Howard Rachlin (to my knowledge) has carefully thought about models of gambling *specifically*. I will discuss his model in section II below.

[4] Because of complications in the history of psychology, the varying uses of this term are bound to confuse the non-specialist. I, and the theorists whose work I will be discussing here, are all `behaviorists' in that we think that any full account of what people do must interpret them as embedded in environments (especially social environments) that shape what they do by reinforcement and punishment. Nevertheless, some of the *evidence* for a good behavioral theory might not itself be behavioral; it might be physiological or even purely abstract (logical or computational).

[5] I say `partly' here because the environment always plays some role in controlling behavior also. But the brain is *always* implicated. Where the environment plays the *whole* role in controlling what happens to a person, we don't regard this as behavior. Hitting the ground after falling out of a window is something that happens to a person, not behavior by that person. If she jumped first, *that* was behavior and something that happened in her brain was crucial. If she was pushed, then the relevant behavior was somebody else's, and *their* brain was part of the relevant causal process.

National Responsible Gambling Trust, that will apply neuroeconomics, along with yet another research method to be explained (Artificial Life modeling), to problem gambling in an effort to discriminate among the behavioral hypotheses I'll have described in the first section. I'll conclude the paper with some speculations about new policy issues and new ethical problems that might confront regulators and industry participants as a result of the enhanced knowledge about problem gambling that's expected to come our way from the novel scientific approaches I discuss.

II BE and addiction

There is one fact, absolutely established by empirical evidence, that is fundamental for all BE-based accounts of addiction. This is that people, like other animals, generally discount the future *hyperbolically* rather than *exponentially*. What does this mean, and why is it so important to addiction?

Let us explain by revisiting the contrast between BE and traditional economics. The subject of the latter, the ideally rational agent, will discount the future. That is, she will attach less value to R100 available in a year's time to R100 available now.[6] The main reason this is rational is that uncertainty exists about consumption that is deferred into the future. The agent might be run over by a bus before she gets to collect her future reward; or the goods she'd most like to buy with her R100 may become unavailable between now and then. The rational agent, in comparing rewards, will thus multiply them all by a number between 0 and 1 that gets smaller as the time of reward gets farther away. But if she is truly *rational* then this number must vary linearly with time. This is necessary to ensure that her allocations of resources are consistent *over* time: as she moves along into the future, her whole stream of possible rewards is upweighted in value by a series of factors that keeps the *ordering* relations between all rewards the same. Thus the agent will not seem to change her mind about which outcomes she prefers to which others *merely* because time has passed; she'll just be willing to pay more for everything she wants as times to consumption get closer.

Why does this matter for economic rationality? Consider an agent whose discount factor *doesn't* vary linearly with time. When she considers two rewards A and B in the distant future, she might prefer A to B, and so invest more in A. But then, if her discount factor isn't linear – that is, if the curve of her discount factor when we graph it isn't a straight line declining with time – as the moment for receiving A or B moves toward the present, she might come to prefer B to A. This implies that her earlier investment decision was an error – she should have invested more heavily in B. But what it means to say that an agent is ideally rational is that she doesn't make this kind of error; she assigns one set of probabilities, once and for all, to all events she considers, including future states of her

[6] It is important for this example to compare only the payoffs themselves. So imagine a choice that is *just* between R100 now and R100 in a year, without factoring in interest that could be made on the earlier amount if it's invested over the coming year. Interest exists *because* people discount, not the other way around: interest is the bribe that is offered to discounters to put off their rewards for awhile.

own mind, and consistently allocates her resources accordingly. If she doesn't do this, then it will at least be possible that she sometimes spends resources tomorrow undoing states of affairs that she spent resources today putting in place. That more or less *defines* irrationality as economists understand it. In a market, an agent who does that can be stripped of all assets in trade with an agent who doesn't.

Now, masses of evidence show that in *most* of their behavior actual people not only fail to discount (`exponentially') like rational agents, but actually do, as a matter of course, discount in a *specific* irrational way. Among rewards well out into the future, they discount exponentially. Among rewards looming in the immediate short run, they also discount exponentially, but the factor declines more quickly per unit interval of time (so the curve is steeper). This implies that there must be an intermediate time-range of rewards in which the rate of discounting changes continuously as it flattens out. This produces a curve that is bowed, like one edge of a hyperbola, instead of a straight line. Thus we call such discounting `hyperbolic'. A hyperbolically discounting agent – so, a typical person – is prone to reversing her preferences over time.

It is easy to see how this applies to addictive behavior. Indeed, stereotypical addictions provide the most straightforward illustrations of preference reversals caused by hyperbolic discounting (so this discussion will help the reader who isn't quite sure that he's followed the explanation to the present point). Consider a smoker who plans to quit within the next year, and has invested in props for this (patches, hypnotism, a vacation at a resort where no cigarettes are available). Suppose you ask her which she'd prefer to have in a year's time: a pack of cigarettes or increased confidence that she'll escape lung cancer and heart disease. Clearly, she will answer that she prefers the health benefits. She knows there will be costs to pay due to cravings, but she heavily discounts these costs when they're a year away. Then the year passes and that future becomes the present. Now she faces a choice between the immediate pleasure of a cigarette and future health benefits. Because she's a hyperbolic discounter, this part of her discount curve is much steeper than was the curve through these very same alternatives from the earlier reference point. There is a high probability – not a certainty, obviously, since most addicts *eventually* break free from whatever they're addicted to – that on this steeper curve, she'll value the immediate cigarette over the discounted health benefits. Assume that the agent hasn't learned anything new about the relative danger of smoking in the past year (and that she isn't under more stress than she expected to be, and hasn't discovered that a longer life if she gets one will be filled with misery, etc.), and that cigarettes haven't become cheaper. In that case, her preferences have reversed due to nothing but the passage of time, which she could have foreseen. If she keeps doing this, she will never quit smoking and all her investments in anti-smoking therapies will have been wasteful: she should have spent her money on other things, and should have seen this from the start.

This is a good point to ask about what we might most usefully mean by the idea of `addiction'. One kind of thing it might mean – something people who use the word often mean by it – is some sort of `inner state' of a person, some property they have in roughly the way that a person might have a virus or a tumour. This is an important part of the tradition that sees addictions as diseases. But an alternative approach is to understand `addiction' in an entirely behavioral way. Suppose that we regard a person as (for now) addicted to reward-type X just in case the person is behaviorally disposed to invest in an alternative to X when X is in the future, and then throw away that investment and consume X when the choice between X and the alternative comes closer. Thinking about addiction in this way has some consequences for the way we talk and think that might initially seem strange. For example, it implies that a mosquito bite you don't want to keep scratching but do keep scratching is an object of (very temporary) addiction (Ainslie 2001). But, on further reflection, surely that *does* fit the pattern of addiction; we just don't usually group it with addictions we worry about in public-policy contexts, like dependencies on alcohol or crack, because it goes away quickly and involves no social costs. But, just as with the alcoholic, there we see the person with the mosquito bite, repeatedly ordering themselves not to scratch again and then cursing themselves for scratching again anyway. The similar pattern leaps out at us once we put aside considerations related to the normative evaluation of the problems as opposed to their logical nature.

An equally important consideration in comparing disease and behavioral models of addiction is that we don't just get to *assume* that there must *be* some special inner property that all and only addicts have. There *could be*, but we'd have to determine this through scientific investigation, not philosophical reflection. At this point, it can't be said that scientists have found any such property (or at least any such property that most agree on).[7]

This brings us to the three BE theories of addiction that I promised to describe. All take hyperbolic discounting as given. One seeks to explain it in a way that shares with disease models an appeal to factors 'internal' to people, as opposed to strictly 'external' (behavioral) factors. This is a theory developed by George Loewenstein (1999). The (interpreted) empirical datum that crucially motivates it is the claim that the main difficulty facing an addict attempting to escape is not the (actual or prospective) disutility of withdrawal, but the (actual) disutility of visceral cravings that she experiences. These cravings are essentially a demand by her nervous system for the drug, typically cued by stimuli that have become associated with drug use (including anticipation of situations in which the drug has habitually been taken). These cravings, Loewenstein argues, interfere with aspects of the person's control system traditionally associated with `will' and can in some cases overwhelm them altogether; thus addicts are not always responsible, in any interesting sense, for their relapses. This is the point of calling the cravings `visceral'. The other fundamental element of the model is the idea that people do not form accurate personal memories of the strength of visceral drives. (For example, people can be surprised any number of times over the course of their lives by how bad it feels to be very

[7] It is because I will generally use `addiction' in the purely behavioral sense that I have no quarrel with Jan McMillan's motivation, as expressed in this panel, for avoiding the concept on the other, disease-modeled, sense in which it is often used. Like McMillan, I do not suppose that the people we call `addicts' have some discrete personal property that sorts them into an intrinsically different group from other people, the `non-addicts'. `Addiction', for me, simply describes a run of behavior by some person over some time.

cold.) This makes it easier for people to become addicted in the first place and to relapse: they underestimate the difficulty they will experience in quitting, even when they have had the experience before. On the other hand, this same recurrent innocence may help make it possible for people to make binding commitments to treatment courses from which they won't be able to withdraw; they burn their bridges while forgetting how badly they'll want to get back across them when the time comes.

Loewenstein's model *is* behavioral in the sense of being built around cost-benefit relationships over behavioral alternatives. It differs from more `purely' behavioral theories in causally privileging a factor that, though initially triggered by behavior, becomes exogenous to it as a result of non-behavioral properties of the nervous system.

In contrast to this are two stringently behavioral theories. The first, due to George Ainslie (1992, 2001), begins by emphasizing that hyperbolic discounting is *normal* for people, not exceptional. This emphasis reverses our usual question about addiction. Instead of asking why some people are addicted to some things, we ask how it is that most people are seldom or ever addicted to anything very harmful. If we're all hyperbolic discounters, why aren't we all killing ourselves with alcohol, crack and tobacco, throwing all our money away in casinos, and eating as many chips as we can get? Ainslie's answer, supported by decades of research, is that most people avoid addiction by *bundling* their choices through creation of *personal rules*. Here is the idea. If the overweight person thinks truly seriously about his situation, he can notice that when he chooses to fix or not to fix another sandwich, he isn't *just* choosing between satiation now and sticking with his diet *today*. If he prefers to be trim in the distant future, his choosing a sandwich now provides him with *evidence* that he won't choose his diet then either; for hyperbolic discounters, present choices *predict* future choices. In light of this, perhaps he can *frame* his present choice to reflect the fact that it isn't just between immediate streams of benefits and costs, but has implications all the way along the flatter part of his discount curve into the future. If all *those* preferred states of fitness are at stake *now*, then their value, added together, might be enough to trump the present value of the sandwich. It won't typically be enough for the person just to tell himself this; if it were, self-control would be easy and addiction and impulsiveness would both be mysterious. The would-be dieter needs to arrange his patterns of action so as to make it impossible for him to avoid keeping the future implications of his action in mind while he makes his present choice. Suppose he therefore frames a personal rule to the effect that an extra sandwich is allowed only on a day after his visits the gym. Then, if today isn't a day after a gym session, his choice is between a sandwich *now* and *now* facing the long-term ruin of his personal rule. The key thing to see here is that *because* present choices predict future choices the personal rule is a *presently* valuable asset. It `bundles' a whole series of future benefits and puts them stake in the present moment. If he throws his rule away by breaking it, he will suffer from his knowledge of the loss of it *here*, where discounting is at a minimum.

On Ainslie's model, the person trapped in an addiction is simply someone for whom, with respect to the object of her addiction, she has not found a successful personal rule.

There is no obvious reason to suppose that there must be some one *general* reason why all addicts lack effective such rules. But one plausibly pervasive phenomenon to which Ainslie draws attention is *rebellion* against personal rules. An overly rigid such rule is what we generally mean by a neurosis or a compulsion. Certainly, maintenance of any such rule reduces a person's flexibility. Ainslie presents evidence that many addicts are ambivalent, able to successfully resort to personal rules against their addictions for periods of time, but then resenting and rebelling against the constraint they have imposed on themselves. In fact, very *few* addicts are simply stuck at all times in monomaniacal consumption of their target of addiction. Most recover temporarily and then relapse. It is an attractive feature of Ainslie's model that it naturally emphasizes this pattern of ambivalence.

The third BE model of addiction, Howard Rachlin's (2000), is compatible with Ainslie's but posits a more specific mechanism for explaining the special manifestation of hyperbolic discounting that is characteristic of stereotypical addictive patterns. Hyperbolic discounting shows that people are not, in general, farsighted; they behave so as to maximize short-run utility rather than long-run utility. (This is called `melioration' in the literature.) There exists a particularly dangerous class of goods where short-run maximization is concerned, according to Rachlin. These are goods that people experience as close substitutes for social interaction. We identify them by noting that their use tends to consistently increase among people who experience unexpected reductions in their supply of personal relations. They are the targets of stereotypical core addictions: alcohol, narcotics, and tobacco. An important property of alcohol and narcotics is that as their consumption increases, this causes the cost of the good for which they substitute, social interaction, to rise: it is harder for addicts to gain access to and to maintain satisfactory personal relations as they drink more or take more drugs. But, meanwhile, tolerance progressively develops for alcohol and narcotics in the habituating user, so that the addict requires ever larger quantities to achieve the same substitution effect. On Rachlin's model, the trapped addict is ultimately someone for whom the short-run cost of access to social interaction has become higher than the short-run cost of the target of his addiction, even while the long-run cost of addiction rises steadily higher. Such a person will go on choosing addictively at each short-run decision point, even as they can see that their overall welfare is getting ever worse. This second judgement is what they will express as a desire to quit even while they go on consuming.

Thus, according to Rachlin, all addicts are in an important sense `lonely'. On his model, an addict might succeed in changing her behavioral pattern either by bundling in the way suggested by Ainslie – again, Rachlin's model being a special case of Ainslie's – or because her environment helps her out by lowering the cost of social interaction for her or raising the price of access to her object of addiction. Legal and moral campaigns against drugs, gambling, smoking and other `vices' aim at this second kind of intervention. They may often, however, defeat themselves because they typically involve condemning and thus isolating the addict, thereby raising the cost of social interaction at the same moment as they raise the price of her `vice'. Rachlin's model predicts and explains an important fact: most addicts in fact overcome their dilemma eventually, and most do so with substantial contributions from family or friends. The situation of the addicted homeless, or isolated elderly, person is the truly desperate one.

As mentioned earlier, Rachlin is the only one among the theorists I have discussed here who has an explicit and specific model of problem gambling. According to this theory (Rachlin 1990, Rachlin *et al* 1994, Rachlin 2000: 158-164), the addicted gambler is, along with being lonely, prey to a dangerous *perceptual* illusion. Instead of viewing each bet as a single, independent event, or alternatively, each visit to the casino as such an event (where an `event' just names the unit used for cost-benefit analysis by the person), the problem gambler sorts her gambles into strings in which each string terminates with a win. That is, he thinks of each win as redeeming the sequence of losses that preceded it, *regardless of how long that sequence was in any given case.* His losses redeemed, the gambling addict is ready to start a new sequence, with a clean record, following every nod from lady luck. This perceptual pathology interacts with hyperbolic discounting in an insidious way. Each string the gambler perceives will have the form of a win preceded by n losses where $n \geq 0$. It is the sequences in which n is largest that account for most of his financial distress – this is what makes problem gambling a *problem*. But now: the later elements of long sequences will have their values hyperbolically discounted relative to the elements of short sequences. Long sequences, as noted, are where the losses are disproportionately concentrated. Thus the gambler weights wins at closer to their full value than losses, with the average discrepancy being greater the worse the ratio of wins to losses! This looks like a disastrous way to think, so it is initially surprising that, as Rachlin documents, animal behavior suggests it to be common in nature. Why would natural selection have built so perverse a perceptual quirk? The answer presumably is that in normal environments rewards are distributed in a patchy way. Thus when an animal finds *any* reward in an area, it should persist through some disappointments in searching the region further. But modern gambling environments, unlike any in nature, are built to exploit the bias for following up reward. Thus a disposition that was helpful to our ancestors is harmful to many of us.

III BE and practical responses to problem gambling

Let us now consider these three theories of addiction and ask about their possible practical implications for policies and interventions around problem gambling.

As one might expect, Loewenstein's model has different implications from Ainslie's and Rachlin's more straightforwardly behavioral accounts. On Loewenstein's theory, as with a disease model, there can be a fact of the matter, hidden to strictly behavioral evidence, about whether a person is genuinely addicted to something. The cravings around which Loewenstein's model are built must have a neurophysiological basis, and so it is plausible to seek to isolate this, perhaps by study of the dopamine / mesolimbic reward pathways. Loewenstein himself doubts (1999, 258) that problem gamblers are addicted in his model's sense of that term, because he does not think there are *sui generis* cravings for gambling. (The idea of a `craving' for excitement, on his model, is strictly metaphorical, because `excitement' has no distinctive neurochemical signature.) Of course, he recognizes that this skepticism of his is an empirical hypothesis. If it is wrong – if there is, in fact, a dedicated neurochemical response to gambling *per se* – then there will be no intervention against an addiction to gambling that will have high probability of permanent success except depriving the addict of access to gambling opportunities altogether. Since, in most cases, this is practically very difficult or impossible, were Loewenstein's model of addiction correct, and were there true gambling addicts, then we would be confronted with a counsel of some despair. As Loewenstein believes, however, it seems more probable that his model simply has no positive implications at all for interventions against problem gambling. It may have negative implications, however. If `addiction' denotes more than a purely behavioral idea, and if problem gamblers are not true addicts but alcoholics (etc.) are, then our present basis for modeling interventions against problem gambling after our experience with interventions against alcoholism would disappear. We would have to conclude, to begin with, that we know even less about problem gambling than we presently think we do.

