Economic Aspects of Gambling Regulation

EU and US Perspectives

Edited by Tom Coryn, Cyrille Fijnaut and Alan Littler

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PREFACE

Cyrille Fijnaut

The regulation of the supply and demand for gambling services is an issue that continues to draw a great deal of attention in Europe these days, not only among the many operators in the market but also among policymakers in national parliaments and the European Parliament, in the ministries of Economic Affairs, Justice and Finance of the Member States of the European Union and, last but not least, in national regulatory committees. Fortunately, academic researchers in Europe are also increasingly showing interest in this topic, both those involved in legal research and those with an economic background.

All of this has much to do with the fact that the existing regulation system – where individual states largely control the gambling market through monopolies or similar arrangements – has come under increasing pressure. On the one hand because, in some countries, foreign gaming operators have contested in national courts their exclusion from local markets – not without some success – and sometimes little can be done to prevent them from offering one or more games of chance. On the other hand because the European Commission, for instance through the infringement procedures with some Member States, has made it perfectly clear that it takes the view that something has to be done about what it sees as the protectionist gambling policies pursued by Member States and that the European Union gambling market should therefore be opened up.

In some of its judgments the Court of Justice has hinted that there is a case to be made for this under certain conditions, but in other rulings it has sided with Member States that do not want to have anything to do with liberalisation of the gambling market on a European scale. And not so long ago the European Parliament decided that offering gambling services was unlike any other service and, at least for the time being, the supply and demand of gambling should not be left to the whims of the market.

The persistent turmoil in the gambling industry is therefore all down to the constant uncertainty about what the future may bring.

In the context of the Tilburg chair in gambling regulation, which is funded by the Dutch State Lottery, an international colloquium on the legal aspects of the

regulation of gambling was organised in November 2005. The papers presented at this conference were published in A. Littler and C. Fijnaut (eds), *The Regulation of Gambling: European and National Perspectives* (Leiden, Martinus Nijhoff, 2007). In November 2006 a similar colloquium was organised, this time focusing on the economic aspects of the regulation of gambling. The choice of subject was an obvious one. In seeking solutions to the issue of regulation in the gambling industry, not only strictly legal arguments about the division of powers between the European Union and its Member States are a key factor, but also arguments relating to the economic implications of current and future regulation of the gambling market.

On the one hand, it should not be forgotten that the revenues from the gambling industry can be quite substantial for public authorities, certainly as substantial as the income that private operators can derive from it. On the other hand, the negative costs of gambling for both individuals and society as a whole – for example in the form of gambling addiction or influence exerted by criminal groups on sections of the gambling industry – must also be given due weight in the debate about possible re-regulation of this special market in the European Union.

To ensure maximum insight into the role that these arguments must or can play, the colloquium was placed in a transatlantic context; in other words, the subject was discussed from both an American and a European perspective. The reason for choosing this dual perspective was twofold: the United States is also grappling with this same problem and there are more economists in the States intensively studying the gambling industry than there are in Europe. Be that as it may, this book is a distillation of the results of this second colloquium. I sincerely hope that it will encourage European economists to direct their research efforts to the subject of the regulation of gambling.

It only remains for me to thank all those who worked so hard to make the second colloquium a success and to put together this book. First up, Lies Siemons and Tom Coryn, who were responsible for organising the colloquium. Secondly, Lindy Melman of Brill Publishers, who did such an excellent job publishing the proceedings of this colloquium. Thirdly, the speakers, who were prepared to spend time adapting their contributions into a form suitable for this collection. And last but not least, Wouter Van Erve, who worked with me and the other editors to prepare the texts for publication.

Cyrille Fijnaut
Tilburg, August 2007

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GENERAL INTRODUCTION

Cyrille Fijnaut

To date the debate on the regulation of gambling in the European Union has mainly focused on the legal aspects. The debate centres on the question of the division of powers between the European Union and its Member States in this area. As implied in the Preface, many Member States and the European Commission are diametrically opposed to one another on this point. This is evident from the fact that, in April and October 2006, the Commission started infringement proceedings against a number of Member States, including the Netherlands, to verify whether their gambling policy is compatible with Article 49 of the Treaty establishing the European Community (EC Treaty), which guarantees the free movement of services.

1. McCreevy vs. Member States

In the press release issued in October 2006, which mentions that a second round of proceedings is being initiated against several countries, it is stated that the Commission's decision:

> "does not touch upon the existence of monopolies as such, or on national lotteries. Nor does it have any implications for the liberalisation of the market for gambling services generally, or for the entitlement of Member States to seek to protect the general interest, so long as this is done in a manner consistent with EU law i.e. that any measures are necessary, proportionate and non-discriminatory."[1]

In an interview with the German magazine *Der Spiegel* at the end of October 2006, the Commissioner responsible, Charlie McCreevy, made no secret of the

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[1] Press release no. IP/06/1362 dated 12 October 2006, "Commission inquiries into restrictions on the provision of certain gambling services in Austria, France and Italy", (<europa.eu/rapid/pressReleasesAction.do?reference=IP/06/1362&format=HTML&aged=1&language=EN&guiLanguage=en>).

fact that the restrictive regulations that currently apply in, for example, Germany are "not acceptable" from the European Commission's point of view:

> "They exclude private operators, oppose free movement of services in the Internal Market and are therefore in breach of European law. Even German courts have overruled them. Now the federal states want to enforce these restrictions and expand them. This is not acceptable."

He also said that the European Commission was prepared, if necessary, to summon all the Member States concerned to appear before the Court of Justice in Luxembourg. Not "to harmonise or liberalise this sector", but to force them to comply with the principles of Community law, which they are currently failing to do:

> "No, there are many cases of discrimination. For example, national state-owned operators are allowed to advertise in many ways, but private operators are not. This is not acceptable. Or Internet providers from other countries are blocked, while online activities of national state-owned monopolies are tolerated. In cases like these we are obliged to intervene. ... First of all, complaints from private operators are forcing us to intervene. Secondly, the breach of EU law is obvious. We cannot ignore that. From the legal point of view these are the facts: the provision of gambling services has to be regarded as a service; this was confirmed by the European Court of Justice. If someone is allowed to offer this service in one country, he cannot be excluded from another country. Countries are allowed to restrict and regulate the services available, but this has to apply to all operators."

McCreevy dismissed the idea that state-owned operators are less profit-oriented than private ones and more interested in public welfare:

> "I don't believe a word of it. Of course state-owned lotteries are interested in profit. Many of them invest millions in advertising. Why is that – for the purpose of welfare or to increase revenue? Once again: every country that wants to restrict its gambling market is free to do so in any way it sees fit. From Brussels' point of view this is perfectly fine. Provided that no double standards are applied and state-owned companies are treated in the same way as all other operators." [2]

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2   *Der Spiegel*, 23 October 2006, p. 90. Author's own translation.

2. The Netherlands vs. McCreevy

Naturally, the Member States do not agree with McCreevy on many points. In a detailed response, the Dutch government, for example, argued that licensees – on the authority of the Minister of Justice – have had to substantially cut back on advertising since 2003 (by about 10%), that the number of gambling addicts has fallen from 70,000 to 40,000 partly due to restrictive policies, and that illegal gambling is being firmly dealt with (the number of illegal casinos has been slashed from 50 to zero in the past few years). And the assertion by the European Commission, namely that Dutch gambling legislation is specifically intended to protect games of chance that have to comply with public interest objectives against competition from purely commercial games that are not subject to this requirement, is completely rejected:

> "competition or fiscal motives have absolutely no part to play in Dutch gambling policy. Generating gambling money and making payments to charity or the public purse – in the form of tax revenues or otherwise – must be regarded as a side effect of Dutch gambling policy, which seeks to control and regulate gambling."

Likewise the European Commission's assertion that the objective of Dutch gambling policy to combat illegal activities is designed to protect the Dutch economy is totally rejected:

> "Combating illegal activities should be placed in the context of the channelling idea that underlies Dutch gambling policy. Illegal gambling entails dangers for consumers and the risk of addiction because of the associated uncertainties. Illegal gambling also breeds fraud and crime."[3]

As might have been expected – judging purely by McCreevy's comments in *Der Spiegel* – this was not the end of the matter. In March 2007 the European Commission sent three Member States a "reasoned opinion". The Netherlands had the pleasure of receiving a supplementary "letter of formal notice", but the government has yet to give its response.[4]

The Dutch government will undoubtedly be reassured by a recent judgment of the Council of State, which – on appeal against the ruling of the Administrative Court of Breda in a dispute between the Minister of Justice and the Compagnie Financière Régionale concerning the opening of a casino in Bergen op Zoom – concluded that Dutch gambling policy in no way conflicted with the principles

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3   Dutch House of Representatives, 2005–2006, 24 557, no. 74 (Letter from the Minister of Justice to the House of Representatives dated 29 August 2006) (own translation).

4   Dutch House of Representatives, 2006–2007 (Letter from the Minister of Justice to the House of Representatives dated 13 July 2007) (own translation).

of Community law and, for this reason, reversed the Breda court's ruling, which had favoured the French company.[5]

3. The Unilateral Choice of the European Parliament

One interesting detail about the duel between the European Commission and the Member States is that the European Parliament, when it came to the crunch, sided with the Member States and not the European Commission. It did so in February 2006, in the course of discussions with the European Commission on the draft version of what is known as the Bolkestein Directive: the Directive on services in the Internal Market. Besides health care and legal services, for example, the European Parliament also explicitly excluded gambling from the scope of this Directive.[6] The preamble to this Directive states that:

> "Gambling activities, including lottery and betting transactions, should be excluded from the scope of this Directive in view of the specific nature of these activities, which entail implementation by Member States of policies relating to public policy and consumer protection."

This is phrased as follows in Article 2(2) and 2(2) (h):

> "This directive shall not apply to the following activities:
>
> …
>
> gambling activities which involve wagering a stake with pecuniary value in games of chance, including lotteries, gambling in casinos and betting transactions."

It is curious that offering gambling activities is excluded from the scope of the Services Directive. Curious because the Court of Justice had previously always regarded these activities as a service, albeit one with its own peculiar characteristics. It did so back in 1994, in the *Schindler* case, and again in no uncertain terms in 2003 in the *Gambelli* case. Commissioner McCreevy pointed this out, with good reason, in his famous interview in *Der Spiegel*.[7]

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5   LJN: BA0670, Council of State, 200600283/1 dated 14 March 2007 (See <www.rechtspraak.nl>).

6   *Official Journal*, 27 December 2006, L376/36–68.

7   All relevant case law is included in an appendix in A. Littler and C. Fijnaut (eds), *The Regulation of Gambling: European and National Perspectives*, Leiden, Martinus Nijhoff, 2007.

4. The Mediatory Role of the Court of Justice

At the same time, not only in the aforementioned judgments but also in its latest ruling on the subject – *Placanica* dated 6 March 2007[8] – the Court of Justice took the view that restrictions in gambling policy affecting the "freedom of establishment and the freedom to provide services in the European Union" are acceptable where there are:

> "reasons of overriding general interest ... such as the objectives of consumer protection and the prevention of both fraud and incitement to squander on gaming, as well as the general need to preserve public order .... In that context, moral, religious or cultural factors, as well as the morally and financially harmful consequences for the individual and for society associated with betting and gaming, may serve to justify a margin of discretion for the national authorities, sufficient to enable them to determine what is required in order to ensure consumer protection and the preservation of public order."

Subject to the following condition, however:

> "although the Member States are free to set the objectives of their policy on betting and gaming and, where appropriate, to define in detail the level of protection sought, the restrictive measures that they impose must nevertheless satisfy the conditions laid down in the case-law of the Court as regards their proportionality."

At first sight it is not clear what this condition specifically means in the context of the regulation of gambling. In this case, however, its meaning is of course rooted in the general meaning of this principle: a measure can only be deemed to be proportional and hence lawful "if it is appropriate to attain the intended aim and also indispensable in that alternative forms of exercise of power – which would inflict no or less damage on other objectives worthy of protection – would not be capable of achieving the intended aim."[9] In the *Placanica* case, the Court of Justice demonstrates the notion that, even in this field under certain circumstances, it may be willing to consider far-reaching measures acceptable if the Member States themselves have good reason to think they are necessary in order to champion entirely legitimate interests, but not if those measures are manifestly contrary to the proportionality principle.

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8   Joined Cases C-338/04, C-359/04 and C-360/04, Placanica, 6 March 2007, nyr. The Grand Chamber judgment can be found at <www.curia.eu>.

9   K. Lenaerts, P. van Nuffel and R. Bray, *Constitutional Law of the European Union*, London, Thompson/Sweet and Maxwell, 2006, pp. 109–123.

In this case the crux of the matter was whether the Italian government – which conducts an expansive gambling policy with the prime objective of "combating criminality by making the operators active in the sector subject to control and channelling the activities of betting and gaming into the systems thus controlled" – may pursue this objective by refusing to grant licences to either foreign or national companies that are quoted on the stock exchange and whose shareholders cannot be precisely identified. The government had demonstrated that this was not a meaningless objective by referring to an investigation in the betting and gaming sector that had led to the conclusion:

> "that the activities of clandestine betting and gaming, prohibited as such, are a considerable problem in Italy, which it may be possible to solve through the expansion of authorised and regulated activities. Thus, according to that investigation, half the total turnover for the betting and gaming sector in Italy is generated by illegal activities. It was also thought that, by extending the betting and gaming activities permitted by law, it might be possible to recover from those illegal activities a proportion of that turnover figure at least equivalent in value to the amount generated by the activities permitted by law."

The Court of Justice naturally had no objection to the envisaged objective; nor was it against the associated strategy. The objective could indeed be achieved through "a policy of controlled expansion in the betting and gaming sector," as the Belgian and French governments have also pointed out:

> "authorised operators must represent a reliable, but at the same time attractive, alternative to a prohibited activity. This may as such necessitate the offer of an extensive range of games, advertising on a certain scale and the use of new distribution techniques."

However, the Court of Justice found that the means – exclusion of companies quoted on stock exchanges in other Member States from tender procedures for the award of licences – was simply in breach of Community law. On the one hand because, as the European Commission had pointed out, it would automatically lead to the exclusion of "leading Community operators in the betting and gaming sector" from activities in the Italian market, and their exclusion therefore constituted an unjustified restriction on the freedom of establishment. On the other hand because the "blanket exclusion goes beyond what is necessary in order to achieve the objective of preventing operators active in the betting and gaming sector from being involved in criminal or fraudulent activities":

> "there are other ways of monitoring the accounts and activities of operators in the betting and gaming sector which impinge to a lesser extent on the freedom of establishment and the freedom to provide services, one such

> possibility being the gathering of information on their representatives
> or their main shareholders."

The conclusion was therefore:

> "Articles 43 EC and 49 EC must therefore be interpreted as precluding
> national legislation such as that at issue in the main proceedings, which
> excludes – and, moreover, continues to exclude – from the betting and
> gaming sector operators in the form of companies whose shares are
> quoted on the regulated markets."

5. The Narrow Basis of the Institutional Power Struggle

It is abundantly clear from the power struggle just outlined between the European
Commission, the Member States and the European Parliament regarding both
the division and the exercise of powers with respect to the regulation of gambling
in the European Union that the parties involved are waging this battle using
mainly legal arguments. It would be difficult to act otherwise, considering the
arena in which the struggle – both material and procedural – has to be played
out: the legal system as described in the EC Treaty.

This is certainly not the whole story, however. This struggle also demonstrates
that at least some of the legal arguments not only have a normative quality but
are also imbued with notions and assumptions about the actual organisation
and operation of the gambling market in the individual European Union Member
States and about the changes that this market would undergo if the existing legal
framework were to be fundamentally altered. We only have to think of McCreevy's
confident assertions regarding the real motives of Member States to keep their
own gambling market closed to foreign and national private operators to a large
extent, or the assertions of Member States such as Italy that illegal activities in
the gambling market can be considerably reduced by extending the betting and
gaming activities permitted by law. What are these assertions based on? To what
extent are they correct? There is no-one who really knows or can know.

Whatever applies to individual aspects of the power struggle regarding the
division and exercise of powers with respect to the regulation of gambling also
applies to the struggle in general, however. The whole debate is conducted at
the European Union level without there being any significant insight into the
general organisation of the existing gambling market in the Member States, the
interests and the parties that determine economic relations in this market, the
positive and negative consequences and effects that the existing market structure
brings about for all those concerned, or the price that is paid for this structure
in terms of crime and addiction.

And what is true for the existing situation is equally – and justifiably – so for the situation facing proponents of liberalisation of this market. For, while a little empirical research is still conducted in some countries on certain aspects of the current gambling market, there have never been any studies on a European scale on all the relevant consequences of a change that would arise from bringing gambling activities within the scope of the Bolkestein Directive.

Will this result in a few large companies getting hold of the most profitable sections of the European market? Is there still room in the European Union for large-scale funding of "good causes" out of gambling revenues? What will be the repercussions of such a change in policy on the income and hence on the expenditure of all tiers of government? In this situation what can be done to prevent significant sections of the European market remaining in the hands or falling into the hands of criminal groups? Who will bear the costs of gambling addiction?

6. A Study by the European Commission

The European Commission published a *Study of Gambling Services in the Internal Market of the European Union* fairly recently, in 2006. At the Commission's request, the research underlying the report was conducted by researchers from two research institutes.[10] This is certainly an important initiative, because – as has been emphasised several times already – there are very few empirical studies on the gambling market in Europe and its regulation. At any rate it was the first time that a large-scale evaluation study in the European Union had been set up to answer the question as to:

> "how the differing laws regulating on-line and off-line gambling services, as well as games in the editorial content of the media and certain types of promotional games, impact upon the smooth functioning of the Internal Market for these and associated (e.g. media, sports, charity, tourism) services and thus could restrict the economic and employment growth associated with such services."

This is not the appropriate forum for discussing this research question in detail, or the study that was carried out, but a few comments ought to be made:

– the research question is almost exclusively of an economic and legal nature and hence ignores various other relevant aspects of the Member States' current gambling policies;

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10 European Commission, *Study of Gambling Services in the Internal Market of the European Union*, Brussels, 2006.

     – the study itself did not proceed smoothly: of the 1,020 potential stakehold-
      ers, only 200 (about 20%) responded and fewer than 200 stakeholders
      were willing or able to answer questions about the economic aspects of
      the gambling market adequately.

These limitations automatically mean that the results of the study should not be taken too seriously. Very important questions concerning the policy conducted or planned, such as those touched on above, have been completely ignored. And in so far as these questions have been addressed, there are question marks hanging over the reliability of the answers.

However, this does not mean that the study did not yield some interesting and hence relevant findings. The fact that there are large divergences in tax burdens in the gambling industry between Member States is hardly an eye-opener; nor is the conclusion that this might indicate a high risk of "market distortion due to national differences in the fiscal treatment of gambling services". In any case a more important point is the observation that the five largest sectors of the European Union gambling market – lotteries (44%), casino gaming (14.6%), machine gambling outside casinos (18.8%), betting (17.2%) and bingo (4.8%) – generated Gross Gaming Revenues (GGRs: operator winnings, less payment of prizes) of approximately €51,500 million in 2003 and that the EU Internal Market is not much smaller than the American market in this respect (€60,700 million). This at least gives some idea of the relative size of the gambling market.

The same can be said of the scenarios of future growth in the European gambling market that were developed as part of this study. If there are no substantial changes in the structure of this market, revenues will probably increase by 24%, to €63,900 million GGRs in 2010. If the market were to be restructured, which would lead to a "considerably more open marketplace", there would be an estimated 53% increase in total GGRs by 2010, considerably more than in the first scenario.

7. The General Status of the Study

Purely from a financial point of view, these estimates might provide grounds for some people to radically change European Union gambling policy. However, the report notes – and rightly so – that the consequences of such an action on, for example, problems related to addiction and crime are not conclusive at present. The European Commission and the Member States of the European Union are therefore urgently advised that they:

    "need to sponsor or encourage additional scientific research to address
      many of these important social impact questions."