The situation is more hopeful if one of the more stringently behavioral accounts of addiction is closer to the truth. Since Rachlin's model of addiction in general is a more specific variant of Ainslie's, and then adds to it a particular account of gambling addiction specifically, all policy implications of Ainslie's model will carry over to Rachlin's and then be supplemented by it. We can thus take ourselves here to be first surveying the practical implications of generic behaviorism about problem gambling, and then focus on the specific advice that would be added by Rachlin. Before doing either of these things, we should reiterate that all that is being attempted at this point is logical extrapolation from theoretical perspectives. There has not yet been enough empirical research with problem gamblers, especially in the BE framework, to attempt more at this stage.

If Ainslie's general model is correct, then:

1. Gambling addicts should be helped to find ways of committing to whole sequences of gambles at once, instead of anteing many small, separate stakes. They would thereby achieve some level of bundling, which might help the heavily discounted utility of later gambles to stack up against the utility of looming gambles in influencing the addict's current decision.
2. Addicts should be helped to find ways of imposing delays between commitments of stakes and receipt of outcomes. (In light of this point, we can note that on Ainslie's model lotteries will be the least dangerous form of gambling, an idea supported by empirical research in most jurisdictions – with South Africa being the interesting exception.)

Note that both of these interventions, in the case of casino gambling, imply changes to the design of betting rules. Since it would be difficult or impossible to implement one set of gaming rules for identified gambling addicts and a different set for everyone else, putting these ideas into practice would likely imply very high costs for casinos. Returning to a point made during our initial discussion of Rachlin's model, BE theories of problem gambling identify *general* human dispositions that commercial gambling venues are deliberately designed to exploit; the gambling addicts are then simply those people who happen to be most readily exploitable. It is thus not surprising that interventions against problem gambling recommended by BE will tend to involve *general* modifications to commercial gaming environments. If BE models of addiction are on the right track, then this is an issue that ethical and more broadly normative policy studies of gambling will need to face – one that could be avoided if gambling addiction were a *sui generis* phenomenon, as on a disease model. In particular, it is not clear that normative studies such as that of Collins (2003) as yet clearly confront the basis for Rachlin's (2000) contention that the state should not support commercial gambling. This basis is that commercial gambling simply is intentional modification of environments so as to turn natural human dispositions into exploitable pathologies. It is not obvious that appeals to standard analogies between licensing casinos and licensing (e.g.) brothels answer this argument, since providing people with additional opportunities for sex does not seem to involve deliberate construction of *pathological* behavior. A better analogy for casino operation, given Rachlin's perspective, might be the manufacture of cigarettes. Of course, modern states *do* subsidize tobacco farming and enjoy substantial revenues from cigarette taxes. Arguments over whether they *should* are perhaps immediately relevant to debates about gambling policy. The point I am making here is that Rachlin encourages us to separate two issues. We might think that, on liberal grounds, the state should not ban cigarettes or casinos because people ought to be free to choose what others regard as harmful. It does not necessarily follow from this that the state should actively support attempts to manipulate natural human vulnerabilities to pathology – if that is in fact what is going on with gambling, as Rachlin believes.

Fortunately, Ainslie's model also suggests recommendations aimed more directly at problem gamblers and their helpers, implementation of which would be a matter for individuals and thus would not entail sweeping industrial or regulatory reform. Addicts should seek to formulate, and should be helped to formulate, `personal rules' around gambling: for example gamble only on dedicated casino holidays; or only on a particular day of the week or month; or gamble only with overtime pay; etc.. Note that the role of friends, family and (perhaps) counselors will be particularly important in buttressing this sort of strategy, because the addict will find it less easy to create new exceptions to personal rules if the interpretation of these rules is a matter for interpersonal negotiation and is not strictly up to him. This also suggests a policy intervention: government and/or industry might subsidize programs that would educate the families and friends of problem gamblers on Ainslie's theory of bundling and personal-rule formation and maintenance.

An interesting discovery from BE research is that people find it easier to avoid hyperbolically discounting money than other goods (Ainslie 1992). (If they did not, we would need to explain why average interest rates in financial markets are not much higher than they are.) So should gambling addicts be encouraged to focus their attention on the expected disutility of money losses or losses of other goods? The answer to this question is not clear. Focus on expected money losses might help addicts discount more rationally. On this other hand, this might precisely make gambling seem more exciting for them, pushing up the present utility of the looming bet at the same time as it raises the anticipated disutility of losses. Both further modeling work and empirical research are called for here.

Let us now tighten our focus to the supplementary personal-level interventions suggested by the more specific model of Rachlin. If it is correct, then measures should be sought that increase the price of entry to gambling situations for addicts, and/or decrease their price of entry to situations of social interaction. For example, one might impose cover charges on entry to casinos that vary inversely with the size of parties.[8] Of course, lone gambling addicts could try to get around such measures by trying to nominally attach themselves to other parties at the casino entrance; but even this would require that they devote some minimum portion of their investment to social interaction. Casinos could also be required to maintain facilities that emphasize social activities other than gambling, and that thus encourage family members to accompany gamblers on their outings. The recently built Grand West casino in Cape Town, for example, has extensive shopping, restaurant, day-care and even museum facilities that surround the gambling floor and are fully as visually salient as it is.

Rachlin's model helps to explain a fact that is increasingly acknowledged in the gambling policy, regulation and epidemiology literature: slot machine gambling is a more serious threat for gambling addicts than casino or racetrack gambling, and internet gambling may be the most dangerous of all. At a poker table, roulette wheel or racetrack, the gambler at least has a minimum level of interaction with fellow gamblers. In the detached module of the slot machine interface, by contrast, and even more so in the complete privacy of his home internet port, the gambler can withdraw completely, and thereby, over time, increase the cost of re-entry to social circumstances. This point should not be taken to suggest, however, that all social interaction, especially interaction with other gamblers, is necessarily a good thing according to Rachlin's model. Some specific forms of social interaction can become *complements* to, rather than substitutes for, gambling; that is, they can be goods which, when consumed, encourage higher consumption of gambling. (Consider, by analogy, cold meats and mustard, or MP3 players and downloaded music, or, among the addictions, alcohol and cigarettes.) Rather, the point is simply that forms of gambling that lead the gambler to isolate himself are apt to be unusually addictive if Rachlin's model is correct; and evidence suggests that indeed they are. Should this imply more stringent regulation of slot machines and internet gambling than of multi-person table games and sports betting?

Rachlin's model adds at least one further suggestion to the list of personal policies discussed in connection with the more generic BE account. This is that gamblers should try to confine their activity to familiar venues where they know people, rather than raise the cost of social interaction (thus lowering the relative cost of increased gambling) by putting themselves in unfamiliar betting environments where they are strangers.

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[8] In case this sounds novel to the point of being bizarre, note that it has precedents in some nightclubs that admit men, or reduce their entry fee, only if they are accompanied by women.

We have now surveyed the practical implications for gambling policy, by regulators, industry and individuals, of what BE by itself has so far had to tell us about problem gambling. How does the advice fare against Jan McMillan's suggestion (this panel) that couselling may not very effective in reducing problem gambling? It is doubtful that much of the counseling on which we have statistical evidence is informed by BE perspectives: the disease model, as embodied in the approaches of Alcoholics Anonymous and Gamblers Anonymous, is overwhelmingly the most prevalent view of addiction on which therapeutic methods are based. All three BE models I have discussed here would in fact predict the data that McMillan describes. This in itself says little in their favour; we need far more empirical evidence for their general and comparative evaluation than we in fact have. How might we obtain this? Should we fund and set up widespread counseling programs based on BE, run these programs for years, and then run expensive epidemiological research to test their effectiveness? This would involve using many problem gamblers, over long stretches of their lives, as guinea pigs. And what if the personal-level interventions recommended by the BE models would be ineffective in the absence of the costly modifications to gaming rules that Ainslie's and Rachlin's models also suggest? Or what if the general BE perspective is correct, but, contrary to Loewenstein's expectations, some people are addicted to gambling in his more specific sense of `addiction'? In either of these events a study of hypothetical counseling programs might seem to reject the models for the wrong reason.

There is still another problem. Among the BE models, Ainslie's is in some sense the `default,' or most scientifically conservative, view because it posits the fewest specific mechanisms. But, where empirical testing is concerned, Ainslie's model suffers from under-specification of some important parameters. Knowing that someone's discount curve is hyperbolic doesn't, in itself, give us a solid *quantitative* basis for predicting, and thus testing, behavioral hypotheses, because the model doesn't incorporate metrics for distinguishing short, medium and long runs with respect to discounting.[9] Thus the model needs to be made more specific, not with respect to specificity of mechanism but with respect to specificity of measurement commitments, before it can be rigorously tested. But we risk having to go through *generations* of human guinea pigs if the only way we can isolate the correctly parameterized model (assuming there is one – there might be none or there might be *many*) is by trial and error with subjects.

What are we to do? Has the BE perspective practically let us down because it is just too abstract? Here is where the new technology that has brought neuroeconomics into being might come to our rescue.

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[9] This doesn't mean that these concepts as Ainslie uses them are *vague*. Economists have a clear way of operationalizing them. One run *X* is `long' relative to another run *Y* just in case there are specifiable equilibria in a class of models where variables relevant to the stability of the equilibria vary over *Y* but are constant over *X*. So a model that distinguishes runs in these terms can be transparent with respect to what it means. The problem is that without quantitative parameterization, we can't be sure which empirical situations are best represented by which models. Our problem here is one of incomplete knowledge, not fuzzy formulation.

IV Neuroeconomics and gambling

The basic assumption behind neuroeconomics is that natural selection couldn't leave all valuation that an intelligent organism[10] must perform up to social-psychological processes. Without an evolved internal currency in the nervous system, a creature couldn't assess the relative value of events relevant to expected supplies of different things it wants. For example, suppose an organism encounters a mating cue and a food cue at the same time, using different sensory modalities. To which shall it respond? Or, if it can respond to both, how shall it trade off possible relative allocations of attention to them? An organism that could only compare them by first working out a speculative theory of its own economic situation would likely fare very badly in any real environment. If it is to be guided by the evolutionary learning of its species *at all*, then its *brain* will need to play a role in informing its judgments. An organism that failed to make any use of what its species had learned in evolution would be a very badly adapted – indeed impossibly badly adapted – organism. This means that the brain must compute over units that can represent the value of mating or eating (or fleeing or fighting or sleeping etc. etc.) at some more abstract level – roughly as a person can weigh her house and her breakfast and the value of her spouse's life in one currency, namely Dollars or Rands.

(Before we proceed further, a philosophical advertisement is in order here. Note that I am carefully avoiding *identifying* the organism with its brain. I think that, in fact, *asocial* organisms are more or less identical to their brains [when they have brains at all]. However, a social organism is a site at which informational cues obtained directly from other organisms, and from parts of the environment that groups of organisms collectively construct, get *integrated* with information from the organism's brain to guide behavior. You can't be identified with your brain because you can respond differently to, e.g., a piece of painted paper and a Rand note; but your brain alone has no single, specific way of marking this distinction independently of your social environment. At the same time, you couldn't distinguish Rand notes in the usual, everyday way if your brain couldn't respond to, e.g., differences in light wavelengths; this is information *you* – the whole integrated system – need from your brain, one vital part of that system. These are very difficult issues that can't be well treated in any short passage. I mention them here only so the reader doesn't jump to the conclusion that neuroeconomics must presuppose `reductionism'. For the reader who wants to understand what this really means, as opposed to just be offered words of caution, see Ross [2005]. For the reader content with cautious words, here are safe ones: your brain provides you with crucial information in guiding your behaviour. Some of this information is about relative values as the brain sees them.)

So, what is this internal currency? Just a few years ago, no one had any idea. Now, thanks to functional Magnetic Resonance Imaging (fMRI) technology that lets us non-invasively

[10] Here `intelligent organism' just means: any organism in which significant behavior is mediated by dispositions that aren't deterministically controlled by interactions of its genetic structure and the contingencies of a fixed set of environmental parameters that can be specified at the level of the organism's direct sensory sensitivities.

scan groups of neurons in operation while people behave and think,[11] we know (Glimcher 2003). Experiments performed mainly with monkeys, but so far confirmed in humans, overwhelmingly suggest that the internal currency is: variations in firing rates in dedicated neurons in parts of the brain called the ventral striatum and the orbitofrontal cortex. An increase in spike rates in these neurons means that a stimulus seems to the brain to be `better than predicted', a decrease means it's `worse than predicted,' and no change means it's `just as expected' (so, don't pay more or less than the default level of attention to it). Just to reassure the reader that this is a properly worked out scientific hypothesis, and not just a vague qualitative association, we can state, on the basis of carefully controlled observations over simian and human subjects, a `predictor-valuation' model (Montague and Berns 2002). Suppose first that $R(x,n)$ estimates the value of a reward distributed at various possible times x, y, z, …, n in the future, scaled according to the uncertainty attending to the intervals between the estimation point and each later time as follows:

$R(x,n;D) = \int_{-\infty}^{+\infty} dy\, G(x - y, (x - n)D)r(y)$, where $G(z,b) = (2\pi b)^{-1/2} \exp\{-z^2/2b\}$ and D is a constant.

Then the following equation describes the value $F(n)$ the brain attaches to getting a particular predictor signal at perceptual time n:

$$F(n) = \int_n^{+\infty} dx\, e^{-q(x-n)} \int_{-\infty}^{+\infty} dy\, G(x - y_1(x - n)D)\rho(y)$$
$$= \int_n^{+\infty} dx\, \{e^{-q(x-n)}\} \bullet \{R(x,n;D)\}$$
$= \int_n^{+\infty} dx$ {discount future time x relative to perceptual time n} • {diffused version of reward estimate $\rho(x)$ for some x and n}.

For several years now, neuroeconomists at several institutions have been training monkeys to buy and sell opportunities for squirts of fruit juice in conditions where quantities, confidence levels in payoffs, and delay times to reward are all manipulated variables. The monkeys gather information about their juice market by investing time in studying patterns of flashing lights that encode (to varying degrees of reliability) the market data. In trained monkeys, patterns of neural firing adapt to search for useful cues in the lights. The equation above is then just the simplest reduced form that describes the function the relevant parts of the monkeys' brains implement after training. (Intriguingly, it corresponds closely to the most reliable model for predicting hedged asset values in financial markets, the Nobel-winning Black-Scholes model.)

Applying the model to people making financial decisions, it has been found that they divide strongly into two categories. One group (`conservative') fails to play long enough through dips to optimize. The other group (`risk takers') avoid this failure. And applying

[11] fMRI uses magnetic field properties to distinguish different patterns of blood flow in brains. Since we know a lot about the relationships between blood-flow patterns and the ways in which neuronal demands for blood vary with activity, we can use the blood-flow patterns to make very reliable inferences about neural firing rates. In fMRI, these inferences are performed directly by the technology to yield `pictures' of neuronal patterns. The fMRI pictures only give us resolution down to the level of *groups* of neurons. But now researchers are discovering forms of statistical inference that allow the scientist – not the machine – to get from images of groups of neurons to (under some circumstances) conclusions about single neurons.

the predictor-valuation model, one can predict who will fall into which group by putting subjects under fMRI and looking to see whether a particular group of neurons in their left nucleus accumbens respond as the model indicates to changes in the market data. In risk-takers, these cells seem to be tracking data during trading activity. In conservatives they appear not to.

What, if anything, might these insights and methods of investigation contribute to our knowledge of problem gambling? A substantial body of literature has accumulated suggesting that sufferers from core addictions have (statistically) greater tolerance for risk than people in general (Bickel and Johnson 2003). Might this be especially true of gambling addicts? Thanks to the work discussed immediately above, we now have a good idea where and how to look in their brains in an effort to find out. The same epistemological wedge could be the basis for testing Loewenstein's model, both with respect to addiction in general and problem gambling specifically. Will attempts to apply the predictor-valuation model to addicts, and specifically to gambling addicts, turn up inconsistencies when we compare neural data from points at which cravings are not reported and plans are being formulated with data from points at which addicts experience temptations to relapse? Were we to find no such inconsistencies we would have grounds for doubting Loewenstein's model. Were we to find such inconsistencies in, e.g., cigarette smokers but not problem gamblers, than we'd have grounds for sharing Loewenstein's doubt that pathological gambling is a species of the same genus as the core addictions. In fact, one of the very first fMRI studies of problem gamblers (Reuter *et al* 2005) is consistent with Loewenstein's general model of addiction being right and his specific hypothesis about gambling addiction being wrong. That is, the researchers interpret their results as suggesting that addiction is visceral and that problem gamblers are viscerally addicted to gambling, just like smokers and alcoholics.[12] However, this work is too recent, so not yet sufficiently assimilated into sequences and patterns of experiments, to do much more than assure us that the hunt for fMRI evidence on gambling addiction models is on.

In any case, a behavioral economist will not and should not expect that we will someday find a discrete neuronal *cause* of problem gambling. Our default assumption is instead that problem gambling has its causal etiology in interactions between shorter-run environmental contingencies, especially social ones, and longer-run dispositions that also have social-psychological-developmental origins. Nevertheless, as neuroeconomics steadily fleshes out the descriptive account of the dynamics of neuronal valuation, it will be extremely surprising if we fail to uncover a rich network of robust correlations between patterns of brain activity and patterns of behavior. Thus not only should we expect neuroeconomics to help us to disambiguate amongst BE models of phenomena,

[12] Gamblers in the study showed decreased activation of the ventral striatum relative to controls playing similar gambling games. Lowered ventral striatum activation has been associated with core addictions. It should be noted, however that this might equally just indicated that experienced gamblers are less interested than novices in small wagers. In the same study, problem gamblers also differed from control subjects in showing lower ventromedial prefrontal cortex activation, which is associated with impulse control. That this is linked to both core addictions and to problem gambling, however, doesn't in itself imply that the latter is an instance of the former. All behavioral models agree in regarding problem gamblers as impulsive, regardless of their interpretation of addiction; so the reported result will neither surprise nor confute the proponent of any model.

we should also anticipate dramatic improvements in our capacity to diagnose and predict short-run dispositions of individuals, at least relative to types of environments.

Even if we already had a full neuroeconomic description of the typical problem gambler at various stages in the course of her trajectory through trouble and ambivalence, it would not now be practical to perform mass examination of prospectively vulnerable people; access to fMRI technology is simply too expensive. However, if there is one thing we can predict with great confidence it is that this limitation is bound to be overcome relatively quickly. The science behind fMRI is not arcane and so presents no deep barrier for engineers, and if there is just one thing that people in competitive markets do relentlessly well it is ratchet well-understood technologies into forms that admit of increasingly convenient application. Few contemporary markets hold out higher scope for returns than those for `lifestyle therapies' based in real science. I thus regard it as a moral certainty that the coming years and decades will see an explosion of neural profiling, mainly sought out and paid for by subjects. A future of widespread *self-administered* brain scanning seems to me not just plausible, but likely.

Such an environment will no doubt be a fertile one for faddish, reductionistic and generally thoughtless attitudes to relationships between self-control and public policy. Both gambling regulators and industry participants should, I suggest, be starting to think about their ethical positions in circumstances where people can, or at least believe they can, identify those at high risk of problem gambling through administration of brain scanning (including scientifically uncontrolled scanning). There is likely to be a strong correlation between (1) the people who are so identified and (2) those who casinos most value as customers, including those who will *not*, in fact, fall victim to what they or their families regard as pathologies. As Rachlin emphasizes, casinos and other commercial gambling venues are specifically designed to encourage impulsive dispositions to assume, at least briefly, more dominant roles in control of people's overall behaviour. At present, our limited state of knowledge inclines us to treat all people as equally vulnerable *until* a marked pattern of pathology is manifest in an individual case; then we expect marketers of gambling products to scale back or try to stop their deliberate efforts to exploit *those* people. It is not at all easy to see how we will cope ethically with circumstances in which we know, or imagine we know, who is most vulnerable *in advance*. Will we only think it ethical for casinos to try to entice those who are least likely to be interested in patronising them?

Suppose one does not share Rachlin's view that the state ought to oppose rather than participate in organized gambling. That is, suppose one agrees with Collins (2003) that gambling is clearly something many people like to do and that many don't regard as causing harm to themselves, and that in light of this it is preferable (for a number of complementary reasons) that gamblers' losses enrich the public purse rather than enrich the mafia. In that case, perhaps the BE perspective can help to tell us what a responsible gambling policy would optimally look like. Suppose first that Loewenstein is right and there are no (or very few) people who are *viscerally* addicted to gambling in a way that truly carries it beyond their control. In that case it seems a good bet that Ainslie is correct: what is needed by people who like to gamble but want to keep their gambling within non-self-destructive limits are stable and effective personal rules that bundle future payoffs with present ones. There is strong reason to think that neuroeconomics will eventually help us to distinguish people whose personal rules are presently working from people who haven't yet found good ones. I would at present wager, however, that effective interventions at the personal level are going to remain behavioral rather than pharmacological, and that the useful role for the behavioral economist here will consist in modeling different types of individual scenarios in search of personal rules that stabilize equilibria people find normatively attractive for themselves. These models will be the basis for families of intervention strategies, along with guidance about which strategies are most promising for different variations on the basic addictive disposition.

If this prediction is right, it suggests further research we should be engaging in now. At the end of section III above, I pointed out that Ainslie's model includes some crucially under-specified parameters. I wondered if neuroeconomics might help us to specify these. But now I have suggested that it will likely help us to *identify* people in need of intervention *given* a behavioral model we already regard as adequate. To connect such a model with the neuroeconomic data, we'll need to be able to empirically test prospective refinements of Ainslie's general theory with human subjects. This implies that we should seek to refine the theory first. We would like to be able to do this by some means other than pure guesswork followed by trial and error.

These are the motivations for work that is about to be launched by a team of cognitive scientists in South Africa and the United States, partly funded by the South African Responsible Gambling Trust. I will conclude this paper by describing our plans.

V Artificial addicts

Most people have heard of artificial intelligence, the attempt to develop computer programs that simulate human minds. Fewer people are aware that over the past twenty years or so, an increasing proportion of such AI activity as is intended to contribute to cognitive science (as opposed to commercial product engineering) has been dedicated to the newer research programme known as *artificial life* (AL). (See Levy 1992 for a non-technical introduction.) Interest in AL has mainly grown out of three insights gleaned from the pioneering work in AI during the 1960s, 70s and 80s. The first of these insights is that the core of biological – including human – intelligence lies in learning processes rather than in the generic way the brain is structurally organized. The second is that realistic intelligent systems need to learn as directly as possible from the environments in which they're supposed to function, rather than through the design foresight of clever (but not clever enough) intermediaries like human computer engineers. The third is that the most effective general kind of teaching algorithm by which potentially intelligent systems can learn from environments is Darwinian natural selection.

AI tried to create intelligence the way we created airplanes and dishwashers: by deliberate reverse engineering from an explicit model of the desired end-state. AL attempts to create intelligence by mimicking, and then greatly accelerating, the way nature did it. AL researchers build simulated environments and virtual creatures (of varying possible degrees of structural complexity) that are initially naïve but have some pre-wired goals and some capacity to be molded by their environmental pressures to develop improving ability to realize those goals in that environment. To people unfamiliar with how evolution by natural selection works this might all sound as if it requires magic; in fact, however, every project in AL is just an extension of the simple idea of learning by reinforcement and conditioning. It is thus naturally congenial terrain for behaviorists, including behavioral economists.

Our team plans to seek finer parameterization of Ainslie's theory of addiction by evolving an artificial gambling addict. First we will construct a simple environment in which the key properties of the real world that interest us are simulated. This environment will require would-be-successful agents to find, accumulate and maintain stocks of scarce commodities. Doing so will cost them energy. Those that successfully accumulate and maintain while minimizing cost will, statistically, leave more copies of their own properties in subsequent generations of the model than those that are less efficient. As a result, the population of agents will come to learn about what works in its environment. However, our agents will be hard-wired with one property that, to a traditional economist, will look like a handicap: they will discount the future hyperbolically. They will also enjoy and seek out surprises. Furthermore, their environment will include traps that seek to exploit these dispositions of theirs and thereby pump them out of their resources: the environment will include simulated casinos.

The sense in which our virtual world will include simulations of people and casinos will be very abstract. We want to capture the actual and possible relationships between hyperbolic discounters, cultivation of surprise, and devices for exploiting these properties, but only at the most general possible level. Thus we will not build our agents to enjoy pictures of celebrities on slot machines, or noises of falling coins, or the smiles and outfits of agents who bring them drinks – or drinks, for that matter. This is because our idea is not that we will learn *directly* about human gambling patterns from this simulation. For that, AL would have to be much further along the road to simulating whole people than it is. (It has, to date, approximately simulated whole frogs.) Rather, what we will use it to look for are quantitative relationships among variables for time, discounting and risk that, when the scenarios in the simulation are modeled using Ainslie's theory, turn out to be robust under shifts in sets of environmental parameters. That is to say: the purpose of our simulation is to guide us towards a more quantitative version of Ainslie's account of addiction. It is helpful here that we have in mind gambling, rather than one of the core addictions, because we seek a general account that will apply to patterns identified behaviorally as addictive whether or not they are visceral. When one is searching for mathematical parameters, abstraction from the messy details of the real, complex world is – up to a point – a virtue rather than a way of cheating, as economists figured out long ago. There *is* real risk of abstracting away the very influences that are crucial to representing the phenomena one is interested in; but *that* really must be determined by a certain amount of trial and error in modeling – in all science, always.

If our AL simulation guides us to a quantitative model of Ainslie's theory, we hope we will then have the measurable parameters we need for rigorous behavioral testing of the model with human subjects, as well as for targeting local valuation functions that fMRI studies can seek to locate in left nucleus accumbens during episodes when people are deciding whether or not to gamble. By these methods we hope ultimately to produce an account of the problem gambler – or, if there is not just one `problem gambler' phenomenon, an account of one common type of manifestation of the problem gambler – that will be essentially behavioral, but will find crucial supporting evidence and diagnostic access in the neural data.

This is an ambitious agenda, and it is of course too early to predict how readily our linked family of approaches will encourage nature to show her colours. The modest aim of this paper has just been to explain to the reader why we think BE provides the current best set of tools for thinking about problem gambling, and how and why we expect neuroeconomic interpretation of brain data to help lead us to a more precise BE model than any we yet have, without this approach *supplanting* the BE perspective. Finally, I will reiterate a suggestion made earlier that those concerned with the practical side of gambling policy, over both aggregate and personal outcomes, are well advised to start asking themselves what they should do in a new environment where we are much better able to predict who is disposed to face serious self-control problems in casinos. Given this knowledge, the kind of caution characteristic of safety regulation could easily lead to broad definition of an `at risk' population that makes it almost exactly congruent with the set of prospective casino patrons. Someone sympathetic to Rachlin's normative view might welcome the outcome in which a public safety perspective combines with improved knowledge about problem gambling to produce a major reduction in legal casino activity. For people of more classically liberal bent, however, and for those who earn their livelihoods providing legal gambling opportunities, careful attention to and support for new therapeutic approaches that BE research suggests night be the best precaution against a wave of regulatory enthusiasm fueled by scientific progress.

References

Ainslie, G. (1992). *Picoeconomics.* Cambridge: Cambridge University Press.

Ainslie, G. (2001). *Breakdown of Will.* Cambridge: Cambridge University Press.

Bickel, W., and Johnson, M. (2003). Junk time: pathological behavior as the interaction of evolutionary and cultural forces. In R. Vuchinich and N. Heather, eds., *Choice, Behavioral Economics and Addiction.* Oxford: Pergamon, pp. 249-271.

Camerer, C., Loewenstein, G., and Rabin, M., eds. (2003). *Advances in Behavioral Economics.* Princeton: Princeton University Press.

Collins, P. (2003). *Gambling and the Public Trust.* Westport CT: Praeger.

Glimcher, P. (2003). *Decisions, Uncertainty and the Brain.* Cambridge, MA: MIT Press.

Kagel, J., and Roth, A., eds. (1995). *The Handbook of Behavioral Economics.* Princeton: Princeton University Press.

Levy, S. (1992). *Artificial Life*. New York: Pantheon.

Loewenstein, G. (1999). A visceral account of addiction. In J. Elster and O.-J. Skog, eds., *Getting Hooked.* Cambridge: Cambridge University Press, pp. 235-264.

Montague, P.R., and Berns, G. (2002). Neural economics and the biological substrates of valuation. *Neuron* 36: 265-284.

Rachlin, H. (1990). Why do people gamble and keep gambling despite heavy losses? *Psychological Science* 1: 294-297.

Rachlin, H., Siegel, E., & Cross, D.V. (1994). Lotteries and the time horizon. *Psychological Science* 5: 390-393.

Rachlin, H. (2000). *The Science of Self-Control.* Cambridge, MA: Harvard University Press.

Reuter, J., Raedler, J., Rose, M., Hand, I., Gläscher, J., and Büchel, C. (2005). Pathological gambling is linked to reduced activation of the mesolimbic reward system. *Nature Neuroscience* 8: 147-148.

Ross, D. (2005). *Economic Theory and Cognitive Science: Microexplanation.* Cambridge, MA: MIT Press.

Thaler, R. (1992). *The Winner's Curse.* New York: Free Press.

The Relationship Between State Lotteries And The Wider Gambling Sector

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For a number of public policy issues in a variety of countries, it is relevant to inquire into the extent to which the market for lottery products is linked with those for other forms of gambling. For example, in Britain,

a) A ruling under competition law disallowed a merger between two leading bookmakers on the grounds that, together, they would account for excessive market share. The Judgement rejected the bookmakers' claim that they were in fact in competition with a yet larger player, the National Lottery. This rejection was in fact based on no empirical evidence on the closeness with which bookmakers and Camelot compete.
b) The long debate on reform of gambling law focussed on the implications, for example for problem gaming, of various possible levels of provision of electronic gaming machines in a new generation of casinos. But it would also have been relevant to ask whether allowing new types of casino would draw expenditure away from the Lottery, the weakness of whose market is a cause for concern (given the dependence of Good Causes such as sport on the funding it provides).
c) The new Gambling Act introduces a new regulatory agency to supervise the sector but the National Lottery is outside its remit. Whether this makes sense depends in part on how closely linked the lottery and general gaming markets are.

These are examples drawn just from Britain. Worldwide there is trend to liberalisation, with more varied gambling opportunities becoming available everywhere either through deregulation within countries or through ever easier access to games offered on the Internet. Against this background of major flux in the gambling market, it becomes vital for state lottery operators to understand whether, how and to what extent their product relates to other forms of gaming. For example, will the introduction of high prize casino gaming opportunities cannibalise the market for high prize lotto? With the new gambling medium in place, will consumers potentially switch between the sectors in response to price competition? Government also needs to know whether gains in tax revenue from permitting, for example, casinos would be offset by loss of revenue from lottery games from which market share might be lost.

To illuminate these issues, I have in the past year undertaken three separate but related studies. Financial support for the research was provided by a generous Fellowship from the Leverhulme Foundation and collaborators were David Gulley (Bentley College, Massachusetts), Robert Simmons (Lancaster University, UK) and Lisa Farrell (University of Melbourne). The summary presented here is of preliminary results which were first outlined in my keynote address to the International Conference on Gaming and Public

Welfare at Peking University in December. Final, detailed results from our statistical modelling will appear in academic journals in due course.

The first study asks who plays the lottery and which groups buy most tickets. In particular, David Gulley and I explored the extent to which levels of households' spending on other gambling media enable us to predict their level of expenditure on the UK National Lottery. Our data were from the UK Family Expenditure Survey. This recruits a sample of households which take part in the Survey for two weeks each in return for a small fee. Household members keep a diary in which every item of spending has to be recorded. Their diaries are then processed to show, for each anonymous household (and separately for each adult within that household), the amount spent on each of hundreds of product categories which, in 2000, included tickets for the Wednesday and Saturday lotto draws (as well as, separately, for other gambling products such as instant (scratchcard) lotteries, bookmaker betting, bingo and football pools). Considerable demographic and socio-economic data were also collected and provided for each household.

We were able to use records for 6,637 households, of which 58% played the lotto during their two week participation in the Survey. We had available as predictors not only demographic and socio-economic status variables but many indicators of lifestyle such as levels of spending on various products and, for example, whether a household owned a computer or had home access to the Internet.

The results of our statistical model distinguish between the impact of a variable on a household's probability of playing lotto and on its level of spending conditional on playing at all. Principal results include:

a) single women have a low propensity to play lotto and spend little even if they do.

b) single men also have a low propensity to play but, if they do play, spend relatively heavily.

c) income has little effect on the probability of play except that the very highest income groups are unlikely to participate; however, amongst those who do buy tickets, there is a slight positive relationship between income and the number of tickets purchased.

d) the unemployed and residents of Northern Ireland are amongst groups with very low involvement with lotto compared with households generally.

e) level of income from investments is a strong negative predictor of the likelihood of a household buying lottery tickets.

f) households with a home computer are more likely to be lotto players and, where they do play, home computer owners also play more heavily.

These bullet points are just a sample of the rich findings from our model of how lottery play is linked to a range of household characteristics. But our focus was on how lottery play is linked to spending on other forms of gambling (and also alcohol and tobacco). We found that ***spending on bookmaker betting, football pools, scratchcards, bingo, the Irish Lottery, alcohol and tobacco are all very significant (positive) predictors of both the probability of playing lotto and the level of play (conditional on playing)***. Note that this finding controls for the influence of such factors as income, region, household size and composition, etc.

Our estimates of the magnitudes of these relationships are summarised by the elasticities of predicted household weekly lotto spend with respect to weekly amount staked at bookmakers (and so on) displayed in Table 1.

Table 1- elasticities of lotto spend with respect to spending on other 'vices'

Bookmaker betting	+0.14
Bingo	+0.17
Football pools	+0.22
Irish Lottery	+0.19
Scratchcards	+0.26
Alcohol	+0.07
Tobacco	+0.06

The interpretation of these elasticities is straightforward. For example, for a household with given characteristics, the information that it spends 10% extra on betting at the bookmaker raises its predicted spend on lotto by 1.4%.

The figures are very revealing. They suggest that the audience for lotto is the same as the audience for all other gambling products. A state lottery cannot be considered independently of other gambling media because it is selling to a similar subset of households. Demand shifts between product groups are therefore a distinct possibility if variations in relative value occurs across products (or if new products appear).

Lotto and betting

A second study, with David Gulley again and this time also Robert Simmons, tests whether one can actually observe the effects of consumers switching funds between lotto and other gambling products as what is on offer changes. We were fortunate to be provided by a major UK bookmaker with very detailed information on betting volumes over more than five years. We had daily turnover data for each of six gambling activities available at bookmaker shops (which are very popular in Britain - there are over 8,000 shops). These products were: horse betting; dog betting; football betting; other sports betting; numbers games; and slot machine play (restricted by regulation to low stake/ low prize machines).

For each sector, we built a very detailed statistical model capable of tracking variation in daily turnover. For example, that for horse betting included, amongst many other variables, measures of the quantity and quality of horse racing and other betting events in Britain and overseas (number of flat and jumps races, number of horses per race, how many of the races were televised, the size of purse on offer at that day's meetings, etc). Due account was taken of day of week, seasonal and long-run trend influences and also of how much bettors won each day (since part of winnings may be recycled to further bets). The models were sufficiently well determined to allow us to build a close understanding of why and how the level of betting activity varies from day to day.

To the models we then added information from the lotto game. *We found that* ***lotto draws with high jackpots, which are well known to generate increased sales, in fact do so in part by drawing expenditure away from bookmaker betting.*** Results are summarised as Table 2.