This recommendation is followed by the comment that, in the interim, policy can and must be based on the limited research that has been conducted outside the European Union, but that the results of this research, "much of which was generated in other countries with perhaps important social, political and cultural differences", must nevertheless be treated with caution.

This last remark is made for good reasons. While it is true to say that more economic research has been conducted outside Europe than within its borders, its usefulness for the strategic policy issues that the European Union and its Member States are currently dealing with is very limited. Not just for the reasons mentioned in the aforementioned report, but also mainly because of the fact that, even outside Europe, there have been no studies exploring the present or future development of gambling markets on a continent-wide scale. In the United States, Canada and the United Kingdom – the countries where most money has been spent on academic research since the 1960s – by far the majority of the studies conducted not only limit their sphere of interest to the consequences of changes in gambling policy at local or regional level or at the level of a single State; as a rule they also confine themselves to the impact of changes on one sector of the gambling market at one of the aforementioned geographical levels, usually only the casino sector.[11]

All this means that the European Commission is on the right track and its example should be followed: Europe-wide research into the regulation of gambling is needed, but the focus should be on exploring all important facets of the gambling market, not just the economic aspects. Following on from this, it should be pointed out that, in future, this research may have to be organised differently in order to obtain better, more complete – and hence more reliable – results. Instead of entrusting the task to one single institute, it would be better to commission a multinational research group, as is common practice in fields other than gambling. This approach is more consistent with the multilingualism and diversity of Europe (and at least offers a solution to the need for direct access to source material) and also acts as a stimulus for the creation of competent research groups in the individual Member States.

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11 See, for example, W. Eadington and J. Cornelius (eds), *Gambling: Public Policies and the Social Sciences*, Reno, Institute for the Study of Gambling and Commercial Gaming, 1997; D. Walker, *The Economics of Casino Gambling*, Berlin, Springer, 2007; L. Williams, *The Economics of Gambling*, London, Routledge, 2003; and M. Borg, P. Mason and S. Shapiro, *The Economic Consequences of State Lotteries*, New York, Praeger, 1991.

8. The Content of This Book

This book forms part of a series. The first book *(The Regulation of Gambling: European and National Perspectives)* is – as already mentioned in the Preface – a distillation of the results of the first international symposium, which was organised in 2005 in the context of the Tilburg chair in gambling regulation; it concerns the legal debate surrounding the institutional division of powers between the Member States and the European Union in relation to the organisation of gambling. The present publication mainly contains the papers presented at the second international symposium, which was organised in 2006 in the context of the same chair and concentrated on the economic aspects of the regulation of gambling from European and American perspectives. The third symposium, which is due to be held in November 2007, will focus on the problems of crime and addiction. This theme was chosen because an assessment of the seriousness of these problems and the way they are developing could play a decisive part in the debate on whether fundamental changes to European Union gambling policies should be made. Not only the Member States feel strongly about these problems; the Court of Justice also considers them very important, as is evident from its ruling in the *Placanica* case.

The aim of the second symposium was to examine the economic aspects of the gambling market from various perspectives.

In the first place, we felt it was crucial to focus attention on the problems involved in conducting economically oriented research into the gambling market. Two papers discuss these problems. The first, by Douglas Walker, concerns experience gained in the United States from research into the social costs of gambling. The second, by Tom Coryn, specifically examines the difficulties associated with cost-benefit analyses – in the United States and elsewhere – in the context of discussions on whether or not it is sensible to open a casino somewhere in a city or a region.

Secondly, it was of course appropriate to explore the economic aspects of the gambling market in the European Union, preferably from a United States perspective. With this in mind, you will find here a short summary of the study commissioned by the European Commission and referred to earlier. Who better to present this research than one of the leading researchers involved in the study: William Eadington? He has also made a second contribution, in which he asks whether the protectionist way in which the European Union gambling market is currently organised offers that much more protection to gamblers than a more openly organised market. David Forrest's paper continues in the same vein, but focuses more or less exclusively on consumer interests: what do consumers have to gain or lose from different forms of regulation of gambling markets?

Thirdly, this publication explores developments in the individual Member States. In view of the relative freedom that the United Kingdom gambling market enjoys, it seemed crucial to include a paper on the developments in this Member

State. Written by Yuliya Crane, this contribution mainly discusses the costs and benefits associated with the gambling policy conducted in the United Kingdom for the past few years. A second paper turns the spotlight on the Netherlands, one of the Member States against which the European Commission initiated infringement proceedings in 2006. The debate in this country concentrates mainly on whether the City of Maastricht can team up with a large American company to build a leisure centre incorporating a casino. Maastricht City Council is very keen on the idea but the Dutch Minister of Justice is utterly opposed to it. Maastricht's Mayor – Gerd Leers – is given the opportunity here to explain why he feels the initiative of the City Council is completely valid. The paper by Tom Coryn then looks in more detail at the debate going on in academic circles on the pros and cons of this initiative.

Lastly, Eric van Damme, who gave the concluding remarks at the symposium, discusses how specific the regulation of the gambling market is; in other words, to what extent it is regulated differently from other markets. The importance of this question almost speaks for itself when one remembers that, according to the European Parliament, gambling activities could not be brought within the scope of the Bolkestein Directive "in view of the specific nature of these activities".

Ongoing Challenges in Research on the Social Costs of Gambling

Douglas Walker

"Compared with the more mature scientific areas of inquiry, the study of gambling related phenomena is a relatively young field. Consequently, scientists and clinicians have countless opportunities to develop new areas of research and treatment approaches. Immature fields like gambling studies also provide the opportunities for quasi-scientists and even charlatans to influence the public, policy makers, and perhaps themselves to thinking that their 'evidence' supports a particular treatment, causal relationship or public policy."

(Shaffer et al. 2001, p. 1)

1. Introduction

The worldwide gambling industry has provided a fascinating topic for researchers in economics, medicine, political science, psychology, and sociology. There are countless aspects of the industry, its customers, and regulators that are deserving of research attention. Gambling research is still a developing field, and it has been plagued by a number of problems in its short history.

One problem is the fact that gambling research is important for policy decisions. This is a "problem" because some researchers appear to have a strong personal interest in the outcomes of their research. That is, some authors are clearly attempting to promote legalized gambling, while others are certainly trying to help limit or eliminate legalized gambling. Policymakers want some type of evidence or support for their positions and decisions on casino policy. In the absence of quality research the "quasi-scientists and charlatans," mentioned by Shaffer et al. in the quotation above, become regarded as prominent experts. Gambling research is a field ripe for "policy entrepreneurs" whose primary purpose is to affect policy and who offer "unambiguous diagnoses even when the evidence is uncertain" (Krugman 1996, p. 11).

Aside from the potential for researcher bias, there are at least two other major causes of problems in the literature. First, there are clearly some poor research practices evident in the literature. Second, there are inherent difficulties in measuring costs and benefits related to legalized gambling. These issues are the focus of the remainder of this chapter.

2. Poor Research Practices

There have been a number of critiques of the gambling literature, both in comprehensive analyses as well as in more focused studies. Comprehensive analyses include the Australian Productivity Commission (APC, 1999), National Gambling Impact Study Commission (NGISC, 1999), and National Research Council (NRC 1999, Chap. 5). More specific critiques include Eadington (2004) and Walker (2004, 2007). The NRC (1999, p. 186) explains, "most [studies] have appeared as reports, chapters in books, or proceedings at conferences, and those few that have been subject to peer review have, for the most part, been descriptive pieces."

The result has been questionable if not counter-productive research: "In most of the impact analyses ... the methods used are so inadequate as to invalidate the conclusions. Researchers ... have struggled with the absence of systematic data that could inform their analysis and consequently have substituted assumptions for their missing data" (NRC 1999, p. 185). As a result of seemingly arbitrary assumptions being used in social cost estimates, for example, the annual social cost of pathological gambling has been estimated at ranging from a "conservative" $9,000 to above $50,000 per pathological gambler.

Much of the early research on the effects of gambling through the mid-late 1990s involved empirical estimates based on questionable methodologies. The published studies often appear to be "advocacy" pieces rather than scientific inquiries (Shaffer et al. 2001). The work by Arthur Andersen (1996, 1997), Goodman (1995), Grinols (1994, 1995, 2004), Grinols and Mustard (2001, 2006), Grinols and Omorov (1996), Kindt (2001), and Thompson and Quinn (2000) fall into this category. This type of advocacy work exhibits several research practices which make one question the validity of their findings. Three specific problems are addressed here. All of these problems relate to ignoring relevant literature or standard research practices.

2.1. Ignoring Published Work

Some gambling researchers appear to ignore published work that either disagrees with their own work, or that might suggest that the issues they are discussing are controversial. In his comment on Kindt's (2001) paper in Managerial and Decision Economics (MDE), Eadington (2004, p. 194) identifies what appears

to be a consistent and rather effective strategy of several staunch anti-gambling advocates:

> "Kindt selectively chooses facts, opinions, sources, claims, and slogans that are consistent with his views toward gambling. He ignores or omits any studies or findings that might suggest anything else to be the case. ... Kindt and others of the same persuasion toward gambling are trying to establish an "alternative reality" of the economic and social consequences of gambling, by getting their questionably valid research published in a number of respected outlets, and then continue to cite one another's articles until the "alternate reality" becomes accepted."

The reader interested in specific examples should see Eadington (2004). Authors who appear to use this strategy of only citing material with which they agree as a method of advancing their ideas include Kindt, Grinols and Mustard, and to a lesser extent, Thompson, Gazel, and Rickman. In addition, these authors rarely, if ever, acknowledge that their ideas are controversial. The problem in using this strategy is that it keeps relevant information from readers. Such a strategy is contrary to the spirit of academic research.

Oddly enough, Kindt claims to have the same concern as I do about ignoring research. He is critical of researchers who do not address "important precedents such as the research article by Politzer et al. (1985)," the Task Force in Maryland (1990), "Casinos in Florida" (1995) and Goodman (1995) (Kindt 2003, pp. 16, 42).[1] Yet, Kindt ignores research that has addressed these papers, including Walker (1998) and Walker and Barnett (1999). It would appear that Kindt ignores these studies because they are critical of the Politzer et al. (1985) methodology. Even Lesieur, whom Kindt regards as "one of the leading researchers in gambling issues" and "well-respected" (Kindt 2003, pp. 17, 40) indicated that "I have regretted my editing and allowing publication of the Politzer et al. [1985] article on the costs of pathological gambling. It has been justifiably criticized" (Lesieur 2003).

Grinols and Mustard (2001) also appear to provide an example of ignoring relevant work in economics. The theme of the MDE issue in which the paper was published is "industries with externalities: the case of casino gambling." In their discussion of social costs, Grinols and Mustard mention externalities generally. For example, "... casinos may generate positive or negative externalities. Positive externalities add value to the economy not reaped by the agent creating them, while negative externalities remove value not paid by the causing agent, following the usual definition" (Grinols and Mustard 2001, p. 145). The authors provide the example of crime prevention which suggests they understand the distinction between technological and pecuniary externalities. However, there are also some

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1   Of these papers, presumably only the Politzer et al. (1985) paper was peer reviewed.

hints or clues that they do not completely understand externalities. They do not cite any of the externality literature, and they suggest that "standard Pigouvian corrective theory for an industry with externalities is that it should be taxed by an amount equal to the costs that it imposes on society" (p. 155).

The first "hint" above is not, in itself, a problem. There is no need to cite historical literature if the topic in question is common knowledge, straightforward, or uncontroversial. But externalities are not straightforward or generally understood, especially as they apply in gambling research. Regarding the second point, corrective Pigouvian taxes would not apply to pecuniary externalities. Suppose a new grocery store opens in a small town, significantly pushing up the demand for labour. If the market is somewhat competitive, then other firms may have to increase the wages they pay in order to attract or retain employees. The higher labour costs for the existing firms represent a pecuniary externality. These costs may also lead to higher prices for groceries and other products for consumers. The higher prices would also be pecuniary externalities. In short, this type of externality is expected and considered a normal occurrence in market economies. Pigouvian taxes are usually applied only to technological, not pecuniary, externalities.[2]

In short, Grinols and Mustard may be aware of the distinction between pecuniary and technological externalities, and how it applies to casino gambling and social costs, but their discussion does not reflect such awareness. One would expect them to either be aware of the distinction and recognize it in their papers, or to explain why it is either obsolete or irrelevant.

Thompson and Schwer (2005) provide another example of ignoring published work. They utilize the methodology used by Thompson et al. (1997, 1999) in developing a social cost estimate for casinos in southern Nevada. However, they do not mention that their methodology has been criticized in the literature or that it is seen as controversial. This is not to say that Thompson and Schwer should exhaustively search the literature for attacks on Thompson's earlier work, but research papers should include a reasonable literature review. In addition, these authors fail to cite any precedent or literature that would justify their analytical methodology.

These are but a few examples of papers that ignore relevant literature. This is a serious problem, especially considering that this area of research is still developing.

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2   See Baumol and Oates (1988, pp. 29–32). The externalities issue is actually quite complicated but Grinols (2004) and Grinols and Mustard (2001) treat it as if it is very simple and straightforward.

2.2. Dismissing Research Without Refutation

In a young field like gambling research there are bound to be disagreements. Part of the process of scientific inquiry is debate and refutation. However, some researchers simply dismiss studies or evidence if it seems to contradict their own findings or opinions without bothering to refute them or the methodology used. This is related to the problem discussed above. This practice is particularly evident by a small group of anti-gambling advocates. Eadington (2004) and Walker (2004) provide discussions and examples in reaction to Kindt (2001).

Kindt's (2001) paper was apparently invited for publication in MDE by guest editors Grinols and Mustard. Kindt attacks a number of researchers, or otherwise dismisses their work without refuting it. Instead, Kindt simply alludes to conflicts of interest. For example, Kindt (2001, p. 31) refers to Eadington as "a well-known apologist for the casino industry" but makes no attempt to refute Eadington's research. Kindt uses a similar strategy in criticizing Shaffer (p. 27) and suggests that the Journal of Gambling Studies is under the influence of the casino industry. While Kindt's claims may or may not be true, he provides no evidence to support them.

The editor-in-chief of MDE, Paul Rubin, was also surprised and disappointed that Kindt's paper had been accepted by Grinols and Mustard for publication (Rubin 2004, p. 177). Rubin decided to publish comments on Kindt's paper in 2004 and allowed Kindt to reply to the comments. However, after reviewing the replies, Rubin wrote to him:

> "Based on the responses I am receiving, I am afraid that I cannot publish your replies. In my original letter ... I indicated that 'The comments and replies should avoid any ad hominem attacks. Moreover, they should deal with the paper and comments as written.' You have not met either of these requirements. For one example, you routinely refer to anyone who disagrees with you as an 'apologist for the gambling industry.' This is the essence of an ad hominem attack. Moreover, as near as I and the authors can tell, your replies are almost completely unrelated to the comments. ... You have merely taken this opportunity to continue your attack on the gambling industry, but you have not satisfied the requirements of my original letter. In my Introduction, I will indicate that you have written replies but that I did not find them suitable for publication .... I am sorry that things worked out this way. However, you seem unable to engage in normal academic discourse ...." (Rubin 2003)

Another example can be found in Thompson et al. (1999) though it is not nearly as serious as Kindt's case. In defending their earlier paper from criticisms by Walker and Barnett, Thompson et al. write,

> "We reject criticisms of our model which say that social costs may not include costs that are imposed upon non-gambling individuals or groups

of individuals while not being imposed upon all the members of society [Walker and Barnett 1999]. Our critics have suggested that we cannot call a theft a social cost. WE DO CALL A THEFT A SOCIAL COST .... We don't say our critics are wrong. Not at all. They are simply pursuing a different definition of social costs than we are pursuing. It is a matter of apples and oranges." (Thompson et al. 1999, p. 3)

Walker and Barnett simply pursue a different measure of social cost. Fair enough. However, Thompson et al. could have explained why their social cost measure is superior or otherwise preferable to that used by Walker and Barnett, but they give no such argument. The point here is that in a developing area of research, it is important that different perspectives be acknowledged and discussed.

2.3. Conflicts of Interest

The casino industry has hired consulting firms to write studies on the economic effects of gambling. This type of research could be classified as "rent seeking" (Walker 2007). But the casino industry is not unique in this regard, as many industries hire consultants and researchers to study their markets or products. Nevertheless, research sponsored by the casino industry understandably raises questions of conflict of interest. For example, Kindt (2001) simply ignores any research funded by the gambling industry. Conflicts of interest may taint the validity of research, but not necessarily. Rather than simply pointing to a potential conflict, specific errors in analysis should be shown in order to discredit research.

I have been hired by governments, casino organizations, and conference organizers to do research. In each case, I was asked to do the research because of my previously published peer-reviewed research, particularly dealing with the social costs of gambling. For example, the Nevada Resort Association hired me to refute a paper by Thompson and Schwer (an early version of their 2005 paper). The reason I was asked to write the response was because I had already published a peer-reviewed journal paper on the topic that addressed the specific issues raised in the Thompson and Schwer paper. Kindt would likely say that my work should be automatically discounted regardless of the quality of argument, simply because the work was funded. I would argue that, rather than simply dismissing funded research, or alleging that funding nullifies research, the arguments should be refuted.

Certainly, there are examples where funded research has produced spurious results. The reports by Arthur Andersen (1996, 1997) fall into this category. Their reports discuss various positive economic effects from casinos without justifying their methodology. In addition, the reports completely ignore any possibility that casinos cause economic or social harms.

To be clear, funded research may be tainted but not necessarily (Rubin 2004, p. 178). There are two obvious problems with the argument that funded research is necessarily dishonest. If funding nullifies research findings, then all government-supported research may be invalid, including most university-sponsored research. In the extreme case, only unpaid volunteer researchers should be trusted. If we were left with only this, little research would be undertaken at all. Second, and more importantly, scientific findings are not simply opinions. Questionable findings can be either supported or refuted by other researchers who repeat experiments, empirical tests, and analyses.

2.4. Failure to Analyze/Criticize Work Cited

A third common research practice is that researchers use previously-published studies as the basis for their research, yet fail to analyze them or point out potential flaws. As in the previous cases, the problem is that this practice may hide areas of disagreement and debate from readers and perpetuate shortcomings and errors in the literature.

Grinols (2004, p. 171) and Grinols and Mustard (2001, p. 154, Table 4) estimate the social costs of gambling by simply averaging cost estimates from previous, mostly non-refereed (and flawed) cost estimates. Nearly all of the studies they use have been questioned or discredited, directly or indirectly, in the literature (e.g., Walker and Barnett 1999, NRC 1999). Yet, Grinols and Mustard do not acknowledge the published critiques of these papers or their methodologies, nor do they analyze the papers themselves.

To their credit, Grinols and Mustard do acknowledge that the social cost literature is "fraught with 'inadequacy and confusion'" (2001, p. 143). But they imply that the studies they use are all legitimate: "We used many strategies to ensure that the final estimates of costs per pathological gambler were lower bounds" (pp. 152, 154). In reality, most of the studies used by Grinols and Mustard to develop their cost estimate are flawed.[3]

2.5. Summary

This section has examined some of the problems by researchers engaged in gambling research. In one sense, such "oversights" may be excusable to the extent the literature is still new and developing. But in many of the papers cited here, one gets the sense that the authors are certain about the economic and social effects of gambling, when honestly there is little or no conclusive

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3   The studies include Politzer et al. (1985), Thompson et al. (1997), and Thompson and Quinn (2000). These studies or their methodologies have been criticized by the Federal Reserve (2003), NRC (1999), Walker and Barnett (1999), and Walker (2003), among others.

empirical research on gambling. There are still a lot of unanswered questions, and to give the impression that the effects of legalized gambling are well known or are agreed upon is academically dishonest. Researchers should be careful to set their studies in the context of the existing literature, whether it agrees or disagrees with their own personal opinions of gambling.

3. Problems with Estimating the Social Costs of Gambling

There are several major problems inherent in social cost estimation. These problems exacerbate whatever "poor research practices" (discussed in section 2) may exist in the gambling research field. The four issues discussed here are comorbidity, survey research, government expenditures, and counterfactual scenarios.

There are numerous social cost estimates in the literature. For a review, see Walker 2007. Any study that ignores these issues certainly ends up seriously overestimating the social costs of gambling.[4] I would argue that any social cost estimate is completely invalid if it does not explicitly discuss and account for the problems discussed below. Unfortunately, there is probably no easy or unambiguously appropriate way to deal with these issues.

3.1. Comorbidity

Comorbidity refers to two or more problematic behaviors co-existing in a person. For example, if a pathological gambler is also an alcoholic, then our ability to measure the social costs of gambling becomes very difficult. It is important to consider the matter of the net or marginal contribution of pathological gambling to socially undesirable behavior.

Investigators usually observe that pathological gamblers have legal problems, often require public assistance in the form of various kinds of welfare payments, and may require more medical services than other individuals. These observations are easily verified but prove little. As most authors would acknowledge, simply observing that gambling is correlated with such problems does not imply that gambling causes them. If gambling were not an option, a person who is predisposed to a pathological disorder may manifest his disorder in other destructive ways. More importantly, if pathological gambling is simply a symptom of some more basic disorder, it is the more basic disorder rather than gambling itself that is the underlying cause of the adverse consequences and social costs of the pathological gambling. Most researchers simply attribute all of the costs

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4   Walker and Barnett (1999) discuss a number of social costs of gambling that have been ignored in the literature. The value of these neglected cost items may be sizable.

to gambling. A mechanism is needed to allocate the harm among coexisting disorders, yet most authors ignore this issue.

In comorbidity cases pathological gambling may make little or no marginal contribution to the legal problems, bankruptcy, need for public assistance, or the high medical care costs that often characterize pathological gamblers. Since social cost calculations should include only the marginal contribution that pathological gambling makes to destructive behavior, a determination of whether such behavior is caused by, rather than simply correlated with, pathological gambling is crucial to correctly estimating the social cost of gambling.

In large part, this issue revolves around whether pathological gambling is a primary or secondary disorder. Shaffer et al. (1997) have addressed this issue. They note that the DSM-IV (American Psychiatric Association [APA] 1994) indicates that "a person meeting all of the criteria for pathological gambling is not considered a pathological gambler if he or she also meets the criteria for a Manic Episode, and the Manic Episode is responsible for excessive gambling" (Shaffer et al. 1997, p. 72). The authors explain that pathological gambling may be independent of other afflictions or it may be only a reflection of other problems (p. 73). Obviously, if the conditions for pathological gambling are a subset of another affliction or of a combination of other afflictions, then we cannot legitimately attribute all the social costs of pathological gambling to the gambling per se.

The study by Petry, Stinson, and Grant (2005) indicates the extent to which pathological gamblers exhibit other behavioural problems. They estimate 73.2% of U.S. pathological gamblers have an alcohol use disorder. The lifetime prevalence rate for drug use disorders among pathological gamblers is 38.1% and for nicotine dependence it is 48.9%. Other comorbid conditions include mood disorders (49.6%), anxiety disorders (41.3%), and obsessive-compulsive personality disorder (28.5%) (Petry et al. 2005, p. 569).[5]

Given many pathological gamblers exhibit other disorders, it is difficult if not impossible to accurately estimate the social costs attributable specifically to pathological gambling. As an example, consider a pathological gambler who is also a drug addict and engages in behaviour resulting in social costs of $5,000. What proportion of the cost should be attributed to the gambling disorder and to drug use? Although it is critical to deal with this issue no social cost study has taken account of comorbid disorders. Instead, researches have simply attributed all the costs to pathological gambling. This results in overestimating the social costs of pathological gambling.

There are further complications. Again consider a drug addicted pathological gambler. If the person was not a pathological gambler, his behaviour from drug use might result in social costs higher or lower than in the case with both

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5   Westphal and Johnson (2007) provide additional evidence.

disorders. It is theoretically possible that with comorbid disorders a particular disorder might actually decrease social costs compared to the counterfactual. This issue has not been considered in the literature.

The important implication to be drawn from these studies of multiple disorders is that observing a correlation between social problems or socially costly behavior and pathological gambling is not adequate to attribute the social problems to gambling. Both pathological gambling and the probability that one will run afoul of the law may be symptoms of a more basic ("primary") disorder. While this point is obvious to most observers, it is typically (and inappropriately) ignored in estimating the social cost of gambling. Studies which fail to address the causality and marginal contribution issues are likely to overstate the actual social costs of pathological gambling behavior. Social cost estimates for gambling that do not address these issues should be viewed with skepticism.

3.2. Surveys on Gambling Losses

Diagnostic/screening instruments like DSM-IV and SOGS typically ask how the person financed his/her gambling and the maximum amount lost gambling in a single day. Blaszczynski, Ladouceur, Goulet, and Savard (2006, p. 124) explain that clinicians rely on estimates of gambling losses to identify at-risk gamblers. In addition, such measures can be used to measure the reduction in gambling activity post treatment. Examples of financial questions from the DSM-IV and SOGS are shown in Table 1.

Surveys including questions about sources of money and gambling losses have been used to make social cost estimates. Examples include Thompson et al. (1997), Thompson and Schwer (2005), and papers used by Grinols (2004) in deriving his social cost of gambling estimate.[6] This practice is problematic for several reasons. First, it is unclear whether respondents understand how to calculate gambling losses. Blaszczynski et al. (2006, p. 127) explain "without specific instructions regarding how gambling expenditures are to be calculated, participants use different strategies." The problem is that different strategies used lead to variations in the expenditures reported and, therefore, cast doubt on the validity of the data and raise questions that there may be potential serious biases regarding gambling expenditures currently reported in the gambling literature" (Blaszczynski et al. 2006, p. 128).

A second problem is asking survey respondents to accurately identify the source of their gambling money. Keep in mind that such surveys ask problem gamblers who admit to having or who are diagnosed with spending control problems, to classify various sources of income used for specific types of expenditures. Budgets

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6   The survey questions are typically omitted from published papers so it is difficult to know exactly what questions survey respondents were asked.

Table 1. Financial questions from DSM-IV and SOGS screening instruments

Screening instrument	Instrument item
DSM-IV	8. "... has committed illegal acts such as forgery, fraud, theft, or embezzlement to finance gambling."
DSM-IV	10. "... relies on others to provide money to relieve a desperate financial situation caused by gambling."
SOGS	2. "What is the largest amount of money you have ever gambled with on any one day?" Possible responses include: I've never gambled; $1 or less; more than $1 but less than $10; more than $10 but less than $100; more than $100 but less than $1,000; more than $1,000 but less than $10,000; more than $10,000.
SOGS	14. "Have you ever borrowed from someone and not paid them back as a result of your gambling?"
SOGS	16a-k. "If you borrowed money to gamble or to pay gambling debts, who or where did you borrow from?" Possible responses include: household money; your spouse; other relatives or in-laws; banks, loan companies, or credit unions; credit cards; loan sharks; you cashed in stocks, bonds, or other securities; you sold personal or family property; you borrowed on your checking account (passed bad checks); you have (had) a credit line with a bookie; you have (had) a credit line with a casino.

Sources: APA (1994, p. 618) and Lesieur and Blume (1987, p. 1187)

are fungible. It is difficult or impossible for an individual to unequivocally specify the source of money lost gambling from paycheck, credit card, borrowing from friends or family. People have several sources of income or money and also many types of expenditure. Even financially responsible individuals may not typically link specific sources of income to specific expenditures.

Third, any particular person's financial problems may be due to gambling but that is not easy to determine unequivocally. There are some cases where gambling is obviously a problem. But it is doubtful that pathological gamblers are otherwise financially responsible. Several examples can illustrate. Suppose a problem gambler buys a car beyond what his budget would allow even if he did not have a serious gambling problem. It is quite possible that in response to the DSM-IV or SOGS criteria, the person will attribute his financial woes to gambling. But who can determine the extent to which the financial woes are due to gambling or, say, a preference for expensive cars? Perhaps the person exhibits financial irresponsibility in many aspects of his life. The screening devices do

not distinguish between gambling and other potential causes of financial problems. As a final example, how do the screening devices handle a situation in which a person secures a loan and then decides to gamble the money away? The person does not borrow to gamble, but gambles after he has borrowed. In either case the person might have a gambling problem, but these are different situations. How likely is it that the person or the clinician will correctly answer the financial-related diagnostic questions in these situations?

Finally, extrapolating from the experience of the most serious problem gamblers to the general population as is often done is inappropriate (Walker and Barnett 1999). Thompson et al. (1997), Thompson and Schwer (2005) and Grinols (2004) base their estimates in part on survey responses by Gamblers Anonymous members. These are arguably the most serious cases and are not representative of the general population of pathological gamblers.

The point here is that financial woes and problem gambling may be correlated, but that does not indicate the causal relationship that is implied in the diagnostic instruments or in social cost studies that rely on surveys of problem gamblers. This is a critical issue that has not yet been adequately addressed in the literature.

3.3. Government Expenditures

The definition of "social cost" has been debated in the literature. In most cost studies in the U.S. during the 1990s, researchers simply counted any negative effects of gambling that they could measure. Even when measurement was not possible, they would often use arbitrary cost estimates. A major problem in the research was that no authors used the same conception of social cost. The result has been, in part, that social cost estimates range from $9,000 to over $50,000 per pathological gambler per year. Walker and Barnett (1999) presented a classical welfare economics definition of social cost. It is based on the Hicks-Kaldor criterion. It has been criticized by McGowan (1999) and others because it is utilitarian and does not seem to be sympathetic to pathological gamblers or those they affect. In essence, the Walker-Barnett definition of social cost counts items that result in a decrease in societal wealth. It does not count transfers of wealth or internalized costs. Using this lens, the social costs of gambling are, in reality, much lower than many published studies would suggest (Walker and Barnett 1999).

One component of the social costs of gambling, according to most researchers and even according to the Walker-Barnett definition, is government expenditures on legal costs (court costs, incarceration) and treatment. Clearly, the governments in different countries spend varying amounts of legal costs and treatment related to pathological gambling. This presents a problem, in terms of developing an objective measure of the social costs of gambling.

For example, suppose government-provided treatment is available, and many pathological gamblers commit crimes that create legal costs. Most social cost estimates simply take the value of these government expenditures and call them "social costs." It would seem obvious that, since government spending requires taxes, these expenditures should be considered social costs. Indeed, most people would agree that lower spending on these sorts of things would be preferred to higher spending. But the same is not necessarily true of, say, education. People often vote for more public education spending. The point is that government expenditures are not equivalent to social costs. If they were, then we could reduce the social costs of gambling by simply reducing spending on gambling-related problems.

Unfortunately, this does not leave us with a clear and appropriate way to classify gambling-related government expenditures. Yes, such expenditures may be a reflection of social costs, but they may also represent social costs of our policy decisions. This issue of how to deal with government expenditures was dealt with by Browning (1999) in the context of health care expenditures related to smoking. As with the other issues discussed above, the solution to this problem, in terms of developing valid social cost measures, is not straightforward.

3.4. Counterfactual Scenario

When considering the costs (or benefits) associated with the gambling industry and gambling behavior, it is important to consider the counterfactual scenario. That is, we must be mindful of what otherwise would have happened. For policy decisions, we are interested in the marginal impact of a particular policy. If casino gambling is legalized, for example, what is the marginal impact of that change on the prevalence of pathological gambling? What would be the effect on local economic growth or on tax revenues?

Too often in gambling research, the data or empirical analyses consider an all or nothing case. That is, studies will commonly compare before and after casinos and assume that the entire change is the relevant impact of legalizing casinos. However, the correct measure of the effect of casinos would be the difference between the case with casinos and the counterfactual, or whatever else would have happened, had the casinos not been legalized. In some situations, perhaps the counterfactual is rather straightforward. One could argue that the Mississippi Gulf Coast would have remained as it was had casinos not been legalized; that may have been a relatively stagnant economy. But determining what would have happened had casinos not been legalized in Missouri, for example, is more complicated. Perhaps another industry would have entered the local market had casinos not.

As far as pathological gambling and social costs go, we must consider the counterfactual in deciding what the pathological gambler would do were casinos illegal – if legalization is the relevant policy question. Even without legal casinos

locally, people can travel to casinos outside their city, state, region, or country. Illegal and internet gambling may also be available. The point is that legalizing casinos in an area may or may not affect the prevalence of pathological gambling and the related social costs. Although some research findings indicate a higher prevalence rate closer to casinos, the research on this issue is not conclusive.

Whatever the counterfactual is determined most likely to be, measuring the difference between this situation and the situation with casinos, for example, is difficult both conceptually and in practice. One possible way to do this would be to identify non-casino control communities with which to compare casino communities. Of course, such a comparison must be done carefully to control for as many societal factors as possible.[7]

4. Conclusion

Gambling research is fraught with poor research practices and difficulties inherent in the subject. These problems, among others, make it very difficult to obtain credible data on the social costs of gambling. Many researchers rely on wildly arbitrary assumptions in performing their analyses. The result is often completely meaningless cost estimates. Yet, these studies are often used by policymakers and voters to inform their opinions on legalized gambling. This is unfortunate, because published social cost estimates – all of them – give a false sense of precision. It is understandable that politicians want to be able to make cost-benefit comparisons. But data such as Grinols' (2004, p. 175) cost-benefit ratio of 3.9–6.3 to 1 are almost completely meaningless and arbitrary. Until researchers can adequately deal with some of the methodological and measurement issues discussed here, policymakers and voters must be cautious in how they interpret and use cost-benefit of gambling studies.

In many ways, the problem gambling literature parallels the substance abuse literature, which essentially reflects a "cost-of-illness" approach. That work provides a possible path for gambling researchers to follow in developing this field of research. But even the better-established substance abuse literature has its critics (e.g., Reuter 1999 and Kleiman 1999). One of the authors of the International Guidelines for Estimating the Costs of Substance Abuse (Single et al. 2003) has even questioned whether such cost-benefit studies are possible or useful. I suspect that, at this point, these studies may do more harm than good with respect to gambling policy. Researchers must strive to improve the quality of cost-benefit of gambling studies so that this work can become useful and more reliable in the future. Taking account of the issues raised here will be a step in the right direction.

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7   Stitt, Giacopassi, and Nichols (2003) provide an example of this type of study.

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Casinos: Lessons Learnt from Cost-Benefit Analysis

Tom Coryn

1. Introduction

There are substantial interests at stake in the gambling industry, which is why all kinds of arguments are put forward to support various points of view.[1] Attempts are made, for example, to defend certain views or interests. The positive or negative impact of gambling is at the heart of this debate. The question must, however, be asked whether there is a sufficient academic basis to make firm statements about the pros and cons of gambling. Traditionally, Europe produces relatively few academic gambling studies in general, and studies on the impact of gambling in particular. This lack of academic research naturally fuels scepticism with regard to categorical statements about the positive or negative impact of gambling. Our aim here will therefore be to look more closely at the method of cost-benefit analysis in the assessment of casino projects.

In Section 2 we shall outline the social background to the casino debate and discuss the advantages and disadvantages. The sparse European research on the impact of opening a casino means that arguments relying on assertions concerning this impact are not well-founded. Cost-benefit analysis is the most common method of weighing up the advantages and disadvantages of gambling.

In Section 3 we shall explain the three main methodological aspects of the cost-benefit analysis. The foremost question here is which costs and benefits must be included in the analysis. We then address the problem of identifying cause and effect. And finally we consider how the impact of certain policy measures can be measured.

Section 4 focuses on the case of Maastricht. This Dutch city is keen to join forces with the US operator Harrah's to build an integrated casino resort. On the basis of a cost-benefit analysis, the Maastricht-based economists Soete &

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1   This paper is based on a literature review conducted in 2006–2007 at the Faculty of Law at Tilburg University and is correct up until June 2007.

ter Weel have expressed a negative opinion on this plan. Their research leaves much to be desired, however. Partly for this reason, the Maastricht case is ideal for illustrating the problems of this method.

In Section 5 a number of lessons are learnt from the literature and recommendations are made for further research.

2. The Method of Cost-Benefit Analysis in the Assessment of Casino Projects

The gambling debate spans a large number of social fields and social phenomena. More specifically, on the subject of casino projects, statements are readily made about the negative and positive impact on a city or region of opening a casino. The first point to be discussed below is therefore the levity of this discussion. We then examine the method of cost-benefit analysis, which is often used to identify the advantages and disadvantages of a casino. Lastly, we point out the relative lack of European academic studies on the costs and benefits of casinos, which means that in Europe arguments are often ill-founded.

2.1. The Advantages versus the Disadvantages of Opening a Casino

In Europe, as in the rest of the world, many assertions are made about gambling. Often it boils down to a debate between proponents and opponents. Proponents point out the advantages, while opponents highlight the disadvantages. Assumptions are made regarding the impact of gambling on such areas as public health (addiction, protection of minors), public safety (nuisance, gambling-related crime, fraud, money laundering), public finance (taxes) and the whole economic system (consumer spending and business profits). Gambling is also linked with charity, suicide, bankruptcy, family welfare, etc., indicating that the interests at stake are highly diverse. This diversity and complexity make it difficult to ensure an objective debate.

At the moment there is no free market for gambling in Europe, or for casinos either. Up to now the Member States of the European Union have had more or less full discretion to regulate the gambling market themselves. Most countries use this freedom of action to limit the gambling opportunities available. Littler talks about the "margin of discretion" in relation to the extent to which the Member States can limit the opportunities.[2] Some countries (e.g. the Netherlands)

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2   Littler, A., "Has the ECJ's Jurisprudence in the Field of Gambling become more restrictive when applying the Proportionality Principle?" in Littler, A. & Fijnaut, C., *The Regulation of Gambling: European and National Perspectives*, (Leiden, Martinus Nijhoff, 2007), 15.

go as far as excluding foreign operators from the market.[3] In defence of such a restrictive policy, the national legislature focuses on the negative consequences of gambling, such as addiction and the concomitant financial, social and psychological problems. Gambling-related crime is also highlighted. The fact that a protectionist policy can be fiscally advantageous is not always acknowledged by national governments, but is difficult to deny.

By and large, local officials seem to be more convinced of the advantages of, for example, opening a casino. Brussels welcomed the Grand Casino Brussels early in 2006; with its 21 gaming tables and 200+ slot machines, this venture should boost employment in the Brussels-Capital Region.[4] It is also claimed that taxation in 2007 will be lower in the Region's 19 municipalities thanks to casino revenues.[5] The positive response of a large number of British cities to the possibility of them attracting a "regional", "large" or "small" casino under the Gambling Act 2005 is evidence that UK local authorities are also convinced of the positive aspects of opening a casino within their municipal boundaries.[6] They point to tax payments, employment creation and the entertainment value associated with a gambling establishment.[7]

2.2. The Method of Cost-Benefit Analysis

The economic advantages and disadvantages of casinos are chiefly explored by means of cost-benefit analysis.[8] The idea behind this method is simple and logical. First, the costs of a project are calculated and then the benefits are worked out.[9] If the costs outweigh the benefits, the natural conclusion will be that it is not economically sensible to carry out a project, and the reverse will also be true.

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3 See, for example, *Compagnie Financière Régionale* v. *Ministers van Justitie en Economische Zaken*, 2 December 2005, LJN AU7389/03/1868 WET.

4 Hollevoet, T., "Geld zal vloeien in nieuw casino. Historische Magdalenazaal omgetoverd tot goktent", 26/11/2005, *Het Nieuwsblad*. <www.nieuwsblad.be/Article/Detail.aspx?articleID=gr9kqpdu>.

5 Demeyer, P., "Euro's rollen vlotjes over nieuwe roulettetafel. Dankzij casino daalt gewestbelasting voor alle Brusselaars", 27/10/2006, *Het Nieuwsblad*. <www.nieuwsblad.be/Article/Detail.aspx?articleID=gt713pfhp>.

6 See <www.culture.gov.uk/cap/> (Casino Advisory Panel website) for the process, the proposals submitted and the reports.