Table 2- impact on betting of average-sized Wednesday and Saturday rollovers

Wednesday draw

Monday horse betting	-3.9%
Monday sports betting	-19.9%
Wednesday football betting	-25.3%
Wednesday sports betting	-11.1%
Wednesday numbers games	-3.9%

Saturday draw

Friday horse betting	-3.0%
Saturday football betting	-16.1%
Saturday numbers games	-7.00%

These are all statistically significant impact estimates. Note that football bettors appear especially sensitive to the value offered by lotto. The largest proportionate fall in volume is for sports betting two days before a Wednesday rollover. Most sports events such as golf tournaments and grand prix conclude on Sunday evening and most winnings from betting on them are therefore collected on Monday. Perhaps such winnings are normally recycled into bets on future sports events but diverted to the lottery booth if the jackpot in the upcoming lotto draw is especially attractive.

Public policy in Britain has been based on a presumption that the lottery and other gambling media are not in competition with each other. For example, a merger between bookmakers was disallowed by the competition authority because it would create 'excessive' market share for the new firm. The market was defined with respect only to bookmaking. The judgement explicitly rejected the bookmakers' argument that they competed with the National Lottery.

The two papers I have summarised for you in fact vindicate the bookmakers' position. The two sub-sectors sell to a similar audience. That audience is ready to substitute between them in response to variations in relative value. This has implications for lottery operators and public policy makers everywhere. For example, variations in how one sector is taxed will cause reallocation of consumer betting portfolios so that implications for revenue from other sectors needs to be included in decision-taking.

Lotto and machine gaming

Last, I review the extent to which introduction of machine gaming may lead to displacement effects on lotto. Two articles in the *Public Finance Review*, by Siegel and Anders in 2001 and Elliot and Navin in 2002, suggest that expenditure on state lottery games was eroded by expansion in the casino sector. For further evidence, Lisa Farrell and I have turned to Australia where the federal structure of government again works to the advantage of researchers. The eight states and territories moved towards liberalisation of gambling provision at varying pace. For example, electronic gaming machines were first introduced in New South Wales as early as 1956 but only in 1996 in Tasmania (and, to date, not at all in Western Australia). State lottery corporations have therefore operated in very different conditions over space and time as regards the existence and size of the gaming machine sector.

We were able to exploit 28 years of state-level turnover data, collected on behalf of all the state governments by the Tasmanian Gaming Commission. We regressed lotto turnover on gaming machine turnover, turnover in a range of other gambling media, and control variables such as household disposable income. Endogeneity problems were addressed by instrumental variable estimation.

Our preliminary finding is that expenditure in electronic gaming machines (including keno) displaces lotto spending with every extra dollar taken by a machine eroding lotto sales by approximately two cents. Given the typically much greater turnover in the machines sector, this suggests that the spread of EGMs in Australia has deprived lottery corporations of very substantial volumes of business. Amongst other findings are that scratchcard products have strong displacement effects on lotto while EGMs take not only from lotto but also from betting. Note that our measure of EGM activity in Australia relates to machines outside casinos (typically in neighbourhood bars and clubs and often with about one hundred or more linked machines). In the US, gaming machines in most states are located exclusively in casinos which are usually far from the largest centres of population.

Again our results indicate a high degree of interdependence between the sub-sectors of the gambling industry. The lesson from Australia is that the introduction of high prize gaming machines, readily accessible in local casinos would have posed a threat to lotto, which holds special status in the UK because it is used to fund the sports, arts and heritage sectors. However, regional casinos, still less one ‘super casino’, do not hold the same danger: when machines are ‘local’, they are a viable alternative to lotto because they can be used frequently and offer the same dream of life-changing payouts as lotto; but if the casino is too distant to be other than the object of an occasional outing, regular purchase of lottery tickets is not threatened. The National Lottery in the UK has therefore been one of the domestic gambling interests that had a fortunate escape by the major changes in the Gambling Bill which, effectively, protected its market by keeping new machines off the high street.

Focus On the UK: A Nation That Gambles, But Fails To See the Benefits

Anton Kaszubowski
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The modernisation of the UK's outdated gambling legislation represents a sea change for the industry. The process of modernisation is well underway and the industry is currently under the microscope -in the final stages of open consultation on the key issues that will determine its size, structure and future. In light of this fact, The Gambling Consultancy in partnership with market research specialist, YouGov[1], recently conducted a survey of public opinion towards gambling and gambling reform in the UK. The research focussed on measuring attitudes to the proposals most likely to affect UK consumers - reform of casino regulation. The study represents the most recent and comprehensive analysis of the attitudes of the UK public towards the key proposals of reform contained in the Draft Gambling Bill.

United Kingdom - A Nation of Gamblers?

Britons show a strong propensity to gambling. 79% of those interviewed online said they had gambled during the previous 12 months. This is significantly more than the 71% overall rate of participation found by the government sponsored NOP study into of attitudes towards gambling[2] and the 73% overall rate found by the government's last major survey of gambling in the UK, the National Prevalence Study[3].

Participation in forms of gambling in last 12 months			
	YouGov Study	NOP Study	National Prevalence Study
National Lottery	69	61	65
Other Lotteries	9	7	8
Scratchcards	23	16	22
Football Pools	7	5	9
Bingo	7	9	7
Fruit Machines	17	9	14
Private Bets	8	7	11
Horse Races	21	11	13

[1] Between June 2001 and May 2003, YouGov polled six events (e.g. 2001 British General Election) with measurable outcomes. The six events produced 25 specific predicted numbers. Our average error was 1.2%. With 17 of the 25 numbers we were accurate to within one percentage point.
[2] Stephen Creigh-Tyte and John Lepper (April 2004), *NOP: Survey of participation in, and attitudes towards gambling, Technical Paper No 4*
[3] Sprotson et al, (1999), *NCSR: British Gambling Prevalence Survey*

Dog Races	4	4	4
Events at a bookmaker	5	4	3
Betting Exchange	1	Negligible	N/A
Table games at a casino	3	2	3
Internet	8*	1	Negligible
Other	2	1	Negligible

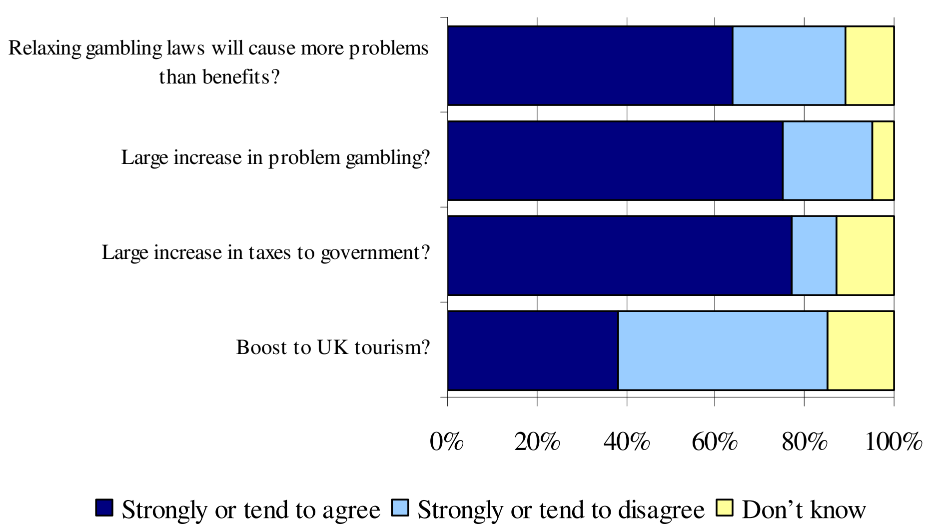
*This result is unsurprising given the YouGov study is based on an internet sample.

The survey was administered online. Since the internet is widely used as a means of placing bets or gaming, for example you can now purchase National Lottery tickets via the web; it is entirely reasonable that participation in gambling should be greater for a sample with higher levels of internet access than a sample with considerably lower levels of internet access (i.e. those of the NOP and NPS studies).

Furthermore, conventional research methods under represent young upwardly mobile males – the exact demographic most likely to gamble (as this study reveals). In as much as the YouGov sample may over represent demographics with a greater propensity to gamble, conventional methods consistently under represent these hard to reach groups. It is therefore reasonable to assume that the true overall rate of participation is above both 71% and 73% though quite possibly not as high as 79%.

Attitudes to Modernisation – more harm than good

Although the majority of the UK public acknowledge the potential benefits of increasing the number of casinos in the UK, public attitudes to reform are heavily influenced by concerns over the social costs. Despite widespread recognition that the modernisation of gambling laws will bring benefits in the form of jobs and taxes to government the majority of the sample of 2174 respondents from across the UK felt that more harm than good will come from the reforms.



Three quarters of the public recognise that making it easier for people to gamble will produce a large increase in the amount of money paid to the government in taxes. And five out of ten people think new casinos will bring more jobs to an area. However, half of the public are not persuaded that making it easier for people to gamble and for casinos to attract customers will boost UK tourism.

Despite an awareness of the gains to be had, most of the public do not think the gains will outweigh the losses. Three quarters of the public think that relaxing gambling laws will produce a "large increase" in problem gambling. It is this overwhelming concern that prompts more people to agree (64%) than disagree (25%) that "relaxing gambling laws will cause more problems (in terms of the increase in problem gambling) than benefits (in terms of increased tax receipts paid to Government)".

Women and the elderly are most likely to think relaxing laws will do more harm than good. Even a majority of gamblers think there will be more problems than benefits; with six out of ten people that have gambled via one mode or another in the last 7 days agree with the statement.

The data clearly suggests that people's concerns over problem gambling outweigh the potential economic benefits that they perceive. If the gambling industry is going to win public support for modernisation it is going to have to work harder to convince the public that embracing a socially responsible attitude and limiting any increase of problem gambling is, and always has been, at the heart of their commercial interests.

Attitudes to Casinos – gambling on social change

The UK public displays considerable antipathy to casino gambling. Casino gambling is not considered to be a social activity by most people. Only a quarter (27%) think they could share the activity with friends or family. Age affects attitudes with a third of all 18 to 29 year olds saying that they could share the activity with friends/family. This falls to a fifth of all over 50 years.

More than a third (36%) of the population discounts the idea of visiting a casino (if one were introduced to their local leisure facility) as part of an evening out with friends. A further three out of ten people say they are "unlikely" to visit a casino as part of an evening out. However, on average, those that say they would definitely visit a casino as part of an evening out with friends say they would visit their local casino roughly 7 times a year.

		Would you visit a casino as part of an evening out with friends…		
		Yes – definitely	Probably	Unlikely / No
	Mean			
If a casino were introduced to your local leisure complex, how many times a year do you think you would visit it?	3.9	7.5	2.9	2.1

Base: Excluding those who would not visit / not spend anything

There is a clear correlation between attitudes towards the effects of gambling on society and intention to gamble. Those who think gambling reform will cause more problems than benefits to society say they would visit a local casino, on average, fewer than three times a year. This compares to five times a year for those who think there will be a net benefit.

	Total	Relaxing gambling laws will cause more problems than benefits…		
		Agree	Disagree	Don't know
	Mean			
If a casino were introduced to your local leisure complex, how many times a year do you think you would visit it?	3.9	2.8	5.0	2.9

Base: Excluding those who would not visit / not spend anything

A closer examination of the results (pertaining to the gross unweighted sub-groups[4]) reveals that expected frequency of visits to a casino is related to both propensity to gamble and to current gambling preferences. For example, the 639 stated casino gamblers (within the last 12 months) that were questioned said that they would visit a casino on average around 7 times a year. The 1447 individuals that stated they had gambled online (within the last 12 months) said that they would visit a casino around 5 times a year. The 3470 individuals that stated they had not gambled within the last 12 months, on average, said that they would visit a casino less than 3 times a year.

A further obstacle to people visiting and socialising in casinos is a perceived lack of understanding of games, with four out of ten people saying they would not visit a casino at a leisure complex local to them because they don't understand (or at least believe they wouldn't understand) the games one could play there. This figure remains fairly constant across gender and age groups. Concerns over gambling addiction are also apparent with significant numbers of people not wishing to visit a casino because they are worried they could get "hooked" Old age plays a factor in shaping concern with over a third of over 50s and express this opinion compared to around a quarter of 18 to 29 year olds.

Overall the findings suggest that a significant increase, from its current low level of about 3%, in the propensity of the UK population to casino gamble is dependent on a major shift in social attitudes and behaviour. There is not a large proportion of the population that is currently particularly predisposed to consider gambling as an acceptable activity. Casino gambling remains an unknown to most of the UK population, with many people either intimidated by the prospect of entering a casino or fearful of the consequences. The findings suggest that a substantial growth in the acceptability and popularity of casino gambling will take time. Acceptability is likely to only occur as a result of education.

4 Sub-samples segmented from the unweighted gross sample of 16,675 (as opposed to the sub-samples derived from the representative weighted sample of 2174)

Proposed relaxation of advertising and greater accessibility will play a major role in changing social attitudes, but it will not happen over night.

Casino Proliferation – an undecided public

Interestingly almost as many people would support plans to introduce a casino to their local leisure complex (36%) as would oppose such plans (38%). Responses showed regional differences with people in Scotland and the North more positive about new casino developments in their locality than those in other regions. Nevertheless, in general people still harbour many prejudices about the effects of a new casino on an area, although more than half think more jobs would be created. People's concerns were focused on increases in problem gambling (especially among the young), increases in crime and increases in late night noise and disturbance. In fact, a third of all people surveyed believed that a new casino would bring more crime to an area. This opinion was particularly prevalent amongst the over 50s.

Entertainment and leisure led gambling – facilitating change

The emergence of US-style entertainment and leisure led gambling complexes has long been touted as the major result of the modernisation of the UK's gambling laws. International experience suggests that consumers show a strong propensity to gamble when it is presented to them as part of a combination of leisure and entertainment opportunities. Asked what would attract them to a mixed gambling and leisure venue, UK respondents exhibited a strong interest in non-gambling activities. Non-gambling activities (e.g. restaurants, cinemas and live entertainment) are attractive to as many as three times the number of people attracted to the most popular form of gambling (i.e. table games). Significantly, only one in five people attracted by a non-gambling activity say they would be likely to gamble during their visit to a mixed gambling and leisure venue. However, the research showed that younger age groups tend to be more attracted by gambling activities as part of a combination of other leisure activities than older age groups.

The results suggest that an entertainment and leisure led gambling strategy is likely to generate the most footfall, as although not necessarily likely to gamble immediately the majority of UK consumers will be attracted to mixed leisure and gambling venues. Experience suggests that a significant proportion of consumers are likely to try gambling at some point during a succession of visits.

Resort Casinos – a popular destination

Over a quarter of the UK population would support the introduction of large resort style casinos to holiday areas, while three out of ten people remain undecided. Again regional differences are apparent, with more people in Scotland and the North supporting the introduction than in other regions.

Those people that would visit a resort style casino (i.e. excluding those that said 0 times a year) say they would, on average, visit a resort style casino twice a year. On average, people that would spend at least £1 at a resort style casino per year (i.e. excluding those that said £0) expect to take £155 with them to spend on gambling.

	Total	Male			Female		
		18 to 29	30 to 50	Over 50	18 to 29	30 to 50	Over 50
	mean score						
If large casinos were introduced to holiday resorts in the UK, how many times a year do you think you would visit one of these resort casinos?	1.9	1.8	2.2	2.3	1.6	1.6	2.4
And how much do you think you would take to spend on gambling for each visit? [Please tell us only how much you would take with you to spend on gambling]	£80	£102	£116	£83	£46	£54	£50
Av. spend per year	£155	£184	£256	£190	£73	£84	£118

Base: Excluding those who would not visit / not spend anything

On average, people that have gambled in some form or another within the past 12 months say they would spend £160, visiting twice a year and taking approximately £80 per visit to spend on gambling. On average, spending for those that have not gambled in the last 12 months is equal approximately £78 per year (1.2 X £65).

Public cautious over slot machines

The majority of the public think it acceptable to place fruit machines in venues that operate with age restrictions on entry. However, only a small minority believe that it is acceptable to locate machines in venues, such as cinemas, restaurants, cafes and taxicab offices where age restrictions are not in effect. Clearly, the public is concerned about exposing younger generations to gaming machines. Concerns over exposing the young to gambling shape public attitudes towards most gambling reforms.

A majority of the public think it acceptable to place slot machines in venues where they can be currently found, including pubs, clubs, casinos, arcades, betting shops or bingo halls. A quarter of the public think it acceptable to place machines in airports or roadside conveniences; whilst even fewer people think it acceptable to place them in cinemas or restaurants. These trends hold true for those who play fruit machines as well as those who do not.

Locating slot machines*	
	Total %
At which of the following locations, if any do you think it is acceptable to place slot machines? [Please tick all that apply]:	
Pubs & Clubs	78
Casinos	78
Arcades	75
Betting shops	69
Bingo halls	65
Sports clubs	39
Airports	25
Roadside conveniences	25
Taxi offices	22
Cinemas	17
Cafes & restaurants	17
None of the above	10

*Based on a sample of 2174 respondents

Unsurprisingly, attitudes to £500 jackpot machines also reflect opposition to locating them in pubs and restaurants. However, men express considerably less opposition than women, with opposition strongest among women over 50. Attitudes also differ significantly amongst those individuals who gamble and those who tend not to. Five out of ten of those who have played fruit machines within the last 12 months support the proposal. This compares to fewer than one in six of those who have not gambled at all in the past 12 months. Despite this opposition, more than a third of the public (35%) sit on the fence on this issue saying they would neither support nor oppose the measure. Therefore, although opposition currently outstrips support there are large numbers of people who may take a pragmatic view of availability of gambling if the industry demonstrated a responsible approach.