7 See Miers, D., "Implementing Great Britain's Gambling Act 2005: The Gambling Commission and the Casino Question", *Gaming Law Review*, 10 (2006), 472–481 concerning the casino question in the Gambling Act 2005.

8 Persky, J., "Retrospectives: Cost-Benefit Analysis and the Classical Creed", *The Journal of Economic Perspectives*, 15, 4 (2001), 199–208.

9 Prest, A. & Turvey, R., "Cost-Benefit Analysis: A Survey", *The Economic Journal*, 75, 300 (1965), 683–735.

This method can be applied ex ante or ex post. In the case of an ex ante analysis, the estimated costs and benefits of a planned casino project are compared. In an ex post analysis, on the other hand, the actual costs and benefits of a casino are determined.[10]

Sometimes the categorical statements made in the conclusions of reports on studies in which cost-benefit analysis has been used create the impression – at the very least – that the costs and benefits can be determined exactly. The balance sheet drawn up would then guarantee an absolute and accurate representation of reality. The method of cost-benefit analysis can undoubtedly make a valuable contribution to the debate about casinos. It is uncertain, however, whether all costs and benefits can be determined in a straightforward way and whether they can be assessed in a consistent manner. In other words, there is some doubt whether a cost-benefit analysis is capable of providing an answer to the question of whether a casino is "good" or "bad" for a city, region or country.

2.3. Limited European Research on the Impact of Casinos

Research in Europe into the impact of opening casinos focuses primarily on the problem of gambling addiction, although it is usually limited to statistics on the number of addicts.[11] The impact of casinos from an economic point of view is seldom examined. Given the size of the gambling industry, its assumed economic impact and the public debate on the subject, this is nothing short of astounding.

How little economic research is actually conducted in Europe is evident from a survey of the international literature in which the costs and benefits of one casino in particular, or of casinos in general, are compared.[12] The European component in this list of around 40 publications is small. There is only the

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10 Layard, R. & Glaister, S. (eds), *Cost-Benefit Analysis* (Cambridge, Cambridge University Press, 1994).

11 See, for example, Griffiths, M. & Wood, R., "Lottery Gambling and Addiction: An Overview of European Research: Report compiled for the Association of European National Lotteries (AELLE)", (Lausanne, 1999); de Bruin, D. *et al.*, "Verslingerd aan meer dan een spel. Een onderzoek naar de aard en omvang van kansspelproblematiek in Nederland", (Utrecht, 2005); Minet, S. *et al.*, "Gokken: ontspanning of verslaving? Enquête gokken en gokverslaving", (Brussels, 2004); Grun, L. & McKeigue, P., "Prevalence of excessive gambling before and after introduction of a national lottery in the United Kingdom: another example of the single distribution theory", *Addiction*, 95, 6 (2000), 959–966.

12 See Appendix 1.

theoretical study by Collins[13] (UK), the research by Hall Aitken[14] (UK) and the analysis by Soete & ter Weel[15] (Netherlands).

Appendix 2 contains a list of the research centres that primarily conduct gambling research, all of which are affiliated with a university. In Europe, only the Centre for the Study of Gambling (University of Salford, UK) and the Betting Research Unit (Nottingham Trent University, UK) have accumulated the necessary experience in economic gambling research over the past ten years. Recently the Research Group Police and Gambling of Tilburg University (Netherlands) and the Gambling Research Center of the University of Hohenheim (Germany) also embarked on similar research. It should be pointed out, however, that only a handful of academics at these four European centres are working in this field.

Appendix 3 lists academic gambling publications: the Journal of Gambling Behavior, the Journal of Gambling Studies, the Gaming Law Review and International Gambling Studies. These four English-language publications have no European equivalent.

2.4. *The Basis of Arguments is Often Debatable*

The dearth of studies on the impact of gambling in general and of casinos in particular means that statements about the impact of casinos are often unfounded. There are three ways of trying to deal with this problem.

First, it is quite common for commentators to focus solely on mediagenic events that can easily be depicted as typical. In terms of negative impact, they refer, for example, to the desperate acts of addicts. One example of positive impact alluded to is the economic growth of Las Vegas. Second, the impression is created that opinions are based on knowledge that is universally accepted as true. The message is consequently postulated as being scientifically proven ("Everyone knows that gambling addictions cost society pots of money"). Third, reference is made to international, non-European research without considering whether it is sound or useful. In particular, political debates about gambling and gambling policy often seem to be little more than a war of words in which various arguments are bandied about but no effort is made to establish how much truth there is in them.

There are signs that a change may be on the way, however. At European level, the European Court of Justice observed in the *Lindman* case that argu-

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13 Collins, P., *Gambling and the Public Interest*, (Westport, Praeger Publishers, 2003), 85–128.

14 Hall Aitken Social and Economic Regeneration Consultants, "The social and economic impacts of regional casinos in the UK", (Glasgow, 2006).

15 Soete, L. & ter Weel, B., "'Rien ne va plus': over economische voor- en nadelen van casino's", *Kwartaaltijdschrift Economie*, 1 (2006), 63–75.

ments must be well founded.[16] Paragraph 25 of its judgment states that: "In that regard, the reasons which may be invoked by a Member State by way of justification must be accompanied by an analysis of the appropriateness and proportionality of the restrictive measure adopted by that State ...". The Court continues in paragraph 26: "In the main proceedings, the file transmitted to the Court by the referring court discloses no statistical or other evidence which enables any conclusion as to the gravity of the risks connected to playing games of chance or, a fortiori, the existence of a particular causal relationship between such risks and participation by nationals of the Member State concerned in lotteries organised in other Member States". However, the Court remains rather vague about what exactly is expected of the Member States. In relation to this judgment, Littler therefore rightly asks himself: "Does this imply that national authorities are required to explicitly illustrate a causal relationship between the concern and the restrictive measure, or does it merely reflect that the measure in question should be appropriate/suitable?".[17]

The Administrative Court of Breda used more forceful language in the Compagnie Financière Régionale case.[18] In response to the argument put by the Minister of Justice that the objectives of Dutch gambling policy – in particular to minimise gambling addiction – might be jeopardised if different operators were to be admitted to the casino market or if Holland Casino were permitted to substantially increase the number of its casinos, the Court found that this answer was entirely based on assumptions and that these assumptions were not founded on facts. In our view, this suggests that the Dutch government will no longer be able to play its dual role as preacher and businessman without committing itself one way or the other.[19] Given the developments in the recent case law of the European Court of Justice, it will most probably opt for the role of preacher.

While it is good to know that, in case law, defects in arguments used to support many elements of gambling policy are now being brought into the open, it is uncertain whether judgments such as those in the Lindman and Compagnie Financière Régionale cases provide sufficient incentive for the Member States to embark on in-depth academic studies on the impact of gambling. To safeguard their gambling policy in the short and medium term, the Member States might even consider the relative lack of research as a welcome ally in their efforts to maintain the status quo.

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16 Case C-42/02, *Diana Elisabeth Lindman* v. *Skatterättelsenämnde*, [2003] ECR I-13519.

17 Littler, A., (2007), ibid, 37.

18 *Compagnie Financière Régionale* v. *Ministers van Justitie en Economische Zaken*, 2 December 2005, LJN AU7389/03/1868 WET.

19 Huls, N., *"God dobbelt niet" Realiteiten en mythen van kansspelregulering*, (The Hague, BJu Legal Publishers, 2004), 30.

3. The Methodology of Cost-Benefit Analysis

The interests that are at stake in the gambling industry are substantial. There is therefore a great deal written about the impact of gambling. This literature is extremely diverse, however, and several important differences are apparent. The first difference concerns the type(s) of gambling examined. There are studies that explore the impact of gambling in general; others look in more detail at one particular type (e.g. lotteries, sports betting or casino gaming). The second difference has to do with the impacts explored. Some studies examine all impacts, while others confine themselves to a limited number of the costs and/ or benefits. The third difference relates to the distinction between theoretical and applied research. In theoretical research, the link between gambling and social and other impacts is examined in the light of current theories. In applied or empirical research, the theoretical framework is tested in concrete situations, usually case studies. The fourth difference concerns the geographical perspective or geographical reference area used as the basis for considering the impact of, for example, opening a casino. Sometimes only the impact on a city or region is examined, at other times only or also on a country.

In addition to these content-related differences, the quality of the literature varies a great deal. One striking feature of the literature surveyed (Appendix 1) is that fewer than half of the studies (17 out of 41 documents) have been published in a book or in a journal. Of course it is not true to say that documents that are published in books or journals are, by definition, of a high quality and that unpublished documents are of inferior quality. Nevertheless, the fact that very little cost-benefit research is subject to peer review – despite the existence of three gambling journals or reviews (see Appendix 3) – provides food for thought. After all, a review by fellow researchers means that a study has been submitted to at least one assessment. As a result of the lack of peer review, and hence the lack of oversight of research, it is hardly surprising that studies that are ostensibly on the same subject often come to widely differing conclusions. The results of some cost-benefit analyses are sometimes even completely at variance with those of other cost-benefit studies that, certainly at first sight, seem to address the same question. The upshot of this situation is that every argument and every viewpoint – both for and against gambling – can be supported with "research". The question, however, is to what extent research results can be generalised and compared. The answer to this question automatically leads to the methodological aspects of cost-benefit studies.

We shall look at the three main methodological aspects involved in the cost-benefit analysis of casinos. The first is theoretical and concerns the question of which costs and benefits must be included in the analysis. The other two are of a more practical nature. On the one hand there is the difficulty of demonstrating causal links between casinos and various phenomena (rated positively or

negatively), while on the other hand there is the problem of measuring and assessing these phenomena.

3.1. *Which Costs and Benefits Must Be Included in the Analysis?*

It is crucial to determine which costs and benefits are to be included in the analysis. The key factor is the distinction between private and social costs and benefits. Whereas most authors agree about the importance of this distinction, there is no consensus about the precise breakdown (what is private and what is social). Walker & Barnett define the social benefit (of an action) as an increase in aggregate social wealth (as a result of an action).[20] In other words, a social benefit is the sum of the increase in wealth for those who profit from the action, minus the decrease in wealth for those who are worse off as a result of the action. If the result is negative, we talk about a social cost. According to this approach, simple transfers of wealth at an aggregate level are neither costs nor benefits, since a cost for one person is a benefit for another.

Walker & Barnett develop this principle in detail, on the basis of casino-related crime to fund gambling. In itself this type of crime – which basically comes down to stealing property – cannot be labelled as a social cost: if gambler A steals citizen B's car to pay off his gambling debts, wealth in their microcosm of society shifts from B to A, but remains constant at an aggregate level. This type of crime therefore directly involves a transfer of wealth. Walker & Barnett call this an example of pecuniary externality, which does not mean that crime of this kind does not have an indirect social cost. Victims of theft may need psychological help, for instance. To make them feel safer, they will take more preventive measures (locks, better lighting, etc.). The involvement of the police and the judicial authorities is also a social cost, since it may be assumed that society will not give priority to utilising available means of production for the purpose of providing help, extra security or the services of the police and the judicial authorities. These are technological externalities that, given their influence on the victims' productive role in society, lead to market inefficiency and incur social costs.

Just to be perfectly clear, we should stress that it is not true to say that the cost of stolen property cannot be worked out. The crux of our argument, however, is that it is wrong to regard the value of stolen property as a social cost or to use its value as an approximation of the social cost. Only technological externalities, in other words the time and money that would be spent more productively or usefully if the crime were not committed, result in social costs. For the sake of completeness, it should also be borne in mind that this type of crime ensures

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20 Walker, D. & Barnett, A., "The Social Costs of Gambling: An Economic Perspective", *Journal of Gambling Studies*, 15, 3, (1999), 185–187.

employment for some groups (locksmiths, psychologists, police officers, etc.). People in these professions are thus more productive than if, for example, they had to rely on social security benefit. Moreover, their own expenditure on goods and services will help boost the economy.

The idea behind this argument is valid, but three aspects need to be considered in more detail. Firstly, the reference area or the geographical region pertaining to the analysis is overlooked in this argument. If a non-resident steals the car of a resident of a casino city, this theft can in fact be regarded as a cost when the city is taken as the reference area. If, however, the country is used as the reference area, the same theft is merely a transfer.[21] Secondly, it is important to point out that the thief and the victim do not necessarily attach the same value to the stolen vehicle. Looking at it from this point of view, the level of aggregate wealth does not necessarily remain constant, even if only the transfer is considered. Thirdly, the difference between theory and practice must be borne in mind. Theoretically, the reasoning behind the principle of transfers of wealth is valid. In practice, however, it matters little to ordinary citizens and policymakers whether or not, in theory, the value of stolen property can be deemed to be a social cost. For the victims, the value of their stolen property is a cost and the officials of a casino city are consequently keen to keep this kind of theft down to a minimum. It is therefore understandable that victims and local officials include the value of stolen property in their personal and political cost-benefit analysis.

3.2. *The Link between Cause and Effect*

Once it has been determined which costs and benefits are to be included in the analysis, the question arises of the causal link between a casino and the social phenomena mentioned in 1.1 (cf. *supra*). The links between gambling and its supposed consequences are difficult to establish unequivocally, however, since the fact that two phenomena coincide does not necessarily imply a causal relationship. For instance, a rise in crime rates or a revival of the local economy following the opening of a casino does not automatically mean that the casino is the cause. To be able to make meaningful statements about causal links, any interfering variables must be excluded. The discussion on this subject in the literature mainly concentrates on gambling addiction, displacement effects and crime.

As a result of problem gambling behaviour, casinos are associated with family financial problems, disrupted social relations, reduced productivity of workers, suicide, etc. In the first place, however, it is not clear to what extent problem gambling can solely be attributed to gambling in a casino. A recent Dutch study pointed out that where problem gambling behaviour is concerned, not only the type of game of chance or the type of venue is linked with risky gambling behaviour,

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21 Provided that the vehicle is not exported to another country.

but particularly also the number of different short-odds games of chance played.[22] According to this research, slot machines, scratch cards and casino games are most strongly linked with risky gambling behaviour. It is an impossible task to determine the proportion of the different types of games of chance in this risky gambling behaviour. In the second place, it is not at all clear to what extent problem gambling in itself gives rise to the aforementioned psychological, social and financial problems. Often the fact that a gambling addiction coincides with other problems such as alcohol or drug addiction, depression or lack of social skills is ignored. Such forms of co-morbidity are, however, extremely important for determining the cause (or causes) of specific social phenomena or problems, since it is quite possible that, for example, drug use – and not gambling – sparks off criminal behaviour. If this is not recognised, anti-social behaviour may wrongly be attributed to gambling. Clarifying the link between a casino and a series of social phenomena is a difficult task. As mentioned earlier, research into gambling addiction is limited to statistics on the number of addicts and only establishes the link with various related problems at the level of an individual addict. It is often not possible to generalise these findings.

Like any other "normal" kind of service, a casino will increase economic activity in several ways. Consumer spending at the gaming tables or slot machines, as well as a casino's sidelines (e.g. restaurants, hotel or retail outlets), stimulate demand for production factors (labour and capital) and direct materials and services. Setting up and operating a casino therefore provides a boost to the local economy. The situation becomes more complex, however, if one considers that every Euro spent in a casino or in one of its sideline businesses may possibly be taken away from another branch of the leisure industry. This may lead to displacement effects: every bet placed (and lost) in a casino cannot be spent on a cinema ticket, for example. Restaurants and retail outlets within an integrated casino resort automatically mean a potential decline in business for local eating establishments and shops. It is difficult to predict the net result, and hence the answer to the question of whether the local economy will benefit from the presence of a casino or, on the contrary, whether the existing leisure industry and other businesses will be driven from the market.

The final point to be made is that, by and large, legal casinos are associated with three types of crime. The first type concerns gambling irregularities. A casino patron may cheat or the owner may try to increase the house's chances of winning using fraudulent practices. Rigorous monitoring, including camera surveillance, acts as a deterrent for people to cheat. The government's strict supervision of gambling activities – in some countries by keeping them under government control to a certain extent – justifies the assumption that gambling irregularities are kept down to a minimum. Secondly, casinos are often linked

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22   de Bruin, D. *et al.*, (2005), ibid, 53.

with money-laundering practices. Black (criminal) money can be laundered in a gambling establishment, either by the owner or by the patrons. In many cases, however, the money-laundering stories hark back to the situation in the US, to a time when government supervision of casinos was minimal. This made it easy for casino owners to indulge in money-laundering practices, with one foot in the criminal underworld and the other in the legitimate business world.

The situation that prevails in Europe today, characterised by a substantial degree of government involvement, is very different. Sophisticated monitoring of gambling behaviour makes it difficult for casino patrons to launder money. It is no longer possible to start off the evening by buying chips using black money and then cash in the same chips later as laundered winnings. Would-be money launderers are obliged to actually gamble with any chips purchased. Although theoretically it is not impossible to make a profit, the win – or rather the loss – percentages make money laundering in casinos a rather uninviting prospect, since a large part of the money gambled is likely to be lost. Here, too, there is a lack of good academic research, however. The recent money-laundering report of the Utrecht School of Economics does little more than reiterate the current public debate.[23]

Thirdly, casinos are alleged to cause gambling-related crime and nuisance. The link between a casino and gambling-related crime is, however, difficult to demonstrate in a scientific and hence unequivocal manner. Quantitative studies in which trends in crime statistics are analysed do not present a consistent picture of this link.[24] The conclusions of qualitative studies in which gambling addicts are asked about the origin of their financial resources or in which the gambling behaviour of people who commit a crime is assessed cannot, as a rule, be generalised.

3.3. *Measuring and Assessing Impact*

A standard of comparison is required to weigh up costs and benefits. As part of an economic approach to determine the advantages and disadvantages of opening a casino, an attempt is therefore made to express the impact in monetary terms. This is not really unusual for some phenomena, for example economic variables such as turnover and profit, economic growth and even employment.

The situation is different with regard to the psychological and relational impact of a gambling addiction. Some of the costs involved can be expressed in

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23 Unger, B. *et al.*, "The Amounts and the Effects of Money Laundering", (Utrecht, 2006).

24 Albanese (Albanese, J., "The Effect of Casino Gambling on Crime", *Federal Probation*, 49 (1985), 39–44), for instance, concludes that there is no link between the arrival of a casino and trends in crime statistics. Grinols & Mustard (Grinols, E., & Mustard, D., "Casinos, Crime, and Community Costs", *The Review of Economics and Statistics*, 88, 1 (2006), 28–45) argue the opposite point of view.

monetary terms, for example those incurred in the care and treatment of addicts. It is difficult to estimate emotional costs financially, however. If this is done – i.e. an individual's happiness or a divorce is expressed in euros – inevitably a certain element of personal assessment creeps into the analysis.

At some point this naturally leads to judgements being made, for instance that a specific number of "happy" casino patrons would be needed to compensate for the number of "unhappy" (i.e. addicted) patrons.

4. The Maastricht Case and the Negative Assessment of the Casino Project by Soete & ter Weel

Maastricht has plans for a casino. We briefly outline the facts below, before examining the critique that two Maastricht-based economists, Soete & ter Weel, have voiced about the plans. Some aspects of their critique can be endorsed; nevertheless, their analysis is marred by a number of flaws. Their conclusion that the disadvantages of opening a casino in Maastricht outstrip the advantages therefore needs to be qualified.

4.1. The Maastricht Case

On 25 January 2006 Maastricht City Council announced plans to build an integrated resort with US casino operator Harrah's Entertainment Inc. In addition to a casino, the plans included a theatre, shops, a conference centre, a spa, a hotel, a restaurant and a night club. The investment was said to be worth more than half a billion euros.[25] After the then Minister of Justice, Piet Hein Donner, had reined in Maastricht mayor Gerd Leers by invoking the restrictions under the Dutch Betting and Gaming Act, the City Council explicitly turned its attention to cooperation between Harrah's Entertainment Inc. and Holland Casino.[26, 27]

In the meantime the Province of Limburg had asked Buck Consultants International (BCI) to analyse the proposal. The idea was that the BCI report – of which only the quick scan or summary was published – would provide an objective

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25 See <www.maastricht.nl>. Press release of 25 January 2006.