The government response -

The public's concerns over the potential social cost of an increase in the availability of gambling opportunities as well as access to gaming machines was echoed by the UK government's recent response to the Joint Scrutiny Committee's analysis of the draft gambling bill. Concerns over social responsibility were at the heart of the government's harsher than expected restrictions on machine to table ratios and Category A jackpot gaming machines that disappointed the industry. Commenting on the measures, Tessa Jowell, Secretary of State for Culture, Media and Sport, said: "Britain has one of the lowest rates of problem gambling in the developed world. This is at risk if we do not act now and bring our laws up to date. The new powers and protections in this Bill, some recommended by the Scrutiny Committee and some going much further than they suggested, are all intended to keep Britain's problem gambling rate amongst the lowest."

Despite being disappointed by what is widely seen as a dilution of the overall opportunity, the industry is in full support of a socially responsible approach to modernisation. Russell Hoyle, CEO of gaming machine manufacturer, Leisure Link, recently called for an increased focus on social responsibility commenting,: “Irrespective of where you sit in relation to this act, we will all lose unless the industry clearly demonstrates its social responsibility credentials . . . all of our organisations should start to develop social responsibility programmes and be able to demonstrate clear evidence of them.” John Kelly, Chairman of Gala Group, and one of the most high profile critics of the government’s stance nevertheless has called for unity on the importance of social responsibility: “It is now time to try to engage with, educate and help the Government, the regulators, local authorities, the police and everyone else that has a part to play in this [reform]. That is our role going forward.”

The current measured approach to reform being proposed by the government appears to strike a more harmonious chord with public attitudes towards gambling in the UK. Based on this more conservative approach, an early bill now looks more likely. Parliamentary time is rumoured to be scheduled for the last quarter of 2004. Over the long term, the quick introduction of a new gambling regime with strong cross-party political and public support will create many new opportunities for the industry.

This article is a reprint of an article originally printed in the September issue of Global Gaming Business.

The Future of Greyhound Racing

Lord David Lipsey of Tooting Bec
Chairman – British Greyhound Racing Board

Given the recent dramas surrounding the Gambling Bill, it has been an interesting time to be both a member of The House of Lords and the Chairman of the British Greyhound Racing Board. As such, I have a unique perspective of that Bill and the role it plays in the future of greyhound racing.

The sport as we know it has been held in the UK since July 1926 when the first ever race was run at the stadium in Belle Vue, Manchester*. Racing still takes place at the same site today.

The popularity of greyhound racing has waxed and waned with the trackside attendance partly linked to the socio-economic climate. Put simply, working class households began to pocket slightly raised incomes and enjoyed some leisure time just as greyhound racing was introduced. With so few mass spectator leisure competitors – no multiplex cinemas or shopping centres - it captured the imagination of a generation.

My own involvement in the sport is slightly more recent and constant. After owning a racing greyhound my passion for the welfare of the racing greyhound led me into meeting and often confronting the industry leaders. Indeed I raised my concerns of the issues of greyhound welfare in the House in 2001. (Welfare is a key factor in the future and an area I will return to later.)

If I am allowed a rural analogy, I became a poacher turned gamekeeper when I took up the Chairmanship of the BGRB in January 2004.

It is fair to say that the sport had been in the doldrums for various periods after an initial heyday. The property boom of the 70s saw the carve up of many of the big stadiums while a lack of investment and vision was also to blame for dwindling attendances. Couple that hangover with the long-term internal politics that the sport suffered - the BGRB had lost a chairman and a chief executive in a matter of months - and there were many underlying problems to tackle. There was also a fairly acrimonious relationship with many of the big off-course bookmakers.

In the past year we have come a good way in changing all that. We have a hard core of good people involved at all levels who want to succeed and work together though the addition of some new non-executive directors to the Board and a new general secretary has also helped us progress. Fresh eyes in what can be quite an introverted sport where everyone knows your name has proved invaluable - such as in the drawing up of the long term budget plans for the sport.

In April 2004 greyhound racing announced that it would benefit from the biggest ever dividend from the major bookmaking firms. They fund the sport through a 'voluntary' contribution and this has increased from 0.4% to 0.5% in 2004 to 0.55% this year and 0.6 % next year. This percentage may seem small but in real terms it means that we predict that the amount coming into the sport in this way could double from 2003 to reach a figure approaching £16m in 2006.

This is based on more bookmakers actually paying into the (voluntary) Fund. We have the support of all the main bookmakers – who see the benefits from paying and want all of their colleagues to do the decent thing too. We have also had the valuable support of the Minister for Sport and Tourism, Richard Caborn, who has written to the 'non-payers' personally.

Our financial projections also rely on a growth on the amount bet on greyhound racing. Bookmakers like 'the dogs' as a betting product in their shops. The bookmakers are assured of decent and reliable margins. Greyhounds run to form and are perennially popular with punters who appreciate that it is a clean sport. Greyhounds are enthusiastic sight-hounds that run for fun and for themselves and not according to the direction of a small person on their backs.

So what are we doing with this new found 'wealth'? Well, we are investing it wisely in areas which have been under-financed in the past. This includes the training and education of staff involved in the grass roots of the sport. We have leant from the horseracing model and this year will see the start of our own programmes for kennel staff and those that work at the racecourses themselves.

It is a positive way of attracting and keeping good staff in what has been an historically poorly paid sector. Better staffing structures regarding promotion and payment will also have a knock on effect for the welfare of the greyhounds as they can only benefit from good animal husbandry and also from the tracks they run on being maintained and prepared in a standardised professional manner.

The bookmakers that are so important to us have the same priorities. They are shrewd businessmen first and have been quick to realise the importance of getting our house in order in the face of two pieces of legislation – the Gambling Bill and the Animal Welfare Bill.

The latter may have had less column inches so far than its glamorous sister but the small print here will have perhaps more far-reaching consequences for the future of greyhound racing.

Of course we welcome the main thrust of the Animal welfare Bill – it is right and proper that we have a duty of care to the animals and also sensible that we combine sometimes outdated and piecemeal legislation into one Bill.

However all is not plain sailing. One example of this is the proposal that the regulation of racecourses, of which we represent 31, and of trainers' kennels of which there are many thousands should be given over entirely too local authorities. They are currently policed by the National Greyhound Racing Club – the licensing and regulatory arm of the sport. They have people with a knowledge and commitment that, frankly, no local authority could match. NGRC stewards are regionally based and invariably have an understanding of the sport and the people and greyhounds involved. How much easier it might be to pull the wool over the eyes of a council official who doesn't know the difference between a greyhound and a whippet?

There are some areas of the Bill pertaining to greyhounds that I applaud and we have worked closely throughout the process with excellent officials from Defra and have had useful dialogue with the Minster, Ben Bradshaw. The Bill will call for veterinary supervision at all times at racecourses when greyhounds are racing or getting ready to race (trialling in solo or two or three dog sessions without betting). This will not impact on my tracks where this has always been a rule of racing under the NGRC and therefore the auspices of the BGRB. However it will have a huge impact on the 20 or so racecourses that are not affiliated with the NGRC – sometimes called independent or 'flapping' tracks. While I would not wish businesses to go under per se I cannot condone racing without veterinary supervision and I am afraid that most of these places will close because of the Bill. We will give every assistance for independent tracks to come and race under the NGRC rules, which include high welfare and integrity standards, but some will simply be unable or unwilling to change.

Among registered tracks, there is a danger that the Gambling Bill may well claim a few scalps as it offers much less for greyhound racing than we had hoped for. For one, it threatens year-round evening betting shop opening which will seriously erode the customer base of our stadia and threaten the commercial viability of several stadia.

We are also alarmed by the Government's plans to remove the exclusive right to accept greyhound pool bets from our racecourses promoters. Greyhound tracks rely heavily on pool betting income and this would be slashed if several pools were operating one the same race. By allowing all-comers into this sphere of betting without any lead-in will threaten stadia. The detail in the Bill is still up for grabs and there are areas that I and others will be lobbying vigorously for change.

I like to compare greyhound racing to the old Labour party. It is perceived as having working class roots (although actually right from the early days it was the place where the rich and royal rubbed shoulders and owned dogs with the masses) and needs an image overhaul. The image of flap-capped northerners is far from the reality at most of our metropolitan racecourses were the food is not always fast and the age range is more likely to be 18 to 30 than 50 plus.

Greyhound racing is special but something of an undervalued (and under-sponsored and under-marketed) jewel. How many other sports have that much growth potential in so many areas? Football, rugby, cricket or horseracing have come a long way and any opportunities are limited and very expensive. Their popularity is almost outstripping the fan base.

So after a year of getting the foundations right in so many areas, from the welfare of the greyhounds to the structure of the Board itself, the next two years are about selling out 'secret' sport to the masses.

We have a vision to go for. We need racecourses to raise their game with the facilities they offer the racegoer and we need the support of new investors. They will secure the future of our sport and make themselves a handsome profit at the same time.

I have been greyhound racing in Ireland where I was impressed and inspired by the universally immaculate facilities and the brilliant service. This was a complete turnaround of what was by all accounts a spit and sawdust outfit and has seen the Irish double the number of people going racing since 1999.

What has been achieved over there has inspired us to fulfil the potential of British greyhound racing. We have the means through better funding and the desire and determination as an industry. Just watch this space – or better still join us for the journey!

To find out more about the British Greyhound Racing Board or greyhound racing in your area see www.thedogs.co.uk

* The first race held on 24 July, 1926 was won by Mistley by eight lengths.

European Law and Cross-Border Gambling

Adrian Morris
Director of Finance – Betting Division
Stanley Leisure plc

My objective is to provide a view of gambling across borders within Europe and to comment on where this might be leading. So we are going to look at the structure of gambling in Europe, ask why people gamble across borders, review the recent legal history, the proposed legislative changes and then finally the reaction to those changes.

Europe has a complex legal and parliamentary structure overseen by the Council of Ministers of the EU, the European Commission and European Parliament. The number of Member States is now 25 and is likely to increase again shortly. Certain provisions of European law also extend to the 4 EFTA countries which are effectively subject to the same rules as regards free movement of services and competition. As potential Member States move forward and examine their existing laws and compare them with laws applying to existing Member States, they have to ensure compliance with the entire EU legal system and legislation. A number of those Accession countries establish that gambling laws are varied and widespread in Europe and so they have created their own and raised taxation and eliminate illegal gambling with the problems that brings.

The range of gambling products is wide – lotteries, casinos, betting and so on - with several of them lending themselves to innovation and development. The innovation and development of gambling products is driven by technology. In particular the Internet has driven change and had a significant impact on gambling across borders. Lottery via Internet, the cross state Lotteries like Euro Millionaire and the Viking Lottery, Betting via Internet and Data Transmission and Bingo by linked games are all products suited to cross border gambling situations.

The final influence is the existence of two opposite factions – the state monopolies and the private operators – whose key features we are going to review because they are at the heart of the debate.

The state monopolies are, by definition, government controlled and/or sponsored, and owe their existence to the creation of lotteries with low stakes and massive prizes.

Because these lotteries have enjoyed a monopoly, they generate substantial tax revenue for their country, and have applied large parts of their surplus winnings to ‘good causes’. These contributions are no longer ‘the icing on the cake’ for their beneficiaries but rather their ‘daily bread’. They have effectively become a method of disguised taxation with governments using such revenue on social expenditure which should be financed via normal taxation, as it is in the licensed countries. If these revenues were now reduced, the population would expect their government to replace that income from the tax revenue of the state concerned, which of course would be hard to do without raising other taxes which would cause political difficulties in those countries. Furthermore, as monopolies are not transparent about the level of tax, the taxpayer does not know whether their government is providing good or bad value.

The state monopolies advertise and promote their gambling products extensively and, for example in Scandinavia, are amongst the top 3 advertisers by annual spend. One of them is said to spend more than Coca-Cola, McDonalds and Nokia combined. The policy of monopolies towards business expansion is an important factor in determining the legality of their existence.

Not satisfied with lottery revenue, the monopolies have added other products such as scratchcards, machines and sports betting operations, but it is the Lottery that sustains them. To my knowledge, there is no challenge to their Lotteries per se. It is essentially sports betting and internet betting and gaming that create the cross border debate and products like machines that create a general debate about perpetuating monopolies.

The monopolies claim that one of their key objectives is to avoid social problems caused by gambling but there seems to be limited evidence of their action in this regard. In a meeting which I attended with a Ministry Official recently in a monopolist country, he was unable to spell out for me exactly what his country did to prevent such problems. If social responsibility is so important to the monopolies why could he not give me chapter and verse? I also understand that the Danish monopoly, which is under challenge by the European Commission, has announced a study on the extent of social problems related to gambling. This seems to be a classic case of shutting the stable door after the horse has bolted.

Compare the actions of the monopolies with those of the UK independent operators such as ourselves who are accredited by Gamcare, contributing to the Responsibility in Gambling Trust and extensively training their staff. If you make this comparison, you can hardly help but conclude that the monopolies claims are spurious.

Turning to private operators, pre-May 2004 they existed in a small minority of Member States, whereas these now exist in a small majority of the Member States. For private operators to exist, there has to be a proper framework of law, overseen by strong regulation to ensure probity. In the UK this has been achieved and resulted in minimal problems associated with crime, addiction or social problems. Licensed operators have to be transparent with practices and procedures that can be audited. To remain in business they have to offer the consumer a good deal. The licensing objectives on the first page of the 2004 Gambling Bill demonstrates the UK's clear intent to avoid such problems in a privatised market.

Because commercial issues are vital to a private operator, the applicable tax base is important as shown by the introduction of gross profits tax in 2000 and the migration of

Internet betting to offshore jurisdictions. Commercial pressures have caused private operators to widen their product range through technology for products such as Fixed Odds Betting Terminals and Internet betting. You will also be aware of the FOBT code of conduct agreed between the betting industry and the DCMS and the many other constraints on private gambling operators in the UK. Social responsibility is attainable under a licensed gambling structure. Trading across borders is not necessarily the first choice for private operators. At present it brings issues of brand value, marketing and credit control to name but a few. If monopolist countries change their policies and issue licences then the cross border debate could be significantly reduced.

Why do people gamble across borders? The answer is: “Value”. Bigger prizes, better odds and wider variety reflect the lack of choice because customers only have a monopoly supplier in their home country.

Brand and payment method are essentially factors that may be applied by customers when considering which private operator to use across a border.

On the other hand, why stop people from gambling across borders? The answer is: “Taxation”.

The most significant reason, as with the UK in 2000, was that tax revenue disappears and remember monopolies generate substantial tax revenues. Gambling across borders then becomes subject to the law of the country of origin, i.e. of another country, which makes it more difficult for the authorities of the country of destination to control the standards applied and to tackle addiction, social problems and criminality. Whilst tax revenue may have shifted, such problems will be left behind in the customer’s own country but I have to say that I am not aware of any hard evidence that indicates that cross border gambling has created such problems.

But, we should also note that the possible diminution of tax revenue is not, according to settled case law, a reason for justifying a restriction on freedom of establishment or services.

To summarise; the key factors driving cross border gambling are taxation, competition or lack of it, technology, choice, social responsibility and, for private operators, new market opportunities.

Turning to the legal position, let’s start with Italy where there are pending actions by the Commission related to State Aid and Public Procurement. These arise because the terms of tenders under which concessions for betting were awarded, effectively precluded any non-Italian applicants and subsequently large financial subsidies have been made to concession holders.

Additionally, the EC is investigating complaints as regards the Italian policy of banning its citizens from using Internet betting sites in other States and a number of Italian residents are reportedly intending to petition the European Parliament and solicit the help of their MEPs.

Reverting back to Gambelli, we must understand that the ECJ has no direct power to change national law or to pass sentence on cases in national courts. The ECJ examines cases referred to it by national courts to clarify the scope of European law in specific situations and then sends its ruling back to the national courts to apply EU law according to its interpretation. In Gambelli, the ECJ confirmed that restrictions on gaming activities could be acceptable but only in strictly limited situations and according to criteria which at the moment are not met by any of the Member States having in place monopolistic systems.

The Gesualdi case originates from the Italian court of Prato, which, in 2003, annulled a police seizure of the premises of a betting agent, on the grounds that the offence of accepting bets without a State concession was contrary to Community law. The Public Prosecutor in Prato appealed to the Supreme Criminal Court, which was thus asked to consider whether the Italian law, which made the duties undertaken by a betting Agent a criminal offence, should be disapplied. The offence being that the Agents had no permit from the monopoly.

The evidence put before the Supreme Court, drew heavily from Gambelli and the General Prosecutor of the Supreme Court did not endorse the claims of the Prosecutor of the Court of Prato who had made the appeal, instead the General Prosecutor largely concurred with the findings of Gambelli.

In spite of the opinion offered by the General Prosecutor, the Supreme Court concluded that the monopoly was justified to prevent criminal infiltration but with no assessment of proportionality or appropriateness to achieve the objective. In the Gambelli evidence, there was no great mention of the need to avoid criminal infiltration so I wonder why this defence appeared so late in the day if it is that important in justifying the monopoly. This bears the hallmark of being politically motivated but it has created a state of absolute uncertainty of the law in Italy, with the Supreme Criminal Court there, for practical purposes, choosing to ignore the judgement of the European Court of Justice.

After the Supreme Criminal Court, in three new cases Italian Criminal Trial Courts have made new references to the European Court of Justice and, most recently, yet another Trial Court has made a reference to the Constitutional Court of Italy from a related perspective. Finally, the Commission is examining a complaint related to the post-Gesualdi situation, filed by Stanleybet in July.

In the period before Gambelli the European Commission had received about 5 complaints related to gambling, since Gambelli that number has at least quadrupled. Complaints are investigated by the Commission and if justified lead to challenges.

The European Commission has recently initiated challenges against Greece, Denmark and Italy. The Greek action relates to gaming machines and Internet games and includes a separate charge for the failure to refer a proposed change in domestic law to Brussels before adoption. The action against Denmark is a broad challenge to the Danish monopoly and we are waiting to see the response of the Danish Government to the request for information.