26 See <www.maastricht.nl>. Press release of 21 February 2006. See also the contribution by Mayor Gerd Leers elsewhere in this publication.

27 The only mention made of this in the press release is that collaboration with Holland Casino would be pursued. In his subsequent address to the Gambling Colloquium (23 November 2006), Gerd Leers indicated the nature of this collaboration: Holland Casino would continue to be the licensed gaming operator, while Harrah's would be responsible for the infrastructure (buildings, tables, gaming machines, etc.).

picture of the economic effects and legal aspects of Harrah's plans.[28] BCI relied on the confidential business plan of the American group to help it with its task. The Maastricht Municipal Executive accepted the results of the BCI report.

An article by Soete & ter Weel entitled "Rien ne va plus": over economische voor- en nadelen van casino's had meanwhile appeared in the quarterly economics journal Kwartaaltijdschrift Economie.[29] The two authors call into question not only the working method and results of the BCI analysis, but also Maastricht's plans. They also cast doubt on the report's positive predictions – which Harrah's makes on the basis of its business plan. In view of the perspective of this paper, we shall now focus on the parts of Soete & ter Weel's article that relate to the costs and benefits of opening the casino.

4.2. A Brief Look at the Article by Soete & ter Weel

Soete & ter Weel's article is written in Dutch and only the abstract is in English (see inset below). It can also be found on the website of the Kwartaaltijdschrift Economie.[30]

Inset: Abstract of the article entitled "Rien ne va plus": over economische voor- en nadelen van casino's (Soete & ter Weel).

Abstract

"Casinos reduce overall welfare. This study shows that the plan for a large resort, including a casino, in Maastricht will most likely cause severe employment losses and zero or negative benefits. When the societal benefits and costs are taken into account, job losses mount to more than 900 and the overall benefits are small. This estimate is based on relatively conservative parameters from the economic literature. When more realistic parameters are used, job losses are higher and the overall societal benefits are clearly negative."

Soete & ter Weel kick off with the assertion that, on average, the benefits of traditional casinos are outweighed by the costs and argue that the opposite can only be claimed if solely private, and not social, costs and benefits are considered. In their article they claim that they want to show how a full economic assessment should be made when deciding to switch to a new casino location. They also want to compare the benefits in terms of wealth of Holland Casino, Holland Casino Valkenburg and Harrah's plans.

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28 Buck Consultants International, "Samenvatting. Quick Scan Leisure & Entertainment-centrum van Harrah's Entertainment Inc.", (Nijmegen, 2006).

29 Soete, L. & ter Weel, B., "'Rien ne va plus': over economische voor- en nadelen van casino's", *Kwartaaltijdschrift Economie*, 1 (2006), 63–75.

30 See <www.kwartaalschrifteconomie.be>.

In Section 2, Soete & ter Weel make a number of theoretical observations on the benefits and costs of opening a casino establishment. Consumer value, employment, investment in capital and human resources, and tourism as a development stimulus are mentioned as benefits. Gambling addiction and criminal activities generate costs. The authors then develop a number of these points.

Firstly, according to Soete & ter Weel, some studies – in relation to the impact of opening casinos – equate operating income with social benefits. However, profits go to the shareholders of the gambling establishment in the form of dividends, and to central government in the form of taxes.

Secondly, Soete & ter Weel argue that the economic literature reveals a link between casinos and various types of crime. Moreover, addicts – and hence unproductive workers – incur substantial costs for businesses. The authors also take the view that addiction leads to bankruptcy, suicide and family financial problems.

Thirdly, gambling is associated with so-called increasing returns: people react differently when their winnings are added to their initial bet than when their winnings have to offset losses suffered. This is dangerous for people with a relatively low income, given the high marginal value of their money. This problem is exacerbated by people in this category preferring easily accessible slot machines with low pay-outs.[31]

And fourthly, there are regional development stimuli. Famous examples such as Las Vegas and Monte Carlo show that the local economy (around a casino) can grow as a result of casino activities. According to Soete & ter Weel, however, these examples are atypical. The situation is different in the Netherlands. Casinos have traditionally sought to complement the existing leisure infrastructure of holiday resorts and spas. In this way they create development benefits and the social costs are limited. In "ordinary" large cities – still according to Soete & ter Weel – a casino accounts for a negligible proportion of economic activity, while in medium-sized cities the impact of displacement effects and addiction will be greater.

Section 3 of the article examines the Maastricht case. Based on the analysis of Harrah's and some information about Holland Casino, Soete & ter Weel first

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31 "Increasing returns" is a rather unfortunate phrase to use in this context in my view. We think that Soete & ter Weel are referring to a form of behavioural bias (people react differently when they win compared to when they lose) and they then link this to a theory on the distribution of wealth (as a result of the fact that people with a relatively low income are more inclined to play slot machines that pay out less, this group is worse off). The added value of this in the light of the cost-benefit analysis is not clear. In a cost-benefit study, individuals (or their value) are put on a par. This is a simplification of reality that can be argued against. Soete & ter Weel do not seem to do this, however; nor do they include these redistribution aspects in their evaluation of the costs and benefits. Therefore no further mention of this point shall be made.

outline the expected benefits. Harrah's estimates the expected profit at €38 million. Tax payments are estimated at €104 million, of which €70 million relates to casino activities. The project is likely to create 4,400 jobs, 70% of which would be local. Since – as Harrah's itself indicates – the casino patrons will mainly come from an eighty-kilometre radius around Maastricht, Soete & ter Weel conclude that it can reasonably be assumed that they are already part of Maastricht's present customer base. According to Soete & ter Weel, Harrah's estimated two million visitors will consequently cause a shift rather than an increase in spending.

Soete & ter Weel then determine the expected costs, initially using American estimates of €14,000 per gambling addict per annum. A conservative estimate therefore takes the addiction costs for Maastricht to €280 million. They also estimate a €70 increase per adult resident for crime, drug nuisance, (illegal) prostitution and illegal money practices (this would amount to €7 million for the City of Maastricht). Overall there would be a loss of 950 jobs, in their opinion.

The authors then take stock of the situation. The project would yield a total of €282 million per annum in salaries (€80 million), indirect employment (€96 million), tax revenues (€104 million) and local charities (€2 million), but – according to the authors – the social costs are essentially equal to the operating income and probably higher. Soete & ter Weel argue that local officials want to achieve social benefits in the city and shift the costs onto central government or abroad. According to the authors, they also ignore the current spending of visitors (foreign or otherwise) and overlook the national tax payments. This drains local purchasing power.

4.3. Comments on the "Rien ne va plus" Article

Soete & ter Weel state that they have made a comprehensive and conservative evaluation of the advantages and disadvantages of opening a casino. Their analysis is, however, incomplete and distorted. Our critique will follow the order of points raised in the article. We shall first comment on the theoretical observations of Soete & ter Weel about the costs and benefits of casinos. We shall then examine their analysis of the plans to open a casino in Maastricht, paying particular attention to the costs, the benefits and the final evaluation of the project, as worked out by Soete & ter Weel.

4.3.1. Comments on the Authors' Theoretical Observations about the Costs and Benefits of Casinos

In their theoretical observations, Soete & ter Weel first of all point out the importance of the distinction between direct operating income and social benefits, indicating the difference between social and private benefits, but omitting to specify how either of these should be interpreted. They do subsequently mention that the profits go to central government in the form of taxes, or to the

shareholders of the gambling establishment. The two authors also talk about displacement effects, stating that, from the point of view of national benefits, not only the profits (and taxes) of the gambling industry itself are involved, but also those of all businesses in a country. It looks as if, in their commentary on the tax issues, shareholdership and displacement effects are used to elaborate on the distinction between the social and private benefits they mentioned earlier. What the authors have to say about the taxation issues, shareholdership and displacement effects, however, primarily relates to the geographical reference area for which the benefit analysis is carried out. Soete & ter Weel are therefore confusing two things. If they had wanted to argue soundly, they would first have had to clarify the distinction between social and private benefits (and costs). They would then have had to explain the importance of the scale or the geographical reference area pertaining to these two categories of benefits. Although the same social impact is involved in both cases, these are two substantially different perspectives.

Soete & ter Weel then mention a number of social impacts of gambling. They talk about directly and indirectly related crime, higher costs for businesses, gambling addiction and associated financial problems and suicide. Here, the distinction between private and social costs is no longer made. The observations above make it clear, however, that this distinction is indeed important, even crucial. The authors thus lapse into the ad hoc approach that Walker & Barnett encountered in other studies.[32] In the case of Soete & ter Weel, this undeniably opens the way for interpreting the cost-benefit analysis as they please. In their article, only the costs of directly related crime are assessed and fixed at €70 per adult resident of a city or region, on the basis of a study by Grinols & Mustard.[33] However, these two American authors do not take any account of changes in numbers of citizens (residents plus tourists) that run the risk of becoming victims of a crime. They also ignore the influence of changes in crime policy (prioritisation and hence the deployment of resources by the police and judicial authorities). The conclusions of the Grinols & Mustard study of the influence of casinos on crime statistics are therefore highly unreliable. The assessment of the cost of crime at €70 per person also raises questions, given that Grinols & Mustard do not put forward any solid supporting arguments.

Lastly, Soete & ter Weel examine whether the local economy will benefit from the presence of the casino or, on the contrary, whether the existing leisure industry will be eaten up, or "cannibalised" as the American literature describes it, as a result of a casino being opened. They first point to Las Vegas, Atlantic City and Monte Carlo, where the flourishing casino industry provided what they call a regional development stimulus. They rightly qualify these examples and

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32 Walker, D. & Barnett, A., (1999), ibid, 183.

33 Grinols, E. & Mustard, D., (2006), ibid, 28–45.

state that there will be social costs linked with displacement effects and gambling addiction. Firstly, it should be briefly mentioned that the displacement effects are transfers of wealth to some extent, and not social costs. Secondly, it is not clear exactly what the authors' intention is with their artificial division between holiday resorts and spas, ordinary large cities and medium-sized cities. They also state that, depending on the size of the casino establishment, there may be substantial social costs. This says nothing more than that the impact of opening a large casino will be greater than the impact of opening a small casino.

The key point in ascertaining whether or not the local economy will benefit from the presence of the casino is the question whether the casino and its sideline businesses will lead to overcapacity. Soete & ter Weel also make this point. Their argument for the assertion that Maastricht is struggling with overcapacity is not, however, based on any academic studies on the supply and demand for existing leisure activities and sidelines. Without a response to the question of the capacity of the Maastricht leisure industry, Soete & ter Weel nevertheless conclude that the Maastricht plans will definitely lead to displacement effects. This is not a sound conclusion, however.

4.3.2. *Comments on the Authors' Observations about the Maastricht Case*

In the context of their observations on the Maastricht case, Soete & ter Weel say that they will not include some aspects of the impact of the proposed resort in their analysis, namely: casual employment (construction jobs), consumer surplus (in effect the benefit or pleasure of gambling), contribution made to employment by gamblers spending their winnings, and displacement effects (cannibalisation of other industries).

In omitting these elements from their analysis, the authors have opted for the easy way out, because these particular aspects of opening a casino are obviously difficult to quantify. The upshot, however, is that the evaluation of the project cannot but be distorted. Soete & ter Weel themselves suggest that it is essential to identify the indirect and external effects in order to be able to assess the proposal on its real social merits. However, it is not sound academic practice to first emphasise the importance of a full analysis, to claim to carry out such an analysis and then only tell half the story.

The Expected Benefits

Harrah's expects two million visitors a year. Soete & ter Weel's viewpoint that these would mainly come from the city's present customer base is valid, but linking this with the conclusion that the casino will lead to a shift rather than an increase in spending is going too far. The fact that the visitors would be the same says nothing about their spending pattern. It cannot be ruled out that the amount of money spent in the city or the region will increase. The net effect in terms of economic growth or employment needs to be considered, something

that Soete & ter Weel fail to do. The authors do not stop to consider consumer preferences either. The fact that consumers – as the authors assume – will go gambling instead of playing golf or going to the cinema suggests that they prefer to spend their time and money in the casino. For other choices that consumers make, it is readily accepted that they are opting for the highest corresponding benefit. It is strange and, in the author's view, incorrect that this is often completely overlooked in the case of gambling. In other words, if consumers choose to spend money in a casino rather than on another leisure activity, they are better off: their choice shows that they get more benefit from casino gaming than from another leisure activity.

Soete & ter Weel then describe Harrah's estimates and calculations concerning turnover, taxes and jobs. Harrah's estimates total casino revenues at €300 million and expected profit at €38 million. A total of €104 million would go to central government in the form of taxes (of which €70 million is casino-related). The main issue, however, is the effect on employment. Harrah's plans announce extra direct employment of 2,000 jobs and extra indirect employment (estimated by Harrah's at 1.2 times direct employment) totalling 2,400 jobs (2,000 x 1.2). The total growth in employment would therefore be 4,400 jobs. Soete & ter Weel also discuss this important point and assume that 70% of spending would be local. If this means that 70% of the indirect jobs are local (created by local spending), then 70% of 2,400 indirect jobs (1,680 jobs) must be the figure used to determine local employment. So far, based on the available information, Soete & ter Weel's reasoning is correct. The local proportion of direct employment (2,000 casino jobs) must then be added to the local proportion of indirect employment. Here, too, Soete & ter Weel use 70%. No information is available about this proportion, however, making it difficult to judge the accuracy of the calculations of the effect on local employment.

The Expected Costs

With regard to the expected costs, Soete & ter Weel draw upon US-based research that estimates the cost per gambling addict at €14,000 per annum. They do, however, seem to be making selective use of the international literature, since this figure of €14,000 is not the accepted standard, as Soete & ter Weel appear to claim.[34] Goodman arrived at a relatively similar social cost per gambling addict of $13,200.[35] Kindt also calculated the annual social cost per problem gambler,

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34 They talk about "relatively conservative parameters from the economic literature", for example.

35 Goodman, R., "Legalized Gambling: Public Policy and Economic Development Issues", *Economic Development Review*, 13, 4 (1995), 55–57.

but estimated it at $52,000.[36] On the other hand, research by Thompson et al. resulted in estimated annual social costs of $9,469.[37] If Walker & Barnett filter transfers out of this figure, they are left with $2,974.[38]

As regards the number of addicts, Soete & ter Weel assume one per cent of Maastricht visitors will become addicted, representing a cost item of €280 million. By referring to a study – admittedly not further specified – commissioned by the Province of Limburg, which puts the number of gambling addicts in the Netherlands at an estimated 40,000 (they themselves talk about roughly 0.6% of all gambling visits to Holland Casino), it can be argued at the very least that they are suggesting that a figure of one per cent is quite a generous estimate of the number of addicts. There is an important inaccuracy in this calculation, however (40,000 gambling addicts / 6,500,000 casino visits). Soete & ter Weel seem to have lost sight of the fact that not all of these 40,000 gambling addicts are hooked on casino gaming. People can also be addicted to lotteries, scratch cards or betting. Earlier we pointed out that gambling addicts engage in several kinds of gambling as a general rule. Moreover, the proportion of illegal gambling and illegal casinos should not be forgotten when it comes to interpreting the addiction statistics. Lastly, the importance of the venue should also be borne in mind. Someone who plays slot machines can do so in a casino, amusement arcade or in some eating establishments. Consequently, it is not possible to infer the proportion of casino addicts from the total number of addicts. What is certain is that an estimate of 40,000 casino addicts does not reflect the real situation in the Netherlands.

Turning to the costs of gambling addiction, it can therefore be concluded that the determined cost per addict and the calculated number of addicts are both wrong. This outline of the costs is therefore out of all proportion. Moreover, the statement by Soete & ter Weel to the effect that, if 2% rather than 1% of visitors are addicted, the damage would already be €560 million, proves nothing. It is merely a platitude. Soete & ter Weel's argument is thus verging on being highly tendentious. The same picture emerges if we look at the €70 additional costs per adult resident of a city or region for crime, drug nuisance, (illegal) prostitution and illegal money practices. This would amount to €7 million for the City of Maastricht. The authors add that these costs rise if the outlying area of Maastricht is also included. Soete & ter Weel have once again made a biased statement: it goes without saying that the costs will be higher if this area is included in the analysis, since the scale or geographical reference area of the

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36 Kindt, J., "The Economic Impacts of Legalized Gambling Activities", *Drake Law Review*, 43, 1 (1994), 51–95.

37 Thompson, W., Gazel, R. & Rickman, D., "Social and legal costs of compulsive gambling", *Gaming Law Review*, 1 (1997), 81–89.

38 Walker, D. & Barnett, A., (1999), ibid, 202.

analysis will have changed. The fact that the benefits are also greater in this larger area is not mentioned. This emphasises the importance of establishing a geographical reference area prior to conducting the analysis.

If we look at the situation regarding employment, Soete & ter Weel's argument is once again highly debatable. They argue that the local economy loses purchasing power as a result of national tax payments and dividends paid out to shareholders and they convert this loss into job losses. In view of their opinion that opening the casino will lead to a shift in spending (cf. supra), only the difference between the tax payments of the casino industry and those of other sectors (where the money used to be spent) needs to be taken into account, however. The same applies for dividend payments. Ultimately – as Soete & ter Weel see it – all national tax payments and dividend payments (including those on non-casino activities) entail a loss of regional purchasing power. This last point must immediately be qualified, however. As far as dividend payments from the planned Harrah's casino resort are concerned, it is reasonable that these will go to American shareholders outside the Netherlands. The situation is different with regard to taxation, since some of the tax paid by Maastricht will find its way back to the city in the form of grants and other payments to the local authorities.

All this means that the estimated loss of 950 jobs is also a matter of some dispute. Let us just look at Soete & ter Weel's reasoning again. According to them, a total of €142 million will flow out of the local economy. In terms of employment, this means a loss of 3,550 jobs (€142 million divided by wage costs of €40,000).[39] Soete & ter Weel then look at additional jobs. They subtract the job losses at Holland Casino Valkenburg (681) from the total number of estimated direct and indirect jobs (4,400). They then calculate 70% (the estimated proportion of local employment in total employment creation) of the difference (3,719), which gives 2,603.3 extra local jobs. Finally, they subtract these 2,603.3 extra local jobs from the job loss of 3,550, making an overall loss of 946.7 jobs (rounded up to 950).

Due to the fact that Soete & ter Weel deviate from their assumptions (for example that the casino would primarily cause a shift in spending) and only partly examine the tax issues (only cash outflow and not cash inflow), it can be concluded that their analysis is not accurate. It was also touched upon earlier that Soete & ter Weel have deliberately excluded from their analysis some positive consequences (e.g. on employment) of opening the casino.

One concluding criticism with regard to employment concerns the general focus of the analysis. The impact of opening a traditional casino manifests itself in many different ways. By expressing tax payments and dividend payments

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39 Note that this is the sum of 2,600 and 950 jobs. Soete & ter Weel wrongly mention 2,700 jobs. The total of 3,550 is correct.

in terms of job losses, Soete & ter Weel actually want to create a standard of comparison. In this sense all other benefits and costs could also be expressed in terms of jobs. This comes across as implausible – at least as far as one's perception is concerned: Soete & ter Weel make job losses one of the focal points of their argument, as if in doing so they want to make the imminent threat of the casino tangible. Their predictions in this area are based on a debatable analysis, however, and the impact in terms of employment will never materialise.

Taking Stock

Having taken stock all the advantages and disadvantages of opening a casino in Maastricht, Soete & ter Weel come to a negative conclusion. They observe – rightly perhaps – that local policymakers are particularly alert to the various benefits of setting up a casino resort, but want to offload the costs, onto countries abroad if at all possible. Their final verdict that, in the analysis conducted by local officials, displacement effects are ignored and no account is taken of the drain on the region's purchasing power is in all probability correct. There is little hard data available, however, to be able to clearly document the impact of opening a casino in Maastricht. Despite what they say in their introduction, Soete & ter Weel fail to show how a full economic assessment should be made, since they have not carried out a proper analysis. Their negative final conclusion about Harrah's casino resort in Maastricht must therefore be branded as untenable. While local policymakers may be overly positive about the project, Soete & ter Weel fail to prove that the disadvantages outweigh the advantages.

4.3.3. An Important Lesson Learnt from the Maastricht Case and the Article by Soete & ter Weel

An important lesson may be learnt from the Maastricht case. It shows that it is unrealistic to assume that an economic analysis of the costs and benefits of opening a casino is something that can be done just like that. The information available from Harrah's, from the City Council and from Buck Consultants International is too limited to enable a full cost-benefit analysis. Soete & ter Weel's resolutely negative conclusion concerning opening a casino is therefore a bit premature. The value of their article lies mainly in the fact that it raises a number of key issues in the debate and in the policy concerning casinos. More detailed research is needed on these topics, however, to ensure that the decision-making process, like the one in Maastricht, proceeds in a more thorough and transparent manner.

5. Recommendations for Further Research

The principle of a cost-benefit analysis is simple. The discussion of the Maastricht case shows, however, that practical application is a more complex matter. A cost-benefit analysis aims to make pronouncements about topics that span different social domains. Its value thus largely depends on the accuracy of its component parts.

5.1. *In-depth Research into the Components of a Cost-Benefit Analysis*

When it comes to such a socially and politically loaded issue as the regulation of gambling, in particular the regulation of traditional casinos, policymakers and the general public often want to have certainty about the advantages and disadvantages of opening a casino in the form of specific figures or a definite statement such as "the costs exceed the benefits" or, conversely, "the advantages outstrip the disadvantages". Up to now academic economic studies have followed this line: in many cases they focus on the development or implementation of one single model incorporating both the costs and the benefits. With a few calculations this model should produce a net result that can then be used to defend arguments for and against. It is not easy to put together such a model, however.

Firstly, this kind of model is made up of a number of components on which there is no consensus. On the one hand it is disputed whether some components should even be in the model at all, while on the other there is dissension about the way in which impacts can be measured and assessed.

Secondly, a comprehensive model can never be interpreted correctly without making the necessary subtle distinctions. Citizens (and thus politicians too) have little time for technical subtleties. Theoretically, the value of stolen property is not a social cost, gambling pleasure is difficult to quantify and the cost of the care and treatment of addicts is not easy to work out. Nevertheless, the attention devoted to these aspects is justified, as otherwise the overall picture would be far from clear.

The third point to be made is that the question of whether there should be a casino in a city ultimately requires a political response. Sight should not be lost of the fact that the political priorities of policymakers differ, so that they may set to work with models or model components in very different ways. Some arguments are given more weight than others, with the result that the overall picture becomes politically coloured.

The academic search for a comprehensive model perhaps needs to be turned around and the focus switched to its component parts. There is a need for in-depth research into the impact of gambling and casinos, which would involve investigating the link between opening a casino and one specific impact or a limited number of impacts. This would provide policymakers with better and more reliable material to enable them to formulate gambling policy. Determining

how that material is ultimately used is a task for these same policymakers. It is up to them to decide whether to accept specific arguments and what weight to give them in the decision-making process.

5.2. *The Theoretical Framework, the Methodology and the Empirical Data*

Sound research into the impact of gambling requires a good theoretical framework, a reliable methodology and empirical data material that is tailored to the subject of the analysis.

It is important for two things to be clearly determined in the theoretical framework. Firstly, the private and social costs and benefits must be defined. This point was discussed earlier. Standard terminology must be strictly adhered to, particularly in academic studies. The value of a stolen vehicle is a transfer of wealth. Using this value as an approximation of the social cost associated with the theft is not the right thing to do. From the victim's point of view, the loss of the vehicle is of course a cost. This is the very reason why academic and political/social reasoning diverge: how can it be explained to the victim that the value of stolen property is only a transfer and hence is not taken into account when weighing up the advantages and disadvantages of a casino? This is no reason to depart from the current terminology, however.

Secondly, the geographical area used as a basis for the analysis must be established. Even though this is a crucial point, such an area is often not clearly defined in public and political debates: the City of Maastricht talks about the consequences for the city itself while the Province of Limburg focuses on the impact on the province as a whole. In academic studies, however, it should not be necessary to have to read between the lines to find out the scale of the analysis. Yet it is often the case that the geographical reference area is only included in the analysis indirectly. Soete & ter Weel also grapple with this difficulty, with the result that their final verdict swings back and forth like a pendulum between different conclusions: the net result for the city may be negative, but is that also the case with the net result at regional and national level? Soete & ter Weel do much to encourage this vagueness through a lack of consistency in their use of words: for example, they talk about the area ("*streek*") around Maastricht, the outlying area ("*buitengebied*") of Maastricht and the region ("*regio*") of Maastricht. It is therefore vital to use clear terminology and operationalise research questions.

This brings us to the need for a reliable methodology. To be able to put figures on the impact of opening a casino, a good methodology is essential, particularly when identifying the causal links between casinos and a number of social phenomena. For this reason the extent to which this kind of research can rely on knowledge and expertise gained in other research fields must be examined. As far as gambling addiction is concerned, researchers might look at the current status of sociological and psychological research into the impact of, for example, alcohol and drug addiction, and at the methods used to gauge these forms of addiction

and their impact.[40] It is interesting to ask ourselves whether the advantages and disadvantages associated with these types of addiction are also weighed up in economic terms. With regard to tourist appeal, the evaluation of the impact of, for example, setting up an amusement park or a multi-purpose building might be considered. If displacement effects are being assessed, comparisons with other research fields would be particularly appropriate.

Finally, there must be good empirical data. At the moment all kinds of academic and pseudo-academic research is used to support the most diverse points of view. It is well worth bearing in mind, however, that methodological difficulties in collecting and interpreting data often make research results debatable. Moreover, the results are only rarely comparable due to differences in perspective or the use of a different methodology. Institutional differences between countries (e.g. differences in gambling legislation, tax regimes, addiction prevention measures and social security systems in relation to the care and treatment of addicts) mean that empirical data is so specific that the results of nationally or locally oriented research into the advantages and disadvantages of casinos cannot simply be transferred to other countries or areas.

5.3. The Importance of Primary Sources and an Interdisciplinary and Transnational Approach

Earlier we pointed out the need for in-depth research focusing on the components of the cost-benefit analysis. At best, academic studies confine themselves to investigating the link between one type of gambling and one or a limited number of social phenomena. Theoretical assertions must then be corroborated by data material from primary sources.

In many cases the impact of casinos and the associated personal and social costs and benefits can be expressed in monetary terms. If research in this area is underpinned by a good theoretical and methodological framework, there can be little objection to it. However, while researchers without any economic background, e.g. sociologists, psychologists and criminologists, may have relatively little idea of how to cost certain phenomena, economists often have little affinity for field research. This difference in methodology points to the need for interdisciplinary research, with sociologists, psychologists and criminologists informing economists about their respective disciplines. Partly on the basis of this, economists would be able to clearly formulate their information needs. Social scientists could then conduct the necessary field research based on these demands. Finally, the entire academic team would have to interpret the results.

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40 Single, E., "Estimating the Costs of Substance Abuse: Implications to the Estimation of the Costs and Benefits of Gambling", *Journal of Gambling Studies*, 2 (2003), 215–233.

In Europe, where there is currently a relative lack of studies on the impact of gambling, it would be a good idea to form research groups with a thorough knowledge of the national gambling market in the various EU Member States. These groups would need to exchange information about research methods and research results. It goes without saying that studies conducted in countries with a longer history of gambling research – primarily the United States – would also need to be examined.

Appendix 1.
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Appendix 2. University Gambling Research Centres[42]

Table 1. Research Centres in the United States

Research centre	Director (number of researchers)	Mission statement – objectives – website
Institute for the Study of Gambling and Commercial Gaming University of Nevada, Reno Founded in 1989	W. Eadington (+3)	… The Institute serves as a structure to broaden the understanding of gambling and the commercial gaming industries. Its aim is to encourage and promote research and learning so that the multifaceted issues surrounding gambling and commercial gaming and the ways in which individuals and society-at-large are affected might be addressed. <www.unr.edu/gaming/>
International Gaming Institute University of Nevada, Las Vegas	P. Becker (+4)	The goal of the Institute is to be the premier source of information and training for the gaming industry. Our mission is to provide educational programs, conduct gaming research and disseminate gaming knowledge via seminars, classes and publications to individuals, businesses and governments throughout the world. <igi.unlv.edu/>
Center for Gaming Research University of Nevada, Las Vegas	D. Schwartz	Collect, archive, and preserve primary research materials concerning gaming and related issues (i.e., company and state documents). Maintain the world's largest library collection of books written about gambling, both scholarly and popular. Maintain the world's largest collection of gaming and related periodicals and serials. Collect unique historical material in the form of company and personal manuscript collections and papers. Conduct oral history interviews with those involved in the gaming industry. *cont'd*

42 Information obtained from various websites on 1 December 2006. In view of their specific nature, centres that conduct research into the impact of Indian/tribal gaming and native casinos have not been included.

Research centre	Director (number of researchers)	Mission statement – objectives – website
Centre for Gaming Research – cont'd		Assist academic researchers, media professionals, industry members, and the generally curious in answering research questions about gaming and related issues. Answer or refer media inquiries about gaming and related issues. Provide access to archived materials for researchers and production crews. "Publish" articles and reports of special interest in our online Reading Room. Make accessible as many resources as possible through the website. <gaming.unlv.edu/>
The Institute for Gambling Education & Research The University of Memphis Founded in 1998	J. Whelan and A. Meyers	The Institute was founded after three years of gambling related research, and shortly after receiving requests from individuals and families seeking services to help with gambling related problems. Our Mission is threefold: To conduct basic and applied research on gambling and problem gambling behaviour; To provide quality low cost services to Mid-Southerners who experience gambling-related problems; To provide education to individuals, community organizations, and business and industry about problem gambling. <gambling.memphis.edu/>

Table 2. Research Centres in Canada

Research centre	Director (number of researchers)	Mission statement – objectives – website
Le Centre québécois d'excellence pour la prévention et le traitement du jeu Université de Laval Founded in 1975 (?)	R. Ladouceur (+16)	Nos principaux intérêts de recherche: La prévalence du jeu excessif au Québec; L'évolution des habitudes de jeu dans la population québécoise; Les coûts sociaux du jeu excessif; La prévention du jeu pathologique chez les jeunes et les adultes; Les mécanismes psychologiques impliqués dans le développement et le maintien des habitudes de jeu; Les facteurs de risque et les facteurs de protection liés au jeu excessif; L'évaluation et le traitement des joueurs excessifs. <gambling.psy.ulaval.ca/>
The Alberta Gaming Research Institute, University of Alberta, University of Calgary, and the University of Lethbridge Founded in 1999	Vickii Williams	Its primary purpose is to support and promote research into gaming and gambling in the province [of Alberta]. The identified research domains include bio-psychological and health care, socio-cultural, economic, and government and industry policy and practice. The Institute aims to achieve international recognition in gaming-related research. It is coordinated by a Board of Directors working in collaboration with a consultative stakeholder group. The Ministry of Alberta Gaming provides funding to the Institute. <www.abgaminginstitute.ualberta.ca/>
International Centre for Youth Gambling Problems and High-Risk Behaviors McGill University, Montreal, Quebec Founded in 2001	J. Derevensky & R. Gupta (+11)	The Centre is committed to the advancement of knowledge in the area of youth gambling and risk-taking behaviours, through the development of both basic and applied research. Members of the Centre and our International Advisory Board are engaged in a multitude of research projects directly addressing youth gambling problems and that of co-occurring disorders. As part of our broader mandate to understand youth gambling, the Center is also engaged in training, treatment, prevention, information dissemination, and policy development. <www.youthgambling.com/>

Research centre	Director (number of researchers)	Mission statement – objectives – website
Problem Gambling Research Group University of Windsor Founded in 1993	G. Frisch (+5)	[T]o increase the understanding of gambling and problem gambling in the community. The Group's initial program of research had been to monitor the impact of increased gambling availability on gambling in the Windsor community. The increase in gambling availability in the City of Windsor has included the opening of a commercial casino (Casino Windsor), simulcast track wagering, off-track horse betting, extended hours of bingo operation, Nevada tickets sold in non-licensed establishments, and an increased number of lottery products. These increases in gambling availability have made the Windsor community a natural laboratory for the study of gambling behaviour. <web2.uwindsor.ca/pgrg/>

Table 3. Research Centres in Australia and New Zealand

Research centre	Director (number of researchers)	Mission statement – objectives – website
Centre for Gambling Research (CGR) The Australian National University, Canberra (Aus) Founded in 2002	J. McMillen (+2)	The Centre's aims are to conduct a regular program of research and publications which will focus on: the social and economic effects of gambling; the prevention of problem gambling; the regulation of gambling; the nature of the gambling industry; and consumer education on gambling. <gambling.anu.edu.au/>
The Gambling Research Unit, University of Sydney (Aus)	M. Walker	To conduct and promote high quality research into gambling behaviour. The focus of the unit is on understanding why people gamble excessively and on determining how best to help people cut back and stop. <www.psych.usyd.edu.au/gambling>
Centre for Gambling Education & Research Southern Cross University, New South Wales (Aus)	N. Hing (+ 5)	[A]ims to achieve excellence through the development and provision of quality education and research relating to gambling, its operations, management, policy and impacts. The CGER has 4 primary objectives: Increase knowledge of gambling; Enhance teaching through research and scholarship; Provide research training through higher degree programs; Engage in community service through the provision of research and professional consultation. <cger.scu.edu.au/>
Gambling Research Centre Auckland University of Technology (NZ) Founded in 2003	M. Abbott (+ 6)	The emphasis of the Centre is on the conduct of applied research that informs policy and professional practice in public education, population health and primary and secondary health care. ... the Centre aims to: disseminate research-based information through publications, seminars and mass media; advocate evidence-based gambling policy and service provision; *cont'd*

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Research centre	Director (number of researchers)	Mission statement – objectives – website
Gambling Research Centre – cont'd		develop and provide education programmes in conjunction with problem gambling service providers and the gambling industry; and work collaboratively with other research organisations and stakeholders. <www.aut.ac.nz/research/ research_institutes/niphmhr/gambling_ research_centre/>
The Centre for Gambling Studies University of Auckland (NZ) Founded in 2001	S. Tse (+ 8)	CGS Key Priorities: Qualitative Research; Community Development Research; Behavioural Research; Population Based Research; Longitudinal Research; Intervention Research and Evaluation; Host Responsibility Research/Sector Development; Data Collection and Dissemination; Workforce Development. <www.health.auckland.ac.nz/ population-health/gambling-studies/>

Table 4. Research Centres in Asia

Research centre	Director (number of researchers)	Mission statement – objectives – website
The Institute for the Study of Commercial Gaming (ISCG), University of Macau (Macau) Founded in 2003	Fong Ka Chio, Davis (+13)	ISCG conducts research on all theoretical and operational aspects of gaming, which include economic and social impact of gaming, gaming laws and regulations, gaming surveillance and technology, casino marketing and management, and other issues arising from gaming operations. It brings together leading experts from various areas such as mathematics and statistics, economics, law, management, marketing, information system, sociology, history, and psychology. <www.umac.mo/iscg/>
The China Center for Lottery Studies (CCLS) Peking University (China) Founded in 2002	Shen Mingming	The main activities ... (1) promoting rigorous and interdisciplinary scholarship in China through a variety of research, training, and scholarly communication programs; (2) fostering international academic links and integrating Chinese lottery and gaming studies into the international community; (3) providing institutional assistance for Chinese and international scholars conducting research in the industry in China; and (4) generating and disseminating systematic social and economic data relevant to the industry for scholars, as well as for relevant government agencies and the business community; (5) sponsoring scholarly and professional conferences and workshops, publishing monographs, developing library resources, and producing journals and website. <ccls.pku.edu.cn/>

Table 5. Research Centres in Europe

Research centre	Director (number of researchers)	Mission statement – objectives – website
Centre for the Study of Gambling The University of Salford (UK) Founded in 1994	P. Collins (+2)	Undertaking research relating to the gambling industry. Providing teaching for people interested in developing a career within the industry. Increasing understanding of the industry by the wider public. ... Students learn about economics, focusing on the use of economic theory in the analysis of business problems, and examine gambling from an economic, social, cultural and mathematical perspective. <www.gamblingstudies.salford.ac.uk/>
International Gaming Research Unit (IGRU) Nottingham Trent University (UK)	Mark Griffiths (+3)	Product and service development: Game structure analysis; Risk assessment (e.g., identify potentially problematic features of games); Game testing and reviewing; Gaming laboratory experimental studies (design & implementation); Survey and prevalence studies; Focus group analysis and interviewing; Qualitative research (in general); Observational behavioural analysis using digital; Attitude and behavioural intention measurement. Staff development and training: Helping staff understand the customer and their working environment; Brand development and maintenance through awareness of social responsibility. <ess.ntu.ac.uk/gamingresearch/>
Betting Research Unit (IGRU) Nottingham Trent University (UK) Founded in 1995	L. Williams	[A]dvice and consultation on all matters to do with betting and gaming including: policy analysis; taxation and regulation issues; modelling, forecasting and data analysis; sports spread betting; financial spread betting; betting exchanges; fixed odds and pool betting; remote and internet betting; online gaming. <www.ntu.ac.uk/nbs/spec/betting_research_unit/>

Research centre	Director (number of researchers)	Mission statement – objectives – website
Research Group Police and gambling Tilburg University (Neth.) Founded in 2004	C. Fijnaut (+ 3)	[W]orks on gambling from criminological, juridical and economical points of view. Apart from the research on gambling, classes are given on the regulatory aspects of gambling to the Master of Law students of Tilburg University. Annual colloquia on gambling are organised. <www.tilburguniversity.nl/rpg/>
Gambling Research Center University of Hohenheim, Stuttgart (Germ.) Founded in 2004	T. Becker (+ 1)	Mehrere Institute und Lehrstühle sind an der Arbeit der Forschungsstelle Glücksspiel beteiligt, so dass u.a. folgende Fachgebiete abgedeckt werden: Ordenungs- und Verbraucherpolitik; Verbraucherverhalten; Wirtschaftstheorie; Öffentliches und Bürgerliches Recht; Angewandte Mathematik, Statistik und Ökonometrie; Haushalts- und Konsumökonomik sowie Genderökonomik; Spieltheorie; Mikroökonomik; Kommunikationswissenschaften; Marketing. <www.uni-hohenheim.de/gluecksspiel/>
Bergen Gambling Research Group University of Bergen (Norw.)	S. Pallesen (+ 7)	[R]esearch centre for pathological gambling. ... The group has established cooperation with the Bergen Clinics, which is a local competence centre for the treatment of addictions. ... also established formal cooperation with SIRUS (Norwegian Institute for Alcohol and Drug Research) concerning development of expertise, project development and research within the field of pathological gambling. ... psychophysiological research ... <www.uib.no/psyfa/isp/BGRG2/>

Appendix 3. Gambling Publications

Publication	Website	ISSN and detailed information
Journal of Gambling Behavior	Since 1990 this journal has been published under the title Journal of Gambling Studies.	ISSN (printed): 0742–0714 Classification: Compulsive Behavior; Gambling – Psychological aspects; Risk-Taking
Journal of Gambling Studies	<www.ingentaconnect.com/content/klu/jogs> <www.springerlink.com/content/1573–3602/> <springerlink.metapress.com/content/1573–3602/>	ISSN (printed): 1050–5350; (online) 1573–3602 Journal of Gambling Studies co-sponsored by the National Council on Problem Gambling and the Institute for the Study of Gambling and Commercial Gaming is an interdisciplinary forum for the dissemination of information on the many aspects of gambling behaviour both controlled and pathological as well as a variety of problems attendant to or resultant from gambling behaviour including alcoholism, suicide, crime and a number of other mental health problems. Articles published in the journal are representative of a cross-section of disciplines including psychiatry, psychology, sociology, political science, criminology and social work and are of interest to the professional and layperson alike.
Gaming Law Review	<www.liebertpub.com/publication.aspx?pub_id=16>	ISSN: 1092–1885 Gaming Law Review is the only authoritative Journal covering traditional land-based, Internet and Wireless gaming law. The Journal provides the latest developments in legislative, regulatory and judicial decisions affecting gaming at both the state and federal level in the U.S. and in more than 75 countries. Gaming Law Review covers key issues such as, gaming license requirements – within and across jurisdictions – legal aspects of credit and collection of debts, litigation in application, siting, and employment issues concerning casino operations,

cont'd

Publication	Website	ISSN and detailed information
Gaming Law Review – cont'd		new regulations in Internet and Wireless gaming, legal restrictions on gaming and advertising, gaming tax issues, intellectual property and much more. Legal aspects in all forms of gaming are covered, including casino games, lotteries, sport books and horse racing.
International Gambling Studies	\<taylorandfrancis. metapress.com/openurl. asp?genre=journal&issn =1445–9795\> \<taylorandfrancis. metapress.com/openurl. asp?genre=journal&eissn =1479–4276\> \<www.tandf.co.uk/ journals/titles/14459795. asp\>	ISSN: (printed) 1445–9795; (online) 1479–4276 International Gambling Studies is a peer reviewed interdisciplinary journal in gambling studies. Launched by a team of international experts with a commitment to the highest scholarly standards, International Gambling Studies adopts a transnational and comparative approach to the challenges posed by the global expansion of gambling in the 21st century. International Gambling Studies seeks to: be a leading voice for analysis and research in gambling studies, presenting work on the theory, methods, practice and history of gambling; encourage the application of perspectives from all social sciences including sociology, psychology, anthropology, statistics, economics, education, history, law, political science, community studies, management, industrial relations, leisure and tourism studies; overcome the divide between the theory and empirical research; advance excellence in gambling studies by integrating academic and industry perspectives, encouraging comparative studies and critical analysis; encourage articles that offer a new theoretical argument, provide new data or use an innovative methodological approach or mode of analysis; *cont'd*

Publication	Website	ISSN and detailed information
International Gambling Studies – cont'd		give theoretical and analytical expression to the intellectual and policy challenges in contemporary gambling; enhance the public relevance of gambling studies in the context of contemporary society and global economic development; and appeal to a wide readership. While contributing to new developments at the cutting edge of theory and method, the journal will be broadly accessible to practitioners, students and policy makers.