Very recently the EFTA Surveillance Authority which sits alongside the European Commission as regards the EFTA countries, has challenged a proposed change of control over gaming machines in Norway under which the Norwegian monopoly intends to take over various licensed gaming machine operators, without compensation, and thereby create a monopoly. This challenge has now progressed to the rejection of Norway's arguments and the issuing of a reasoned opinion by the EFTA Surveillance Authority and a ruling by the Oslo City Court against the monopoly. The Oslo court relied on the facts of the EFTA Surveillance Authority Case and held that the proposed monopoly would be in breach of EEA law. So the Norwegian State has until 20th November to halt their action or face EFTA court proceedings.

In order to bring challenges to the European Court of Justice, there needs to be a referral by a national court, so there are a number of national actions now in progress. Interestingly, in Holland and Germany their courts are moving towards the application of Gambelli and not merely rubber stamping their domestic law. These cases relate to a mixture of internet betting and sports betting. There have also been a series of complaints to the Commission related to restrictions on advertising of gambling services and the refusal of licence applications. I would not be surprised to see these situations lead to challenges by the Commission or referrals to the ECJ.

At home we have the 2004 Gambling Bill and then in Europe we have the Draft Directive on Services in the Internal Market. This latter proposal has not had a great deal of publicity in the UK but it is potentially a very far-reaching piece of legislation that we will look at next.

The real aim of the Service Directive is not gambling. It is about creating a genuine market for over 450 million consumers and many businesses across Europe to whom SME's can sell their services. At its core the Directive aims, by 2010, to eliminate red tape in selling services across borders and in setting up a business in another Member State.

In order for the Directive to be successfully implemented, the Directive relies on the country of origin principle.

A brief explanation of this principle is that if service provider A, provides his services in country B, then country B cannot discriminate against service provider A and must recognise any authorisations, qualifications, permissions etc held by provider A. In the event of any dispute or fault etc, it is the law of the country in which provider A is resident that is applicable.

The country of origin principle is one of the principles underpinning Gambelli. The customers were in Italy and the bookmaker in England where it held a UK bookmakers permit. Not surprisingly, a number of gambling monopolists realised the impact of this and lobbied for a derogation to the country of origin principle for gambling. The first draft contained a time limit (2010) for this derogation, but the current draft does not. There is also a suggestion that the Commission should examine the need for EU harmonisation of gambling law. The Commission is promoting the complaints it is receiving (between 20 and 30 since November 2003) to show the need for harmonisation and is putting pressure on the Member States by processing all these complaints one by one. The Commission has also launched a legal study. The budget for this is only 225,000 Euros which is not a great deal of money to analyse laws across 25 countries and consider how harmonisation can be achieved.

At present the Draft Directive contains a derogation for gambling that is effectively permanent, but as we will see, this will not clarify the legal position because of European Legal precedence.

European legal precedence is clear. At the top is the Treaty of Rome and the other Treaties of Union.

In second place, is the so-called secondary Community legislation (such as Directive and Regulations), both as construed by the case law of the ECJ which is the custodian of the Treaties and the supreme interpreter of Community law with binding force on the Institution and the Member States.

Only in third place does national law appear. National law in Member States must comply with European law. This primacy of EU law has been accepted and confirmed for a long time by all national constitutional courts. Any country in the EU has to accept the ECJ as the Supreme Court of Europe and comply with its rulings.

Gambelli was decided by reference to the Treaty of Rome, Articles 43 and 49 and is now part of settled case law. Thus, the existence of the derogation merely makes the legal uncertainty look unavoidable because of the clash between settled case law and the derogation.

As you can guess the Services Directive has produced a reaction from both monopolies and private operators.

So far the Portuguese and Austrian delegations in Brussels have produced written papers aimed solely at gambling and the Directive. Private gambling operators both independently and through their trade associations have also started to lobby in respect of the Directive.

The Portuguese and Austrian proposals are remarkably similar and quote extensively from various ECJ cases, focusing only on the possibility for Member States to restrict the access to this activity. The proposals hardly mention that according to the latest case law of the Court (Gambelli) these restrictions are very limited and should comply with a range of criteria which none of the monopolies can achieve at the moment.

They note that the ECJ has never said that gambling should circulate freely, but the ECJ has said that gambling can be restricted on public order grounds. They acknowledge that restrictions must be proportional, non – discriminatory and necessary to achieve the desired objectives whilst satisfying all conditions in ECJ case law. They do not say how they or any other country satisfies these conditions.

The proposals fear that the Directive would weaken existing national standards to an EC minimum and, finally, conclude that "Gambling be excluded from the Services Directive to achieve public order objectives and State".

We should note that the reference to national standards is essentially not just applicable to gambling but to almost any service and they do not produce any line of argument as to what the public order objectives applicable to gambling may be, let alone why the exclusion should then apply.

Austria has concerns about money laundering and financing of terrorism and I assume that it has dealt with these concerns in its existing legislation. If it has dealt with these concerns domestically then it should have no such fears about the ability of other States to do the same.

These proposals are presented without any hard evidence of the problems and how they are tackled in either country. They are long on conclusion but lacking on explanation and justification. If they are so confident of their domestic legislation why can they not propose it as the basis for a harmonisation document?

It is only very recently that private betting operators have realised the significance of the Services Directive and gambling.

Trade associations, such as ARGO in the UK and the EBA in Belgium, and private operators have started to lobby MEP's and national governments.

Because of the overall significance of the Services Directive, the efforts of the private sector will need to be co-ordinated and extensive if they are to succeed in either getting the derogation to the application of the country of origin principle changed or removed or in securing the other provisions of the proposal, which apply to gambling. Whilst this is a difficult task there are a number of MEP's who have shown sympathy to the position of the private operators as regards the derogation and indeed to the wider legal issues.

You will note that there is similarity between the Austrian and Portuguese proposals and I doubt that this is mere coincidence. One reason for my doubt is the existence of the European State Lottery and Toto Association whose members are the European State Lotteries and Toto companies and other organisations licensed to operate games of chance for public benefit.

The Executive Committee of the European Lottery Association met in Bucharest on 28th September 2004 and this was reported in the Romanian State Lottery magazine. The report indicates the following conclusion for the evolution of the European Lotteries activities referred to in the Services Directive. “Lotteries are to be treated as services related to public safety and order, the same as the Army, the Police etc.”. The report, which is a magazine piece and not full minutes of the meeting, offers no explanation as to how this conclusion was reached. The Services Directive is not aimed at the army or the police and it is a strange comparison to make.

The meeting also concluded that:
State monopolies of games of chance must be maintained to finance good causes. Again the report contains no justification for this statement.

And finally it concluded that:
Only monopolies can prevent negative effects of gambling. And again the report contains no justification for this statement.

This indicates a concerted lobbying stance from organisations with direct access to government but, to put it mildly, it is questionable whether they are correct in their conclusions or in their description of lotteries as being like the army or the police. How a lottery monopoly can be compared to the army or the police is frankly beyond me.

And so, to conclude we should remember that restrictions on gambling, as stated in Gambelli, can be justified but for the monopolies to defend their position, they, and their governments, must be able to prove that any restrictions which they impose, have clear justified requirements which are in the general interest and that those restrictions must be suitable to satisfy those requirements. They must not be discriminatory.

Having read a number of exchanges between EC and governments, it is doubtful whether the requirements have been clearly matched against the restrictions in those cases.

Justifying restrictions by reference to public order requirements is a big problem for all the monopolies because they all have expansive policies and thus encourage people to gamble. These expansive policies therefore effectively take away their public order line of defence.

Restrictions applied to avoid criminal and fraudulent activities may be a desirable objective, but the restrictions for this reason must be proportionate. I think that close examination would say that preventing Stock Exchange listed and independently regulated companies from establishing themselves in another state goes beyond what is necessary.

You will probably not be surprised to know that I see no way around Gambelli because of the strength of legal argument that it contains.

What I can tell you is that I believe my view is shared, privately at least, by some monopolists and politicians. As early as December 2003 the Copenhagen Post reported that a legal opinion had been given to the Danish Government on the strength of Gambelli and the weak position of the Danish monopoly. Ongoing reports across Europe re-iterate this weak position in most countries. In the meeting with a Ministry Official that I referred to earlier in this talk, he indicated that change probably would come, but not for a long time and his country would defend its monopoly in the meantime.

There will undoubtedly be a period of ongoing legal challenges and the lobbying on the Services Directive will be intense. The harmonisation plan is a very long way off, if it ever happens at all. There will also be political and press debate at national level in a number of countries, particularly those at the front of the EC action list like Italy, Greece and Denmark.

Direct contact has however started, albeit in only one or two countries, between government or monopolies and private operators. Politicians at both European and national level will discuss how changes can be made. Cross border gambling is a complex and sensitive matter and, Lotteries apart, there is no obvious logical reason why gambling should have special treatment let alone why it should remain the preserve of monopolies.

My assessment is that the non-lottery activities of the monopolies will slowly crumble under pressure and be privatised. After all some of them are highly attractive as distribution channels to private operators. This would enable domestic markets to develop. The political and social pressures to retain national monopolies are substantial but I have no doubt that they will fail, probably apart from the lotteries themselves, and thus allow cross border gambling activities to grow. Cross border gambling is largely dependent on a lower tax rate in the bookmakers base country and a higher tax rate in his customer's. In another ministry meeting that I attended, the officials really did understand Gambelli to the point that they said "why should we bother to issue licences because the legitimacy of cross border gambling will allow non-domestic operators from low tax bases undercut our licensees". Tax harmonisation will ultimately be needed if cross border gambling is not to grow and to prosper.

Handling the Problem Gambler

Sir David Durie
Chairman, Responsibility in Gambling Trust

We are in the middle of a massive transition in gambling in Britain which, now that the Bill has become law, will ensure that gambling will be better and more comprehensively regulated. But the Bill is of course far from the only factor affecting gambling, attitudes to gambling and the incidence of problem gambling. Technological change as well as changing social attitudes are themselves both highly significant. They all affect the type and nature of gambling and of gamblers and in turn the number and types of problem gamblers.

This is where the Responsibility in Gambling Trust comes in. The Trust's aim is to make it less likely that people will become problem gamblers and more likely that those who do will be able to seek and secure effective help. The Trust's strategy in support of this aim has three components - research, education and advice and treatment. With the extra income available to us this year, some two and a quarter million pounds, all from the gambling industry, we have been able to move forward decisively on two of these fronts and plan to start on the third, education, shortly.

First, advice and treatment. Following a report done for us by management consultants, the Trust has decided that its priorities are to provide funds

- to ensure that there is an effective and efficient helpline available and manned 24 hours a day 7 days a week providing information and front-line counselling to problem gamblers and to those affected by problem gambling;

- to ensure that there should be face-to-face counselling available to problem gamblers across the whole country;

- to make available on-line counselling to those who prefer this to face-to-face or telephone counselling;

The Trust believes that it is vital, too, to monitor how this is actually working in practice and to ensure that it is being both effective and cost-efficient.

I am pleased to say that our main provider, Gamcare, has already moved its helpline onto a 24/7 basis. We are in discussion with Gamcare on how best to bring about the countrywide availability of face-to-face counselling and we have invited them to bring forward proposals for setting up online counselling. We would also like to involve the Gordon House Association (whose residential programme for severe problem gamblers we also support) in this latter endeavour.

What the Trust wants to see and is prepared to fund is a well run, well-managed comprehensive and integrated information, advice and counselling system across the whole country. I believe that this can be achieved by next Summer and we are working with Gamcare to this end. Once we have done this, the UK will have in place the basic national infrastructure to support problem gamblers and their families - to complement the work of Gamblers' Anonymous and GamAnon. The aim will be to ensure that this infrastructure is robust and flexible enough to be able to respond to any foreseeable level of demand.

Next, research. The Trust is due to receive in the next fortnight a massive report reviewing the worldwide research on problem gambling and proposing future priorities for research in this country into problem gambling. We will make this widely available to interested parties as soon as possible. It promises to be an important document setting out clearly and comprehensively the current state of knowledge of the issues as well as giving pointers for the future. I believe that one set of research issues which the Trust will want urgently to pursue is the question of any association between increased access to gambling opportunities and increase in the prevalence of problem gambling, the extent to which counteracting measures can work to offset any increase in problem gambling and the nature and effectiveness of particular counteracting measures.

Improved awareness, particularly targeted at vulnerable groups as well as those who interact with them including health professionals, social workers and others may well have an important part to play. These latter groups, wittingly or unwittingly, probably have more contact with problem gamblers than anyone else. Similarly, improved awareness and training of staff within the gambling industry, coupled with a growing emphasis on corporate social responsibility is also likely to have a positive impact.

But at present too little is known about what actually works, let alone what works best. It is vitally important that we should use the window of opportunity of the next two or three years before the reform of the gambling laws actually affects joe - and jessy- punter to get a much better understanding of all this. If we can do so in time, we can design appropriate information and awareness campaigns to accompany the implementation of the new laws in such a way as to have a real impact on the levels of problem gambling even if we may not be able altogether to eliminate any increase. This then is the challenge which I want to set both the research community and the industry. I want the research community to come up with well-designed proposals which will help us achieve this and I want the industry to give this their active cooperation and support.

The third area is education which, as I have mentioned, has been relatively neglected hitherto. But this will begin to change now that the Trust has a new full-time Director, Robin Burgess. Robin comes to us with extensive practical knowledge and experience of dealing with other forms of addictive behaviour, notably drugs. One area he will concentrate on is the development of the Trust's education strategy, though we need to be careful to learn to walk before we attempt to run. By this I mean that we need to be sure that the education activities which we support are cost-effective and are actually likely to contribute to a reduction in the numbers of those who would otherwise have become problem gamblers. The research which the Trust will be commissioning will help us define this.

But for the Trust to do any of this we need to secure the continued and growing financial support of the gambling industry. By this time next year, I expect the Trust to be funding worthwhile and cost-effective activities which match our current income. I believe that it would be prudent therefore to seek some increase next year in the level of funding which we secure from the industry. The major players, without exception, have readily supported us to date, as have a large number of the smaller firms often through their trade associations. With the evident and growing sense of corporate social responsibility within the industry I have no doubt that the Trust will secure the funds which it needs. I am keen to see that as many of the smaller firms as possible should also play their part in addition to those who already do. A problem gambler is no less of a problem gambler because he or she gambles in a venue owned by a smaller firm. Social responsibility needs to stretch from top to bottom.

Finally, on a different note, we must ensure that the UK contributes effectively to the international debates on problem gambling. I want to suggest that the time may be coming when we should set up in this country a body representing all the key sectors and stakeholders (industry, government, regulators and charities etc) associated with the gambling industry to look collectively at the issues connected with problem gambling and how to tackle them so that we can move together nationally and internationally to tackle the issues. It seems to me that the Trust could be well placed to take the lead in setting up such a body if others share my view that this could be useful. I would like therefore to start a debate about the value and nature of such a body.

Industry Regulation and the New Gambling Commission: An address to the InterGame Conference held 19 October 2004

Peter Dean
Chairman, Gaming Board for Great Britain

INTRODUCTION

1. My topic today is "Industry Regulation", and what I shall mainly be talking about is the Gambling Commission, the new regulator which is a centrepiece of the Government's gambling law reform.

2. The Gambling Commission has been one of the less controversial features of the new régime. Back in 2001 the Budd Report recommended that the Gaming Board should be subsumed into a bigger body with a wider remit - extending to betting and remote gambling - and broader powers. The Government has consistently backed this recommendation. Nobody else has, I think, contradicted it in all the subsequent debate. The draft clauses of the Gambling Bill have reflected this. I don't expect the final version of the Bill to be any different in this respect, and that is the assumption I shall make for the purpose of this talk.

3. It follows that what I have to say will not be news to some of you here. By way of reminder, I will first describe the role and powers of the Commission; then explain what the Gaming Board is doing to prepare for the new régime; then say what remains to be done; and finally predict how the Gambling Commission will approach its regulatory role.

ROLE AND POWERS OF THE COMMISSION

4. So let me start by running through the Commission's future role.

- It will take over the Gaming Board's existing functions in respect of casinos, bingo clubs, gaming machines and charitable lotteries. And of course the casino industry in particular is likely to be very different from, and larger than, at present, though its eventual shape remains a matter of speculation.

- Furthermore the Commission will have a much wider remit than the Board does currently, covering all gambling with the exception of the National Lottery and spread betting. So it will be responsible for regulating betting and bookmakers and football pools, and for the new licensing system for remote or on-line gambling, whether via the Internet, digital TV, mobile phones or whatever means.

- Thirdly, it will have new responsibilities in respect of illegal and problem gambling, to which I shall return later.

It will thus be a significantly bigger operation than the Gaming Board. At steady state – that is, after the initial peak of new licensing activity – we envisage that it will be a little over twice the size of the Board.

5. Significantly, the Commission will have its objectives clearly spelt out on the face of the Act. Hence, Clause 1 of the Bill sets out the three licensing objectives which underpin the new regulatory structure. In shorthand these are:

- To keep crime out of gambling;

- To ensure that gambling is conducted fairly and openly;

- To protect children and other vulnerable persons.

A later clause charges the Gambling Commission, again in shorthand:

- To pursue these objectives; and

- To permit gambling to the extent that the Commission thinks it reasonably consistent with the objectives.

6. Three things are significant about these clauses.

- First, whilst there is nothing inherently surprising about the objectives, what is new, and striking, is that all three are to be prominently enshrined in statute. The first two, and especially the first, are implicit in current law, but the third is not. Problem gambling is not referred to at all in our current 1960's legislation. These three objectives are to be the foundation on which the whole regulatory edifice will be built and on which it will be judged.

- Secondly, they give a clear focus for the Commission's work, and a clear set of criteria on which the courts will consider the propriety of the Commission's activities when challenged. The Commission will be at risk if it allows unrelated issues to cloud its decisions.

- Thirdly, the reference to the Commission permitting gambling where consistent with the objectives is an acknowledgement of the shift in approach to the gambling industry from one to be tolerated to one with a rightful and recognised place in the leisure industry.

I want to return later to the question of how the Commission might approach these objectives.

7. The Commission will have a significantly wider range of powers and tools than the Gaming Board to help it achieve its objectives. Hence:

- It will be able, of its own volition, to issue fines and formal cautions to licensed operators and personnel who breach conditions attached to their licences. This is in addition to the ability already vested in the Board to revoke certificates or issue warnings.

- It will be able to attach conditions to the licences it issues, any breach of which would render the operator or person liable to the sanctions just mentioned.

- It will be able to issue codes of practice or guidelines, adherence to which could be amongst the conditions to be attached to licences of one sort or other.

- It will be able to issue guidance to local authorities, in respect of their responsibilities for issuing premises licenses, which those authorities will be required to take into account in reaching decisions.

Finally, and as something of a counter-weight to these powers, the Commission will be subject to a dedicated and formal appeals mechanism. There are currently no rights of appeal against the Gaming Board's decisions.

WHAT IS BEING DONE IN PREPARATION?

8. We have a Transition Team in place which has done an enormous amount of preparatory work, in conjunction with a firm of consultants, PKF, by way of identifying the most appropriate organisational structure, estimating resources and other needs and defining key stages of the transition process.

9. As regards the members of the new Commission, whilst the Board will cease to exist when the new law comes into force, the Gambling Bill provides that members at that time will become Commissioners of the Gambling Commission, and the Board's Chairman at that time will become the Commission's Chairman. From the industry's point of view this will ensure continuity and conduce to a seamless transition. From the Government's point of view, the purpose must be to build on the Board's reputation and record of success within the new body.

10. In anticipation of this, DCMS moved to increase the numbers, and range of experience, of the members of the existing Board. Four new members were appointed with effect from 1 January 2004, and we now have a Board of eight members. For

several months now we have been deliberately conducting ourselves in two modes, as Board members and as prospective Commissioners.

11. We have also just last week announced the appointment of Jenny Williams to the new post of Chief Executive, with effect from mid-November. Jenny, who has had an outstanding career in a whole range of jobs in the senior reaches of the Civil Service, will be leading the Board's transformation into the Gambling Commission.

WHAT REMAINS TO BE DONE?

12. Although a considerable amount of planning work has been accomplished, implementation is all ahead of us. This is a huge task. Here we have run foul of a tricky constitutional point, which has left us somewhat frustrated. Spending rules prevent us from incurring any significant expenditure on the functions and responsibilities of the Commission itself until there is Parliamentary approval to do so. This has limited the progress we have been able to make on areas such as IT. And though the Second Reading of the Bill should bring us a little more flexibility in what we may spend, matters such as recruitment of staff and procuring accommodation must wait until later stages of the Bill or Royal Assent. Now that the Bill has been introduced, however, we shall be able to deploy more resources to take forward important policy work on, for example, the drafting of licence conditions, codes and guidance to local authorities, all of which are of considerable interest to the industry.

13. A further complication concerns the matter of location. Following publication of the Lyons Report, the Government has determined that public sector posts should so far as possible be located outside London and the South East. The Gambling Commission will be subject to this policy, and we are working out the exact implications of it with DCMS. Whatever the outcome of this process, we shall strive to minimise any delay to the establishment of the new régime. The Board has consistently urged the need for gambling law reform as soon as possible, and that remains our position. Indeed the deficiencies in the current, outdated laws become more glaring with every month that passes.

HOW WILL THE COMMISSION APPROACH ITS ROLE?

14. Turning to the Commission's approach to its role, I will say something first about how that might relate to each of its three statutory objectives and then touch briefly on the Commission's likely style of operation.

KEEP CRIME OUT OF GAMBLING

15. Whilst some of the Government's proposals are de-regulatory, the first of the statutory objectives is to keep crime out of gambling, and, as I mentioned earlier, the Commission will be given broader powers than those now exercised by the Board, including powers to impose fines and commence prosecutions.

16. There are two elements here. First, there is the need to keep the licensed industry crime free. This is where the investigation of all those applying for licences, or the so-called 'fit and proper' test, is crucial. The Board is well versed in such investigations and applying the tests and I expect that the Commission will adopt a similar approach. The Bill envisages a three-pronged test for an operator's licence addressing integrity, competence and financial circumstances. That is essentially the test we currently apply: it will simply be applied to a wider range of operators.

17. The second element will be the Commission's duty to investigate and pursue 'illegal gambling'. This is a duty which the Board does not currently have: it rests with the police, but they often have other priorities. It is here that the power to pursue prosecutions will be particularly valuable. We would expect that power to be used sparingly against the licensed sector, which is substantially compliant.

ENSURE GAMBLING IS CONDUCTED FAIRLY AND OPENLY

18. The second objective is ensuring gambling is conducted fairly and openly. This is again a role familiar to the Board through the monitoring work of its Inspectorate. What constitutes "fair and open" will be codified. This is already done to an extent, and where existing agreed guidelines have been shown to work well, they can be taken as the starting-point for the drafting of the codes.

19. An important issue is the extent to which the Commission will be able to rely on the industry to self-regulate. We need to do a great deal of thinking about this before setting anything in stone, but I have suggested the following principles for consideration:

- The Commission should specify what compliance procedures it expects regulated companies to follow.
- The onus should be on each regulated company to satisfy the Commission that it is following the specified procedures.
- The Commission should assess the efficacy of each company's compliance procedures and tailor the scope and frequency of its monitoring accordingly.
- The Commission should regularly review the scope and frequency of monitoring for each company and amend its practice as appropriate in the light of experience.

PROTECT CHILDREN AND OTHER VULNERABLE PERSONS

20. The objective of protecting children and other vulnerable persons will likewise be pursued through the adoption and enforcement of codes. As indicated earlier, under current legislation the Gaming Board has no formal function in respect of problem

gambling, although informally we have taken a considerable interest in it for many years. This will be an important and novel area of responsibility for the Commission and one on which the Government places great emphasis. In developing the codes we would expect it to have regard to any current guidelines agreed between the industry and GamCare, as well as to overseas precedents.

21. I might here as an aside refer to recent media criticism of the Government's proposals on the grounds of the possible increase in problem gambling which might result. Some of the critics are overlooking the fact that problems already exist and will grow if nothing is done. To give a specific example, there is a burgeoning unregulated remote gambling industry where protection of the vulnerable on many sites is minimal. The new legislation seeks to address such problems and the Government deserves support for this.

22. Finally, as regards the Gambling Commission's style, I am on record as saying that the Commission will *engage* with the industry. By this I mean that, whilst the regulator must observe proper boundaries in its relationship with operators, it should not be remote, or aloof, or unnecessarily secretive. Regulation should be grounded in a good understanding of the industry, and this can be promoted in various ways.

23. One is the establishment of joint working groups between the Commission and respective industry sectors. The current Gaming Board/industry working groups meet several times a year and serve as useful gatherings in which to deal with issues before they become too contentious. The dialogue is two-way. An early priority under the new régime should be to extend the existing system of working groups to embrace the betting industry and remote gambling interests, which are not now regulated by the Board but will be by the Commission. We have already set up regular meetings along these lines with the bookmakers, betting exchanges, casino machine manufacturers and the remote gambling industry. We have also started meeting regularly with local authority representatives to talk about the development of guidance on premises licensing and the respective roles of local authorities and the Commission in monitoring gambling operations once the Bill becomes law.

24. Another means of communication on a day-to-day basis is via informal contacts with the Commission's staff, who we expect to see their role – just as Gaming Board staff do now – as including provision of advice on compliance matters to operators who seek it.

25. A third method is through a planned series of informal meetings with operators in different sectors of the industry. The Board holds several such meetings a year, normally at a time when there are no particular compliance issues on the table with the operator in question. They are an opportunity for the regulator to learn about the current state of play in the industry, and for the operator to ventilate any concerns. Again it is a two-way street.

26. The Gambling Commission will have substantial powers, which it will not hesitate to use to the extent necessary to carry out its equally substantial duties. But it will espouse the principles of good regulation and will not, without reason, place burdens on the industries which it regulates and which will be footing the bill.

UK Casinos: How Many and Where?

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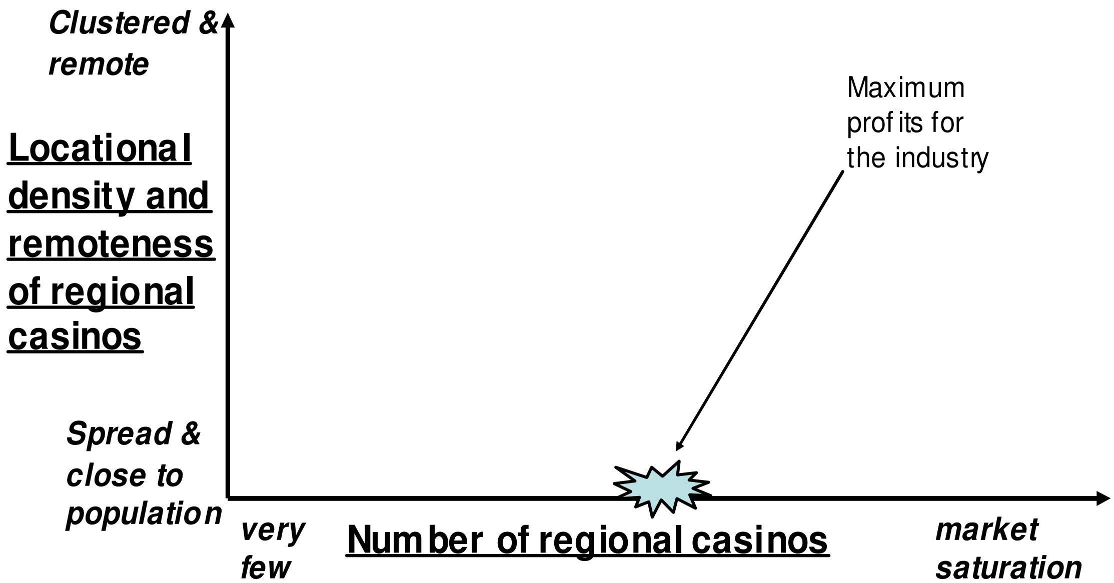
In this paper I set out the theoretical economic issues underpinning the debate about the number and location of casinos. In doing this I use a diagrammatic approach to present the range of possibilities for policymakers. My preference for diagrams is purely personal, and perhaps shared by others of a visual imagination. I begin by looking at the concept of Regional casinos because this aspect of policy has attracted greatest public attention and been subject to drastic policy changes. The analysis is a general purpose model and covers a wide range of possibilities, of which the situation unfolding is just one. For this reason the analysis is applicable to a long term dynamic business environment. There will now be just one Regional casino initially, but more are expected to follow if the first one is found to operate within acceptable social parameters creating new possibilities for the industry and public. I am confident that more will follow for reasons set out in this paper. Regional casinos were to be differentiated in the market from other casinos by size as well as having exclusive rights to category A machines. The diagrams also allow the positions of various interest groups - government, problem gamblers, the industry and local authorities - to be illustrated. I will then consider the implications of policy regarding the Large and Small casinos.

I make the following general assumptions in creating the diagrams.

1. That profits in the industry will be high if casinos become ‘spread’, i.e. located apart from each other to avoid competition, but are close to or within major population centres, i.e. close to customers. Profits will be low if casinos are clustered close to each other, i.e. competing hard, and remote from population centres. Thus on the vertical axis of diagram 1 [Locational density and remoteness of regional casinos] the industry profits are highest at the lower [*Spread & close to population*] end, and lowest at the higher [*Clustered & remote*] end.

Diagram 1 Regional casinos and industry profits



2. Total industry profits will be highest at the point where the addition of an extra casino actually reduces total industry profits. This will be shown on the horizontal axis of diagram 1 [Number of regional casinos], at some uncertain number between 'very few' and 'market saturation', and is indicated on the diagram by the 'star' [ ]. Movement in any direction away from the 'star' will reduce industry profitability.

3. Maximising total industry profits should not be confused with each casino having maximum profits. Maximum profits per casino would be attained with just one casino in the UK and that in London, i.e. no competition and in the largest population centre. Incumbent operators will always oppose any openings allowed to their competitors. As more casinos are opened the profit per casino will fall slowly although total industry profits will continue to rise, until the 'extra' casino causes a reduction in industry profits that outweighs its own profits. It will still be profitable to open more casinos but high competition will erode overall industry profits.

4. I assume that 'protecting the vulnerable' would be achieved with very few Regional casinos that are 'clustered and remote' – i.e. only one and that should be

located in the Shetland Islands! This would result in low profit levels well away from the 'star'. (See the oval box in the top left of diagram 2.)

5. The interests of punters are best served when the market is saturated with casinos that are close to population centres. (See the oval box in low right of diagram 2.) Most local authorities would perhaps share this preference and want casinos within their area for development/regeneration purposes.

6. Tax revenues may be maximised at the 'star' point (see oval box near the 'star' in diagram 2) if taxation receipts are proportional to industry profitability. This would likely be the case if licences are auctioned, since the bidding by operators would reflect their estimated profitability.

Diagram 2 Regional casinos and stakeholders' positions

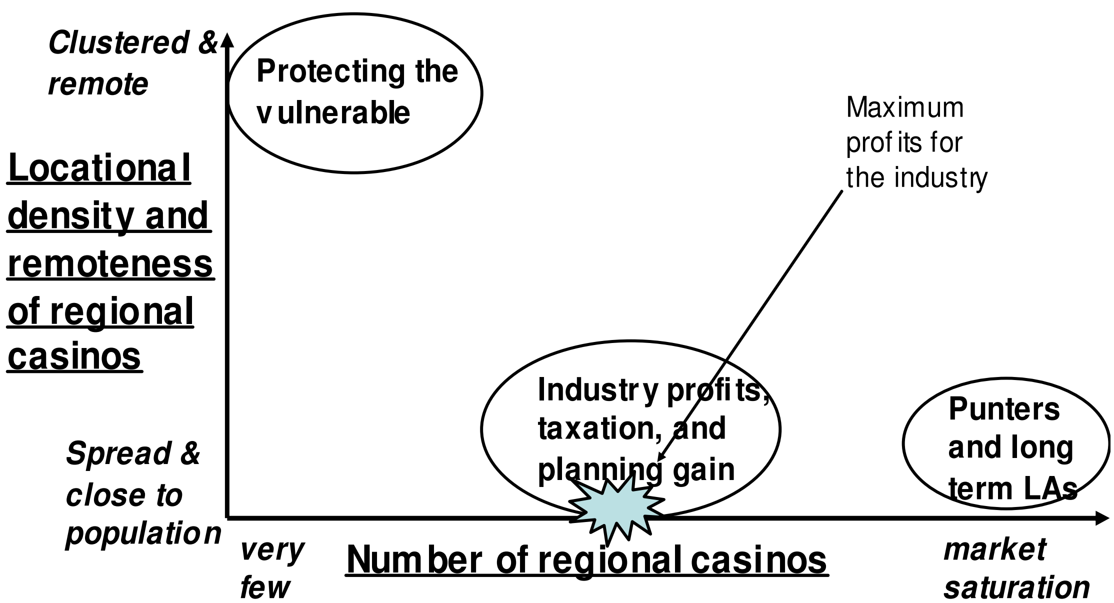
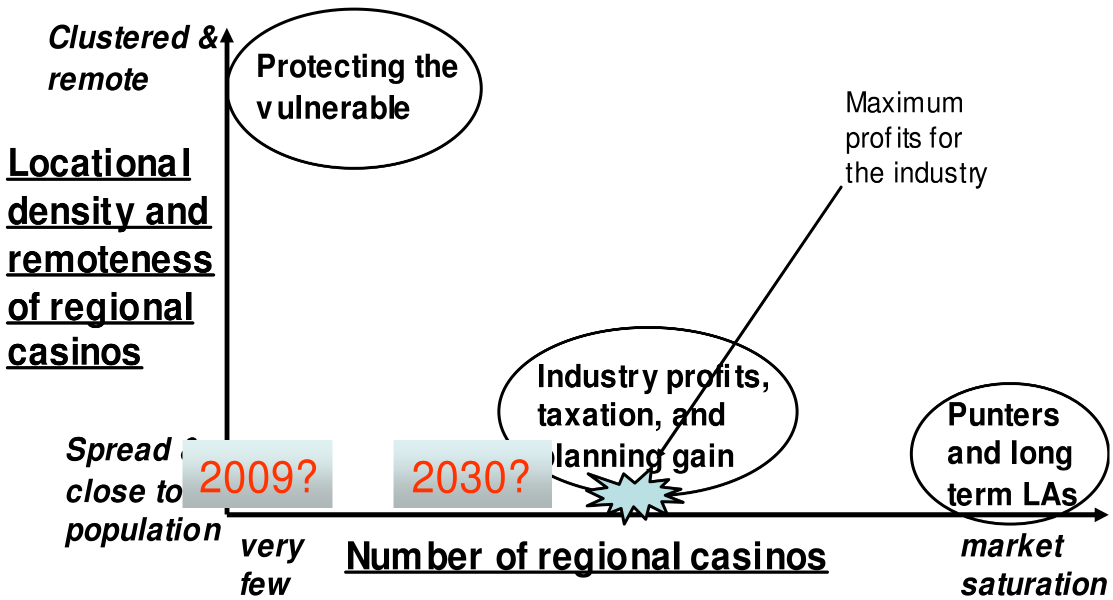


Diagram 2 shows the clear dichotomy of interests between the various stakeholders. A major problem for the analysis is identifying the number of casinos at the 'star' point. Conversations with operators suggest that 20 - 40 is a reasonable estimate. That would partially depend on the amount of competition from Large and Small casinos in cities. Research into this issue would be critical for government in framing policies with respect to taxation and planning gain. The point at which the market is saturated is when average profits per casino are so low that new casinos are not worth building and government has little scope for gambling specific taxation.