Gambling Policy in the European Union: Monopolies, Market Access, Economic Rents, and Competitive Pressures among Gaming Sectors in the Member States

William Eadington

1. Introduction

The purpose of this analysis is to provide a perspective on legal and economic dimensions of commercial gaming industries in the European Union – with specific emphasis on the casino industries in Europe – in comparison to similar industries in other parts of the world. This is intended to provide a platform for extrapolating from current developments in the European Union to find implications of current trends and events, based on the experiences of other jurisdictions.

The first portion of the analysis examines observations that were put forward by the author and others in the report, "Study of Gambling Services in the Internal Market of the European Union."[1] That study addressed the legal and economic challenges confronting the commercial gaming industries within the European Union in the early 21st century. The essence of the study is as follows.

The European Union's fundamental legal and economic principles relating to commerce are based upon the concepts of free and fair trade for goods and services among legal entities within the Member States and, more specifically, on the freedom of establishment within the European Union, and the freedom to provide services. Within the European Union, the freedom to provide services can be limited on the grounds of public policy, security and health, as contained in Article 46 of the EC Treaty. However further exceptions to the freedom to

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1   Study conducted by the Swiss Institute of Comparative Law, Lausanne, on behalf of the European Commission, June 2006. The author, along with Professor Richard Thalheimer of the University of Louisville, co-authored the economics portion of the Gambling Services Study.

provide services are possible, provided that the restrictions are found to have an 'objective justification'. In determining whether a restriction can be objectively justified, it must be found to be *proportionate*.[2]

European Union law also says, in general, that Member States are not permitted to discriminate against individuals or organizations from other Member States with respect to the delivery of services within the Union. This principle is known as *non-discrimination*. Exceptions to the freedom to provide services and non-discrimination can occur around so-called morality industries, such as alcohol, tobacco, and gambling. For these economic sectors (and others) Member States retain the right (the competence) to regulate the sector as long as they adhere to the fundamental freedoms and general principles of EC law, including the free movement of services. Indeed, as with the United States, unless a competence is explicitly given to the EC, then it resides with the Member State. With the so-called morality industries, the question of where the boundaries of the competences lie is still being debated via European Court of Justice case law and European Commission infringement proceedings. When deciding whether or not European Community institutions should have (some degree of) competences to regulate a specific sector, it would have to be shown that action within the Member States is insufficient and that the objectives (e.g. consumer protection for legal gambling environments) can only be properly upheld with the Community enjoying some competence to regulate.

With regards to the regulation of most aspects of the morality industries – alcohol, tobacco, gambling – Member States enjoy a considerable margin of discretion to maintain specific policies, which may include justifiable restrictions on the free movement of services. These restrictions form part of wider policies which reflect the desires of national policy makers to protect their citizens from the unintended negative social consequences associated with such industries. These policy objectives are often executed through the use of state monopolies and other constraints on offering such services. However, such restrictions, and ultimately the monopolistic models they support, can only be justified if they are proportionate. In this context, evaluation of the appropriateness of such exceptions can be discussed in terms of benefits and cost considerations.

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2   *Proportionate*, as it applies to restrictions against the provision of services, means that approaches that are adopted are the most efficient means of achieving the stated objectives, and the benefits that are achieved out-weigh the costs imposed by violations of fundamental European Union principles.

2. Legal and Economic Circumstances of the Gambling Services Sector in the European Union

The following general observations characterize the gaming and betting industries in 2006 in the European Union. A high proportion of gaming industries within the European Union are characterized by monopoly protection. These monopolies are formally justified by particular Member States on the basis that such market constraints provide protection for their citizens from adverse consequences associated with gambling. However, the protections also allow significant capture of *economic rents* by Member States; such economic rents are important contributors to general fund revenues, or are earmarked by Member States for a variety of good causes. The magnitudes of economic rents arising from protected commercial gaming industries in the Member States are dramatic, in excess of €30 billion.[3] This is why challenges arising from private sector organizations within the European Union who are foreclosed from competing in these markets have made this such a controversial political and legal issue.

For the most part, the gaming and betting industries within the European Union have become mature markets with slow growth or even stagnation in terms of revenue performance. In some respects, the performance of commercial gaming industries in the European Union reflects inefficiencies that are generally associated with monopoly or with organizations that are not confronted with the disciplines of competition. Monopoly, by its very nature, is characterized by constraints on supply, by higher prices than would occur in more competitive circumstances, and by limited choices confronting consumers. Furthermore, monopoly can lead to questionable quality of products offered in the marketplace, in comparison to what might prevail in a competitive environment. Furthermore, when there is either state ownership or significant state influence over operations, operators may not be clear with respect to what they are supposed to be doing. If a firm is in a highly competitive private sector ownership environment, maximizing shareholder wealth via pursuit of profitability of gaming operations is a much clearer objective than when there a protected market position for an organization that is subject to public scrutiny and political pressures.

However, as has characterized much of the litigation that has challenged the European Union's gaming and betting industries in recent years, state monopolies in gaming and betting – as well as limited or exclusive franchises that are protected by Member State law – are threatened by cross-border competition, especially from the Internet and the betting sectors. Much of the litigation that

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3   *Study of Gambling Services in the Internal Market of the European Union* (2006), a study commissioned and owned by the European Commission, pp. 1485–1487. The entire report can be found and electronically downloaded for free at <ec.europa.eu/internal_market/services/gambling_en.htm>.

has occurred in recent years has come about because of expansions and new technologies in these sectors, as well as the perceived or real threats that such competitors pose for the existing monopolies and protected sectors. Protected markets can be easily threatened by properly incentivized competitors.

The European Court of Justice has produced a number of important decisions since 1994 addressing the restrictions which Member States may uphold against the free movement of gambling services.[4] Non-discriminatory restrictions to the free movement of services can be justified by public policy objectives, including protecting consumers against the negative individual and social consequences of gambling. Such restrictions have to be proportionate to their objectives.

Based on the principle of subsidiarity,[5] Member States are not in violation of the European Community Treaty as long as restrictions on the provision of gaming services can be justified by the objectives of social policy and consumer protection aimed at limiting the harmful effects associated with gambling activities, the restrictions are not discriminatory, and they are proportionate to these objectives. Thus, the rulings of the European Court of Justice suggest the need to weigh the trade-offs between violation of fundamental European Union principles versus the benefits that may accrue by allowing Member States to provide such protections.

Interestingly the raising of money for good causes or for general fund revenues of Member States cannot be used as a justification for restrictive policy. This is one of the basic dilemmas associated with European Union policy toward commercial gaming. Every Member State is dependent to some extent on the economic rents captured through permitting monopolies – in one form or another – on gambling services. However, Member States cannot have such fiscal benefits as the primary or even a contributing factor for the legal justification. Thus, Member States are put into the position of having to offer hypocritical and sometimes disingenuous claims to the effect that the primary purpose of market-restricted gaming and

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4   The most important European Court of Justice decisions in recent years include Case C-275/92 *Schindler* [1994], ECR I-1039. Followed by: Case C-124/97 *Läärä* [1999] ECR I-6067, Case C-67/98 *Zenatti* [1999] ECR I-7289, Case C-243/01 *Gambelli* [2003] ECR I-13031 and Case C-42/02 *Lindman* [2003] ECR I-13519. Joined Cases C-338/04, C-359/04 and C-360/04, *Placanica*, judgment of 6 March 2007, not yet reported.

5   The principle of subsidiarity is found within Article 5 of the EC Treaty, which reads:

> The Community shall act within the limits of the powers conferred upon it by this Treaty and of the objectives assigned to it therein. In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community. Any action by the Community shall not go beyond what is necessary to achieve the objectives of this Treaty.

betting markets is to protect their own consumers, rather than generate revenues on behalf of the State.

The European Court of Justice has also stated that Member State gambling restrictions are only acceptable if they reflect an honest attempt to bring about a genuine diminution of gambling opportunities.[6] This creates conflicting objectives with regard to various Member States because the protected organizations typically are charged by their own governments with improving contributions to tax coffers or good causes. Furthermore, gaming and betting organizations typically want to improve their financial performance as organizations, and such inclinations are not necessarily consistent with actions that would "genuinely diminish" the gambling opportunities to their citizens at large.

The *Study of Gambling Services in the Internal Market of the European Union* (The *Gambling Services Study*) examined the status of European Union gaming and betting revenue performance by sector, which provided rough estimates of the size and competitive characteristics of the European Union commercial gaming industries. Table 1 presents estimates of aggregate Gross Gaming Revenues (defined as total revenues less payment of prizes) for the year 2003, covering the five measurable gaming sectors: casinos, lottery, gaming machines, betting services, and bingo services. For the European Union Member States in total, aggregate Gross Gaming Revenues were about 52 billion Euros.[7] A separate survey of remote gaming for internet gambling estimated gross gaming revenues of approximately 2.5 billion Euros for that sector in 2004.

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6   European Court of Justice, *Zenatti* (para. 36)

7   This includes those Member States that did not become members of the European Union until 2004. These Member States are Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

Table 1. Gross Gaming Revenues, by Country and Sector – European Union 2003[8]

	Total	Casinos	Lottery	Gaming Machines	Betting Services	Bingo Services
Austria	893,539	217,951	595,000	0	80,588	n/a
Belgium	679,306	47,478	485,734	136,767	9,327	0
Cyprus	72,584	0	34,060	0	38,523	n/a
Czech Republic*	593,400	66,300	109,200	346,700	34,300	1,900
Denmark	829,549	43,624	428,859	220,824	95,973	40,268
Estonia	24,730	18,187	6,544	n/a	n/a	n/a
Finland	1,240,874	22,000	485,000	571,000	157,000	5,874
France	7,603,200	2,546,000	3,085,200	0	1,972,000	n/a
Germany	8,420,817	958,673	4,991,217	2,335,000	135,927	n/a
Greece	1,068,203	88,721	474,000	0	505,482	0
Hungary	580,180	36,957	278,240	235,851	23,529	5,603
Ireland	1,143,638	0	264,900	242,692	608,914	27,132
Italy	6,204,712	616,744	4,502,000	0	974,981	110,987
Latvia	66,611	7,114	4,159	52,831	1,155	1,352
Lithuania	40,724	13,517	24,688	492	2,028	n/a
Luxembourg	96,584	77,907	18,676	n/a	n/a	n/a
Malta	113,921	23,269	23,884	0	65,923	845
Netherlands	2,064,500	699,400	783,200	564,000	17,900	n/a
Poland	432,408	44,535	295,393	52,703	37,691	2,085
Portugal	1,434,379	301,006	801,976	200,666	10,647	120,084
Slovakia	216,150	95,479	71,000	49,644	27	n/a
Slovenia	264,478	193,227	38,192	33,059	n/a	n/a
Spain	4,886,812	320,912	1,126,400	2,550,000	62,259	827,241
Sweden	1,583,200	124,900	664,200	224,100	506,700	63,300
United Kingdom	10,972,019	950,007	3,389,000	1,858,834	3,525,962	1,248,216
Totals*	51,526,518	7,513,908	22,980,723	9,675,162	8,866,836	2,454,887
Percent Of Total	100.0%	14.6%	44.6%	18.8%	17.2%	4.8%

(Figures are EUR)

* Total includes €35,000 in "other".

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8   *Gambling Services Study* (2006), *op. cit.*, p. 1104; shaded entries came from Gaming and Betting Global Consultants (2005), *Double or Quits? – Global Gaming Review 2004–2005*. London.

What is noteworthy is the composition of gaming revenues within the European Union. Lotteries take the largest share with nearly half (44.6%) of gross gaming revenue. Casinos provide a relatively unimportant 14.6% (in comparison to the experience of jurisdictions in other parts of the world.) Gaming machines (outside of casinos) generated 18.8% of total gaming revenues, much larger than their share in the United States. Betting services made up 17.2% of the total, and bingos contributed a small sliver of the overall pie, with 4.8% of the total.

The *Gambling Services Study* also made comparisons on the ratio of Gross Gaming Revenues to GDP within the European Union among the various Member States. These are presented in Figure 1.

Figure 1. Gross Gaming Revenues as percentage of GDP, 2003
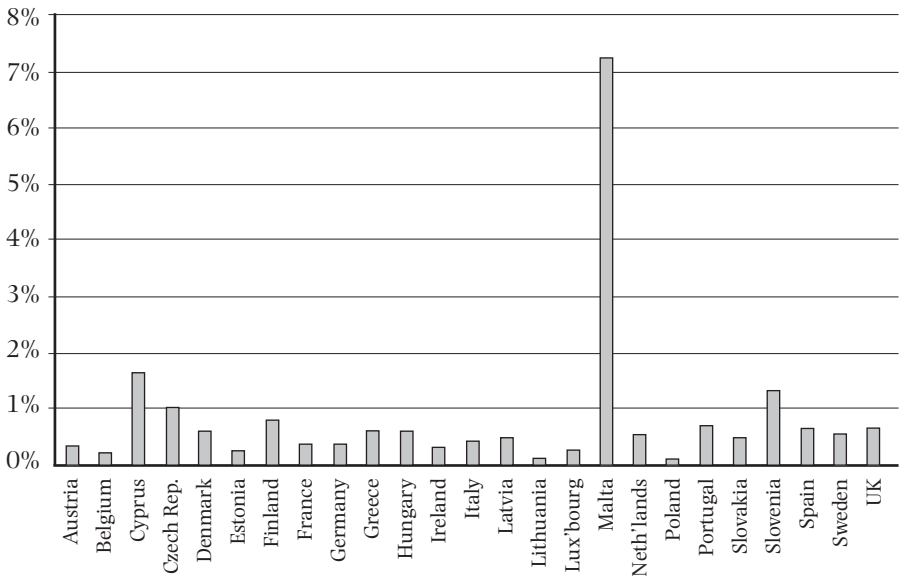
The variances from Member State to Member State are probably due to differences in the attractiveness and availability of various gaming products, especially gaming machines and casino style gaming. Malta, which is the striking exception, generates a high proportion of its gaming revenues from export-based internet gaming services.

It is also worthwhile to note differences in composition of spending between the European Union and the United States. Table 2 provides a breakdown for Gross Gaming Revenues by category for the United States.

Table 2. Gross Gaming Revenues by Sector – United States, 2004

	U.S.$ (billions)	Market Share
Casinos (Commercial and Tribal)	$50.0	63.5%
Lottery (including VLTs)	$21.4	27.2%
Pari-mutuel wagering	$3.7	4.7%
Bingo and Charities	$3.6	4.6%

Overall, the ratio of Gross Gaming Revenues as a proportion of GDP for the European Union (0.52%) is not significantly different from the United States (0.65%), though the composition is dramatically different. In 2004, the legal commercial gaming industries in the United States generated approximately US$ 80 billion in Gross Gaming Revenues, of which roughly two-thirds came from either commercial or tribal casinos. Commercial casinos are to be found in the eleven United States, including Nevada, that permit such casinos, which generated about US$ 30 billion in Gross Gaming Revenues in 2004. Tribal casinos, which are permitted in about 25 states in the United States, generated around US$ 20 billion in Gross Gaming Revenues.

The differences between the United States and the European Union in composition of Gross Gaming Revenues spending are quite dramatic. Casinos within the United States capture most spending on gambling, whereas in the European Union casinos provide a relatively small portion of total gaming spend. Among the important institutional differences is the fact that, in the United States, gaming machines outside of casinos are uncommon, whereas in Europe they are well established. Furthermore, American casinos are often much larger and more multi-dimensional in terms of non-gaming offerings than are those found in Europe.

A second differential factor is betting shops – legal betting facilities which permit wagers on races or sporting events. These are generally prohibited in the United States with only a few exceptions, but they are quite common in Europe.

Though both the United States and the European Union spend slightly more than one-half of one percent on gambling and betting services, a number of other countries – Canada, New Zealand, and Australia – are all above 1% on the Gross Gaming Revenues/GDP ratio, with Australia approaching 2% (Table 3). These countries also happen to have considerably more accessible forms of popular gaming, especially electronic gaming devices or gaming machines. Perhaps related to this higher ratio, all three of these countries have experienced substantial political backlash in the past decade related to gambling's social costs issues especially around problem gambling than has been the case in either the European Union or the United States.

Table 3. Ratio of Gross Gaming Revenues to Gross Domestic Product, 2003

European Union	0.52%
United States	0.65%
Canada	1.11%
New Zealand	1.45%
Australia	1.93%

3. Justifications for Subsidiarity: Protections of European Union Citizens

The primary question regarding the justification of national restrictions against the cross-border provision of gambling is: *Are Member States really providing adequate protections for their citizens against the negative consequences associated with gambling?* In the same vein, what is the relationship of particular protections to results of policies created by Member States? So far, Member States have claimed that the underlying purpose or philosophy for their justifications for monopolizing or constraining specific sectors of their gaming industries are the protections offered for consumers. However, there is virtually no scientifically based evidence that demonstrates the protections provided are actually working. This phenomenon – an absence of proof of the efficacy of protection-based strategies – is occurring throughout the world, though in different policy contexts.

There is only limited understanding and research that establishes cause-effect relationships linking problem and pathological gambling to the availability and access of permitted gambling services. There is even less understanding of the extent to which strategies are effective in terms of mitigating adverse consequences associated with problem gambling in a commercial gaming environment. Thus, jurisdictions throughout the world are typically approaching this issue without hard evidence but rather on hopes and beliefs. Often the attitude that "something must be done" leads to "symbolic" actions that are undertaken even when there is only low expectations that they might be even partially effective. So everybody is shooting in the dark. However, within the European Union, the issues of subsidiarity and proportionality are important as decisions taken upon the basis of these principles will impact upon the revenues Member States receive from gambling providers. Preserving protections of monopolies are necessary to insulate the current flow of economic rents from erosion by competition. However, following Community case-law Member States cannot justify restrictive measures on the basis of protecting revenue streams.