Diagram 3 includes shaded boxes that are dated. They represent the possible futures for Regional casinos in the UK. By April 2005 we knew that only one Regional casino would be licensed initially, and that a Conservative party spokesperson suggested that it may be located in Blackpool (bbc.co.uk, 2005). This change was the result of a political compromise between the government and the Conservative party, and was presented as a chance to see how a Regional casino would operate in practice before further licences were allowed. It seems reasonable to predict further reviews by government, who have a vested interest in raising duty revenue. There will likely be further lobbying by casino operators in coming years – especially by those who do not yet have a Regional casino licence. Even local authorities may join in the demand for more licences since they would want profitable Regional casinos in their cities, especially if they see their residents travelling to a Regional casino in another city. All of this stakeholder pressure will encourage more Regional casino developments and move the industry horizontally in the direction of higher industry profitability, and as the momentum continues ever further in the same direction by 2030.

The above reasoning, and diagram 3, reveals a long-term possibility for the industry that moves it further away from the ‘Protecting the vulnerable’, with rising profits and governments accepting reduced taxing power. The gainers from the ‘horizontal’ drift are the industry with localised monopolies, punters who have more gambling opportunities and those local authorities with casino developments.

Diagram 3 Regional casino policy issues



I assume that the situation would never move towards the *Clustered & remote* area of the diagram. You may reflect that Las Vegas is just such a phenomenon, with casinos in close proximity and far from the major population centres of the USA. However, the circumstances of its development will not be replicated in the UK. Las Vegas originated as the only casino location allowed in the USA. The numbers of casinos in Las Vegas passed the critical mass whereby they attracted so many punters that Las Vegas became the best location for future casinos. This is described by economists as 'external economies of scale', which explains the existence of shopping malls where retailers locate adjacent to their competitors to take advantage of the 'footfall' and 'browsing for comparison' that accompanies shopping for fashion and jewellery goods especially. This phenomenon generally serves the customers well because the retailers compete hard, as do the Las Vegas casinos. Las Vegas continues to grow despite the expansion of Indian gambling in surrounding states. It is very unlikely that the UK government would want 'clustered' casinos since there is a wish to spread the economic regeneration benefits of casinos around the country. This policy suits the desires of the operators who will wish to avoid tough competition, and prefer local monopoly power. It would seem that Las Vegas casinos will always offer punters better value for money than any planned in the UK. I assume that 'clustering' would probably reduce the problem gambling associated with a given number of casinos and machines. This is because a second Regional casino close to another would add fewer 'problem gambling' prospects than the first. The interests of 'the vulnerable' would be best served by clustering Regional casinos away from large cities, e.g. at Alton Towers or Thorpe Park.

In these diagrams the vertical axis (Locational density and remoteness of regional casinos) has two variables which I have assumed will be co-existent. This would seem reasonable in the current long term predictions about policy, but could not be the case. It is possible that government renders the diagram invalid by having casinos either spread around the country but away from large population centres, or by having casinos clustered in one or very few population centres. In either case the diagram could accommodate this by either, altering the vertical axis so that the two variables are opposed instead of co-existent or, by having three axes instead of two, and being drawn as a 3-dimensional box. Tricky to draw, but perfectly feasible. All indications are that casinos will, in the long term, be located in a 'spread and close to population centres' manner.

The diagrams also reveal government's interest, expressed in maximum tax revenues, being associated with the 'star' point of maximum profit levels for the industry. It could be that government is able to accurately calculate the varying industry profit levels for different numbers of Regional casinos and in the long term adjusts tax levels so as to push the industry towards the number of casinos desired by government. Thus, if government wanted fewer Regional casinos in the long term than is consistent with the 'star' point, it could adjust taxation to maximise post-tax profits for operators at a lower level of development. This would be an alternative to limiting the number of Regional casinos and then taxing them to the maximum extent. This latter is conventionally achieved by auctioning licences, which the UK government has so far rejected.

The focus of debate on Regional casinos has diverted attention away from the Large and Small casinos for some time. These were at first seemingly to be developed subject to agreement between local governments, the licensing authorities and operators. They could have significantly expanded the numbers of machines available in UK cities and towns. Restrictions on the numbers of Regional casinos would have encouraged firms to build Large casinos, often from existing licensed sites. London Clubs has intimated (Annual Report and Accounts, 2004) interest in building Large casinos. Government may eventually allow Large casinos to have some Category A machines.

Even if Large casinos had been limited to Category B machines they may have competed hard against the Regional casinos, and enjoyed the opportunity to be first mover in many cities and towns. It could be that low stake, low prize machines prove popular with punters, and may become associated with problem gambling. In USA casinos 'penny slots' are of rising importance, with punters enjoying the chance offered by cashless technology to have cheap and extended sessions of play (Sandberg, 2004). Uncontrolled numbers of Large and Small casinos could have fulfilled the 'casino on each corner' prophecy of the anti-gambling lobby. Policy now recognises an awareness of the potential problems that could follow any proliferation of Large and Small casinos, and they are limited in number to 8 in each category initially.

Existing casinos face an extremely uncertain future, with their machine numbers capped at 10 and unable to offer betting or bingo. Their owners' only comfort is that there will only be 17 of the new casinos, of which some will be converted from existing licences.

Locations of all new casinos will be advised by an independent panel. It seems that a National Plan for casinos is to be created and implemented after all - with numbers and locations controlled centrally. Since the numbers are fixed for the medium future the panel will be recommending only the locational strategy, which I would guess will have Large and Small casinos 'spread and close to population centres' yet away from the one Regional casino. All future expansions of numbers are to be in line with the findings of Prevalence studies on the social affects of casino developments. The decision regarding the location of the first Regional casino will be keenly anticipated. Those cities and large towns without a Regional casino will be permitted to have Large or Small casinos as a kind of consolation prize. All will likely be 'spread' on grounds of an equitable distribution of development gains, maintaining industry profits and tax generation.

Let us now speculate into the further future to a time when the 17 new casinos have been established and Prevalence studies reveal socially acceptable development. The number and locations of the 'second wave' of casinos is to be determined. Let's assume that Sheffield (as an example) did not obtain the one and only Regional casino in the 'first wave', but accepted a Large casino instead. Would Sheffield then be attractive to a Regional casino operator for a new licence in the 'second wave' or would the existing Large casino be upgraded? Either option is less attractive to operators than the Regional casino in the 'first wave'. A 'second wave' Regional casino in Sheffield would be close to an established, albeit smaller, competitor. Any upgrade of the Large casino would be costly, and depend on the physical properties of the original Large casino. Perhaps Sheffield's Large casino would have been built with an upgrade in mind? In either case 'second wave' Sheffield casino operators face difficulties not shared by the one with the 'first wave' Regional casino licence. The first Regional casino will expect to have a permanent competitive advantage over others unless government decides to avoid the rightward horizontal shifts in diagram 3. Government could achieve strong competitive forces by having 'second wave' Regional casinos close to the existing one and thereby creating an upward vertical shit in diagram 3. The value of the diagram is to clarify the direction of change, and its implications for stakeholders. That events seem most likely to produce a shift rightwards and close to the horizontal axis, actually clarifies the movement towards more rather than less problem gambling. The development of policy has created uncertainty amongst operators. Even the first Regional casino will have an uncertain future since the period of its monopoly is not known and the 'second wave' may place a Large casino close by. 'First wave' Large and Small casinos will perhaps face increased competition from 'second wave' casinos of any of the three sizes permitted. All this doubt will reduce the value of the bids made by operators for licences and lessen the planning gain to local areas and the level of taxation that government can anticipate. It is to be hoped that government can establish a more assured future vision for the casino industry as an alternative to its recent U-turning. The advisory panel and Gambling Commission may be able to produce a clear long term vision.

It would appear that government has, at a very late stage, been pushed towards a planned strategy for the casino industry. As Wynne and Shaffer (2003) state, "Public policy analysts would be quick to point out that government policy decisions are seldom made on the basis of rational thought by politicos who carefully gather and weigh all available evidence. By their very nature, public policy decisions are invariably made in political environments, where various competing interests vie for attention and consideration." The current position of 'go slow' may prevent the backlash against rapid growth that has been a feature of other jurisdictions. If the industry is to have future long term growth, the 'first wave' of new casinos, of all sizes, will have to show themselves to be beneficial to their communities and demonstrate a commitment to responsible gambling.

<u>References</u>

"A Bill to make provision about Gambling", Bill 163, House of Commons, 2004

Budd Report, 2001, *Gambling Review Report*, DCMS, Cmnd. 2506

BBC.co.uk, *Climbdown saves super casino plan*, 5 April, 2005

DCMS, 2004, *Gambling Bill Regulatory Impact Assessment*

DCMS *Casinos: Statement of National Policy*, 16 December 2004

Draft Gambling Bill, 2004, *Government Response to the First Report of the Joint Committee on the Draft Gambling Bill*; Session 2003-2004, June 2004, Cmnd 6253

London Clubs International, *Annual Report and Accounts*, 2004

Lucas, John M. (2004) "Firms gambling on growth in gambling", in *Teaching Business and Economics*, (the Journal of the Economics and Business Education Association), vol. 8, no. 3, Autumn

Sandberg, Molly B. (2004) "Slot Operations Management", in *Casino Enterprise Management*, October, vol. 2, issue 10

Wynne, Harold J. and Shaffer, Howard J. (2003) "The Socioeconomic Impact of Gambling: The Whistler Symposium", *Journal of Gambling Studies,* Vol. 19, No. 2, Summer

Problem Gambling and Public Policy: A Discussion of Some Relevant Evidence

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Nothing threatens the profitability of casino companies and the popularity (and tax revenues) of the governments which authorise them more than public perceptions that casinos cause widespread problem gambling. It is also true that, in practice, organisations whose business is the minimisation of harm caused by excessive gambling need the support and co-operation of both government and the industry if they are to be effective.

Consequently we all need to know as much as possible about problem gambling on the basis of honest and intelligent research. Unfortunately, we know relatively little about problem gambling, especially about its causes, and both pro-gamblers and anti-gamblers tend to claim that much more is known than is actually the case.

Defenders of commercial gambling in the industry tend to minimise the incidence of problem gambling and the harm that it causes. They also tend to attribute problem gambling to causal factors which reside in the gambler rather than in the availability of particular types of gambling – except when the type of gambling concerned is that offered by competitors. These claims are made with especial enthusiasm by operators who have a commercial interest in persuading governments to adopt liberal policies in respect of the form of gambling service which they sell – while remaining staunchly prohibitionist with respect to their competitors' products.

Anti-gamblers are usually motivated by ideological commitment and they tend to exaggerate both the incidence of problem gambling and the harm that it causes. They also tend to attribute the causes of problem gambling to the availability of particular kinds of gambling opportunities rather than to features of the individual gambler's personality which would make them a problem gambler regardless of the availability of legal gambling. Anti-gamblers are motivated by the fact that they really believe that gambling is damaging to the *moral* rather than the mental health of society, e.g. because it undermines the principle that prosperity ought to be the result of, and the reward for hard work.

So what can we say with reasonable confidence?

All the evidence we have suggests that most people who gamble like most people who drink alcohol do so in such a way as to enhance their enjoyment of life and without causing themselves significant harm. A minority, however, gamble so much that it causes substantial harm to themselves and their families and seem to find it unusually difficult to stop or to control their gambling. In a minority of these cases the harm caused by severe compulsive gambling is as devastating as that caused by alcoholism and other addictions.

It is a matter for political judgment to decide to what extent restricting freedom of choice for the majority who gamble harmlessly is justified in the hope of protecting a minority who might otherwise gamble excessively. However, prohibition and restriction of opportunities to gamble do not eliminate the incidence of problem gambling. It is not known whether or to what extent they reduce it.

It is plausible to think that some people have a psychological or biological propensity to become problem gamblers but that that propensity is more likely to be elicited by certain kinds of legal and regulatory frameworks than others.

Evidence suggests that the risk of developing a gambling problem increase if gambling opportunities:

- Are continuous
- Offer frequent prizes
- Offer what are perceived to be high prizes
- Allow large sums to be staked
- Are located in venues where people are likely to gamble on impulse

No form of gambling is risk-free but casino games are riskier than betting on sporting and other events and betting on events is riskier than buying weekly lottery tickets. Casino games are safest if they are offered at a single venue which people must make a conscious decision in advance to visit rather than simply dropping in on. They are less safe in high street venues close to where people live and work. They are least safe in venues such as supermarkets and bars where people go for other purposes and may be more readily tempted to gamble on impulse.

The introduction of casinos, however, does not necessarily lead to an increase in problem gambling. A study by Dr Rachel A Volberg of the introduction of casinos in Montana, North Dakota, Oregon and Washington State compared problem gambling rates before and after the introduction of casinos. She found that in Montana and North Dakota the incidence of problem and pathological gambling as measured by the South Oaks Gambling Screen increased substantially. In Montana, which had the larger increase, problem gambling grew from 2.2% of the adult population to 3.2%, and pathological gambling from 0.7% to 1.6%. However, in Oregon numbers for problem and pathological gamblers declined – in Oregon from 3.3% to 2.3% for problem gamblers and from 1.4% to 0.9% for pathological gamblers. The critical variable, according to Volberg was whether the introduction of casinos was accompanied by the provision of services for problem gamblers including programmes to enhance public awareness about gambling and its dangers.

Volberg's finding that the introduction of casinos does not necessarily lead to an increase in problem gambling is replicated in the study which she undertook with Dr Max Abbott into the incidence of problem gambling in New Zealand before and after the introduction of casinos where problem gambling services were extensive and where problem gambling numbers decreased.

This finding is also confirmed by studies undertaken by Professors Peter Collins and Graham Barr in South Africa. They found that, between 2001 and 2003 during which time there was a considerable increase in the availability of legal casinos in South Africa, the number of problem gamblers amongst those who engaged regularly in some form of gambling other than the lottery remained constant. (There were, in 2001, 186 such respondents out of 5800 with access to the new forms of gambling – large casinos and the National Lottery - who answered more than a third of the Gambler's Anonymous 20 questions in the affirmative. In 2003 there were 187 out of 5816.)

A possible explanation of this counter-intuitive phenomenon would be the following. Problem gambling means gambling away significantly more money than you can afford to lose. This is a species of economically irrational behaviour along with e.g. compulsive shopping and credit card abuse. Economically irrational behaviour, (aka "fecklessness") is something to which individuals are predisposed by nature and nurture and, as such, is not caused by the presence of opportunities to be irrational but may be triggered by them. If this is so, one would expect the number of potential problem gamblers in any given population to be relatively stable. As a matter of fact there is a surprising degree of convergence in the estimates of numbers of problem gamblers in the adult population in studies conducted around the world. These estimates show about 5% of the adult population to have had a moderate problem with gambling at some point in their life and about 1% to have had a severe problem.

This hypothesis may soon receive support from neurophysiologists and other cognitive scientists who expect reasonably soon to be able to identify the differences in brain activity between excessive or problem gamblers and sensible or healthy gamblers. This is the principal line of research being pursued by Prof Don Ross at the University of Alabama at Birmingham and his colleagues in the USA, South Africa and the UK.

The theory which underpins this asserts that:

a) the disposition to become a problem gambler is developed (whether through genetic endowment or through early learning) prior to the availability of any particular type of gambling
b) it is a disposition which leads to poor impulse control
c) people with poor control of their impulses are like to exhibit problematic (self-damaging) behaviour if the temptation to gamble impulsively is regularly put in their way.

This would be consistent with the fact that research, such as Alex Blaczsynski's in Australia, into so-called responsible gambling features, which slow games down, require regular warnings about the extent of losses, place obstacles in the way of acquiring money to gamble etc, is inconclusive. Most features seem to pose the danger that they simply annoy non-problem gamblers without deterring problem gamblers and in the process give regulators the illusion that they are taking tough measures when in fact what they are doing is ineffectual. On the other hand, it is true by definition that people who set themselves sensible limits to their losses before they start to gamble and then stick to them will not get into trouble. There would, therefore, seem to be merit in enabling, encouraging or requiring players to set limits to their losses before they start playing as this will inhibit them from chasing losses.

One of the most popular strategies for seeking to minimise problem gambling is having a system which enables players to ban or exclude themselves from gambling venues. There are considerable but not insuperable difficulties of implementation with such systems. There is little evidence as yet about the effectiveness of such schemes which seem likely to be a way of reinforcing the resolve of those who are strongly motivated to solve their gambling problem anyway.

From all this it is not unreasonable to expect that authorising new gambling opportunities need not result in an increase in problem gambling if:

- they are accompanied by the provision of good public awareness and public education programmes
- the gambling opportunities are located in venues which minimise the temptation which they pose to people to gamble on impulse, i.e. before they go gambling people must be compelled to make conscious decisions about how much time and money they can afford to spend
- big prize machine gambling is confined to large regional casinos and is accompanied by appropriate measures for raising awareness about problem gambling the number of problem gamblers will not increase
- gamblers are given a facility for pre-setting limits to their losses and encouraged or required to make use of it.

In the UK, with the passage of the new act which for the first time requires both the industry and the regulators to address problem gambling issues, the urgent need is for a public awareness campaign which will make people aware that:

- gambling is for most people harmless entertainment but for some it is the source of very serious problems
- gambling outcomes are determined by statistics which ensure the odds always favour the House
- there are all sorts of superstitions and fallacies which lead people to get into trouble

- there are strategies for avoiding getting into trouble such as setting limits in advance and sticking to them
- the signs of being in trouble are regularly losing more than intended, being deceitful about the sources of gambling funds, trying to stop and failing etc
- if you do get into trouble expert, confidential help is available free of charge

There is also, of course, a need for more, good research.