Could these protections be provided just as well or better under different ownership or market structure regimes? It has been argued that the existing gaming and betting industries in the European Union are justified in providing services even though they might violate fundamental EU principles via monopoly or market protections, or government ownership, because such structures are necessary to provide consumer protections. However, there is no evidence that demonstrates whether the protections provided actually work or not. Nor is there evidence that if market structures were modified towards more competitive markets or more private sector ownership whether situations would be much worse – or much different – with regard to protections than the status quo. These are the fundamental scientific questions on which the law may ultimately have to be determined.

The principle of proportionality can also be brought to bear on this question. There are indeed certain social and private costs that accrue to various economic actors – in terms of loss of efficiency, reductions in consumer convenience, and losses of consumer surplus – because of monopoly constraints or state ownership with respect to a consumer service activity. These must be weighed against the purported benefits coming from such protections. This is where the real challenge for future social scientists will lie in addressing this issue.

One implication of the relevant European Court of Justice decisions is that Member States must implement effective and verifiable mitigation programs or put at risk the substantial economic rents that come from their gambling sectors. In terms of the magnitudes of risk, the *Gambling Services Study* estimated that economic rents accruing either to member states, general fund revenues, or to good causes are somewhere in the vicinity of €37.6 billion, or about 73% of Gross Gaming Revenues in 2003.[9] These are significant amounts whose future will remain in doubt until the legal issues surrounding restrictions against the cross-border supply of gambling services are resolved. Of course, there are interested parties trying to persuade the European Court of Justice and the European Commission one way or the other in this very interesting debate.

The *Gambling Services Study* tried to provide insights for future developments within the European Union without passing judgment on how the legal arguments might ultimately be resolved. Models were developed to project forward what might happen to Gross Gaming Revenues and to economic rents to the year 2010, broken down by Member State and by gaming sector under three scenarios.[10]

The first model scenario – referred to as the "preservation of the status quo" – basically assumes that the current legal environment would remain relatively unchanged for the next five years; and patterns of growth of the various sectors

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9   *Gambling Services Study*, *op. cit.*, p. 1404

10   This entire analysis can be found at *ibid.*, pp. 1399–1430

of the commercial gaming and betting industries within the Member States would reflect their current economic and legal realities. Because, for the most part, Member State gaming markets are relatively mature, they would grow in proportion to aggregate personal income in the respective Member States. Under this scenario, Gross Gaming Revenues would increase to about €60 billion and economic rents to about €44 billion by 2010. The economic rents captured by Memer States reflect tax revenues and "taxes-in-kind" that would be collected as a by-product of the profits that emerge from the constrained markets of the gaming and betting industries.

The first alternative scenario – the "moderate change" scenario – assumes that legal findings would find in favor of those who have argued that market protections cannot be legally justified on proportionality grounds, i.e. the protections that come from state monopolies could just as efficiently be delivered with private sector ownership alternatives. However, the protective measures that affect consumers – such as limitations on advertising, hours of operation, games to be offered, prohibitions on credit, etc. – would be preserved. The moderate change scenario would open the door to additional competitors who could then bid on limited license opportunities for casinos, lotteries, or whatever opportunities may be available. In this case, the model suggests that growth in Gross Gaming Revenues would be about the same as the status quo scenario, but there would be some erosion in economic rents brought about by a more competitive environment.

The second alternative scenario – the "dramatic change" scenario – assumes that the courts would find that justifications for restrictive measures would largely be thrown out and the European Union's commercial gaming industries would be open to much more substantial competitive pressures in the forms of cross-border competition, greater numbers of providers of gambling services, and better access to gambling services for consumers throughout the European Union generally. In this case, there would be more substantial growth in Gross Gaming Revenues, as a by-product of increased competition. To some extent, revenue growth would be neutralized by downward pressure on prices that, *ceteris paribus*, would lower revenues as markets moved away from monopoly pricing towards more competitive pricing. However, based upon elasticity studies from the literature that were used as a foundation for the modelling, it was estimated that Gross Gaming Revenues would grow moderately over the next five years; however, there would be significant erosion in economic rents. The model only looked forward about five years. Longer term implications might be even more dramatic if, indeed, harmonization were to come to the commercial gaming industries.

4. A Case Study: the Casino Industry in the European Union

The balance of this analysis addresses the casino sector in the European Union and discusses the implications of greater competition for this particular sector as part of the broader question: "What would happen in the European Union if the legal rules that govern competitive conditions change?" This could occur as a result of either European Court of Justice decisions, the development of secondary Community legislation, or because of competitive pressures coming from either Member States or nearby countries that would subject the European casino industries to competition similar to developments elsewhere in the world. This section examines the implications of such a direction, how such a transformation might take place, and what Europeans might anticipate based upon the experiences elsewhere.

The casino industries of Europe are presently noteworthy because of a number of characteristics. When casinos were legalized and authorized by the various Member States over the past century, it was common for countries to mimic the laws and practices of casino industries in nearby or adjacent countries. For example, the French casino industry – whose enabling legislation was passed in 1907 – was influential in shaping the Spanish casino industry in terms of labour practices, ambiance, size, and even tax revenue structures. Most casinos throughout the European Union follow the legal pattern of limited or exclusive licenses that form the basis for regional monopoly casinos. Rarely in the European Union is there anything that approaches competition in the American context – as one would find in casino industries in Nevada, Atlantic City or Mississippi.

In comparison to many other parts of the world, casino industries in the European Union have seen relatively little change in legislative status over the past three decades. Legal casinos in Germany, Austria, and Italy pre-date World War II. The Netherlands legalized casinos in the early 1970s; and Spain and Luxembourg authorized their casinos in 1977. Switzerland had very limited casinos throughout the 20th century, but passed their current law in 1992. However, they did not implement the new law until after 1999. Sweden enacted its legislation in 1999, and opened four state-operated casinos (through the lottery Svenska Spel) over the next few years. Belgium legalized casinos in 1999 even though there had been "illegal" casinos openly operating and paying taxes without enabling legislation for some time. Between 1999 and 2005, the United Kingdom went through a very thorough but in some respects unsuccessful effort to reform their casino gaming laws with the Gaming Act 2005.[11] The prior legislation was the Gaming Act 1968.

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11   The original intent of the Gaming Act 2005 was to allow a number of "regional casinos" that would both meet the demand of British consumers and serve to regenerate city centers throughout the country, linked to the nine regional planning jurisdictions in the country. However, because of political manipulations prior to the 2005 elections, the Act

Tax rates for casinos in the European Union are comparatively high by world standards. Furthermore, labour unions exercise considerable influence in many European Union casinos relative to other jurisdictions. Ownership of casinos throughout the European Union can be either private sector or government ownership; however, government is always the major revenue sharer through direct ownership or high tax rates.

There is considerable resistance to change and strong political sentiment for protectionism, especially among some of the original Member States of the European Union, such as France, Italy, the Netherlands and Germany. More competitive dynamics, for the casino sector at least, can be seen in the newer Member States of the European Union, especially Eastern European countries.

Some of the important distinctions that can be made when comparing European Union casino industries to casino industries globally can be based on traditional economic typologies. Table 4 summarizes a number of these distinctions. Those attributes noted in **bold** are found in European Union casino industries.

Table 4. Typologies for Casino Industries

Ownership structure	**Private**	**Government**	Hybrid
Tax rates	Low	Medium	**High**
Market structure	Monopolistic competition	**Oligopoly**	**Monopoly**
Regulatory constraints	**Casino size,** bet size, **credit, hours of operation, games to be offered**	**Mandated responsible gambling dimensions**	**Questioned legitimacy of private profit**
External competition	**Other casinos; cross-border casinos**	**Convenience gaming**	Internet gaming
Growth potential	**Legal constraints against expansion**	**Dependent upon expected returns on invested capital**	**Affected by ownership structure**

Ownership structures in the United States are typically private sector in orientation with the exception of American Indian tribal casinos, which are government owned. Casinos in Australia, New Zealand, South Africa, Macau, and most of South America are privately owned, as are casinos in UK, Estonia,

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was amended such that the number of permitted regional casinos was reduced initially to eight, and then later to one. Furthermore, the government's recommended siting for that one regional casino was rejected by the House of Lords in spring 2007.

Spain, France, Portugal and Greece. Government ownership of casinos is the norm in the Philippines, in Quebec and Manitoba in Canada, as well as Austria, the Netherlands, Finland, Slovenia, and Sweden. There are also various hybrid ownership structures where government owns a portion of the assets or operations of casino operations, and private sector interests own the balance of assets. This is the case in British Columbia, Alberta, Ontario and Nova Scotia, as well as in Switzerland and Italy.

There is tremendous variation in tax rates for casinos from jurisdiction to jurisdiction around the world. Tax rates on gross gaming revenues for casinos range from a 6.75% rate in Nevada and 8% in Atlantic City to rates that climb as high as 80% to 92% in parts of Europe. As a general rule, the tax rates imposed on casinos in the European Union are substantially above those in most other casino jurisdictions in the world. (See Table 5.)

With respect to market structures, monopolistically competitive and oligopolistic casino industries can be found in the American jurisdictions of Nevada, Atlantic City, and Mississippi, but almost nowhere else. Such markets have evolved toward oligopoly largely as a result of economies of scale and scope inherent in the casino/hotel resort industry.[12] Monopoly markets – created typically by legislative constraints and exclusive casino franchises – are not uncommon in Europe and, for that matter, in many other parts of the world as well.

There are a wide variety of regulatory constraints that casino industries have to abide by. Casino size – constraints on how large casinos can be – is one that has greater importance in Europe than in many other parts of the world. This is often a zoning and planning issue at the municipal level, though high tax rates have the effect of discouraging the levels of capital investment that characterize modern "mega-casino" complexes. European casinos are substantially smaller than modern casinos found in many other countries, including the United States, Australia, Macau, and South Africa.

Limits on the size of wagers that can be made within casinos, prohibitions against credit, limited hours of operation, specifications on which games or devices can be offered, mandated responsible gambling programs, and challenges to the legitimacy of private profit from casino operations, also appear as regulatory constraints on casino operations. Various Member States declare as a matter of policy that private profit is not a justifiable outcome of casinos. In such cases, profit has to be redirected to state coffers or "good causes," at least partly because of the moral taint associated with gambling as an activity.

Casino industries are also affected by external competition. This may take the form of cross border competition emanating from another Member State, another province, or another country, where casinos are competing for the

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12   See, for example, William R. Eadington, "The Economics of Casino Gambling," in *Journal of Economic Perspectives*, vol 13, no. 3, August, 1999, pp. 173–192.

Table 5. Maximum Percentage Tax Rates on European Union Casino Gross Gaming Revenues

Member State	Maximum Incremental Percentage Tax Rate (2004)
Austria	80% for tables; 48% for EGMs
Belgium	44% for tables; 50% for EGMs
Cyprus	N/A
Czech Republic	31% for tables; 20% for EGMs
Denmark	75%
Estonia	60%
Finland	All profits accrue to State
France	80%
Germany	92%
Greece	33%
Hungary	34.5%
Ireland	N/A
Italy	72%
Latvia	25%
Lithuania	Unit tax on tables and machines
Luxembourg	Between 10% and 80%
Malta	40%
Netherlands	33.3%
Poland	50%
Portugal	50%
Slovakia	27%
Slovenia	50%
Spain	61%
Sweden	All profits accrue to State
United Kingdom	40%

same customer base. Convenience gaming – gaming machines located outside of casinos – may absorb a significant portion of demand for gambling if there is a substantial gaming machine industry. This is the case in many European Union countries, including the UK, Spain, Germany, Finland, Sweden, and the Netherlands, as well as Australia, New Zealand, and Canada; gaming machines are largely prohibited in France, Austria, Italy, and the United States. Internet gaming is another growing and emerging external competitive factor that will likely affect the casino industry in varying degrees in different parts of the world, but it still has many of its own legal and legitimacy challenges in various countries.

The growth potential of casino markets is often linked to potential returns on invested capital, as well as legal rights to expand. In many European Union jurisdictions, it is virtually impossible for casinos to grow beyond their current dimensions without new legislation because of political and legal constraints either at the national or local level.

Nonetheless, casino law has seen substantial liberalization in many parts of the world over the past two decades, and there is reason to believe the same considerations will soon – or eventually – come to the European Union. Typical objectives when enacting or liberalizing casino law can be found in one of three arguments. Liberalization of casino laws is often undertaken for fiscal benefits – to generate tax revenues either for the general fund or for earmarked purposes. Alternatively, casinos might be justified on the economic benefits they create; casinos can be strong catalysts to reverse the decline of particular regions, cities or areas within cities, for example. The third justification lies in the creation of consumer benefits; casinos are sometimes authorized because a jurisdiction's citizens want to participate in casino gaming, and there is consensus that people have the right to make their own choices over such activities.

However, it is not unusual for governments to be unclear in stating their explicit objectives for legalization or liberalization. A good example of this is found with the United Kingdom's legislative efforts between 1999 to 2005, which led to passage of the Gaming Act 2005. The process was initiated by the Home Office with formation the Budd Commission in 2000, whose final report argued that the primary purpose in reforming the law was consumer benefit.[13] However, after government and parliamentary review, this objective eventually evolved into regeneration of needy areas as the primary purpose of reforming the law. Finally, at least with respect to casinos, the lack of clear objectives, along with an aggressive and cynical media campaign, resulted in passage of

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13   Department of Culture, Media and Sport, *The Gambling Review Report* (The Budd Report) 2001; retrieved at <www.culture.gov.uk/Reference_library/Publications/archive_2001/ gamb_rev_report.htm>.

an inconsistent and generally unsatisfactory piece of legislation, at least with respect to casinos.

What the British experience points out, and what the experience of many other jurisdictions has also demonstrated, is that it is politically difficult to justify consumer benefit as the primary reason for legalization or liberalization. The gaming industry remains a second class industry in the eyes of many, and casinos are symbolic of gaming in general. However, of the other two motivations for legalization or liberalization of casino laws, economic development potential is arguably considerably greater than fiscal contribution potential. This is perhaps best demonstrated by the experiences of casino developments and related investments in the cities of Melbourne, Australia and Cape Town, South Africa. In both cases, the economic rents created by casino legalization, and their ability to either concentrate economic activity around the casino or to fund other capital investments as part of the competitive bid process, resulted in spin-offs that generated significant economic benefits for the respective cities.

5. The Essential Policy Question, and the Future of Gaming in the European Union

The fundamental hypothesis suggested by this analysis with regard to the European Union is: *Does the current restrictive structure that prevails for casinos and other commercial gaming and betting industries throughout the European Union really provide protections that are not realized in other countries?* The European Union has monopolies and protected markets not only for casinos but for all other forms of commercial gaming, but do they really do a better job in protecting consumers than is the case in America, Australia, Canada, South Africa, or other jurisdictions that have different market structures? That is a question of science. Furthermore, what science reveals may undermine the reasoning behind national restrictions to the cross-border supply of gambling services within the European Union.

A related question is: *Will Europeans embrace the kind of casino gaming that characterizes much of the rest of the world?* In other words, if some Member State laws were modified to permit American-style destination multifaceted casino resorts, would Europeans find them attractive? Many in Europe would claim: "No, we are different," but the counter-question is: "Are Europeans different in terms of their tastes and preferences – in fundamental human behaviours with respect to gambling – from what can be found in every other corner of the world?" It is likely that Europeans are not much different than people who have left Europe for other parts of the world, and who have embraced other models of gambling that are quite different than the current offerings within Europe.

Which legal and economic models might some of the European Union Member States embrace? Can European Union Member States move away from the high tax, market-constrained, and state-owned models that are now common in Europe? Furthermore, if some Member States move in non-traditional directions, will there be a domino effect once those Member States successfully introduce "international style" casinos resorts? This is a process that has been observed in many other parts of the world, but will it also occur in Europe? There is good reason to believe the ultimate answer is going to be yes.

In light of this expectation, what can Europe learn from the dynamics of casino industries elsewhere? One can start by examining the evolution of the casino industry in Las Vegas. Las Vegas has served as the prime inspiration for the past two decades for other jurisdictions throughout the world for legalizing casinos or liberalizing gaming legislation, because of the objective economic accomplishments that Las Vegas has achieved. Las Vegas has had the fastest population growth rate of any city in America for the last 30 years, driven by expansions in the casino industry. Its population is approaching two million, making Las Vegas by far the largest city in Nevada. Las Vegas has more quality hotel rooms than New York, Tokyo, London, and Paris combined. Las Vegas is arguably the best convention city and entertainment city in the world. It has become one of the best shopping cities in America and it continues to grow and create jobs in the tourism and construction sectors because of the inherent popularity of the products and services that it offers. The kind of multi-billion investment that typifies the Las Vegas Strip has occurred mainly since 1989. The next decade will bring a new generation of growth in Las Vegas, with projects like MGM Mirage's $7 billion Cite Center and the Boyd Group's $5 billion Echelon Place, which will add residential components to the more traditional casino-entertainment-restaurant-convention-hotel mix.

The other remarkable jurisdiction with respect to casino growth is Macau. As recently as the 1990s, Macau, which at the time was still under the administrative jurisdiction of the Portuguese, had a casino industry that was unattractive, tired, and arguably corrupt. Triads – Chinese organized crime – were actively involved in gaming operations, and scandals and assassinations linked to turf wars were not uncommon.[14]

One lesson from Macau relates to the consequences of monopoly. A single concessionaire had held the monopoly for gaming in Macau from 1962 to 2002; over that 40 year period, even though billions of dollars in profits were earned, almost nothing was put back into Macau's casino industry. There was a perception on the part of the concessionaire that there was little justification to make

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14 See, for example, William R. Eadington and Ricardo Siu, "Between Law and Custom – Examining the Interaction between Legislative Change and the Evolution of Macao's Casino Industry," *International Gambling Studies*, Vol. 7, No. 1, 1–28, April 2007.

capital improvements, perhaps linked to a belief that their customers enjoyed squalid, dirty, smoky, and crowded conditions in the casinos. However, following the handover from Portugal to China in 1999, the Special Administrative Region of Macau decided to reform and expand the casino industry through legislative change. The new law called for three licenses to be issued, which ultimately led to six total licenses, as each concessionaire was allowed to give out a sub-license. This created a far more competitive environment, in some respects mirroring Las Vegas.

Subsequently, Macau has become a highly competitive and dynamic market. Between 1989 and 2006, Las Vegas saw about $30 billion in new casino or capital expansion projects along the Las Vegas Strip. Macau, will generate about $20 billion in capital projects between 2004 and 2010. Even though Macau has a very high tax rate of nearly 40% (compared to Nevada's 6.75%) as well as serious regulatory challenges,[15] it still offers high enough expected returns on capital investment to attract substantial investments in new casino resorts.

Another noteworthy jurisdiction is Singapore. Singapore is a relatively conservative city-state with the reputation of being a highly socially controlled environment, as well as a somewhat dull destination for tourists. The government of Singapore in 2005 came to the conclusion that casinos might be a way to change the city-state's basic image and therefore the interest that potential visitors might have in visiting Singapore. Casinos were envisioned as a catalyst to stimulate Singaporean tourism. Singapore passed a comprehensive and focused law in 2005 that, among other things, created two gaming licenses – to be awarded via competitive bidding – with low tax rates which made it very attractive for potential international investors. The tax rates – at between 5% and 15% of gaming revenues – are substantially lower than those in Macau. As the result of the bidding process, Singapore will receive over US$7 billion in foreign direct investment with respect to the two "integrated resort" casino properties. Based on the criteria delineated in the bidding process, Singapore will end up with two integrated resorts that will have significant convention, entertainment, and retail offerings, as well as iconic architecture. Furthermore, there will be substantial direct tax revenue accruing to Singapore as a result of the casinos, as well as the creation of about 10,000 to 15,000 jobs and significant entertainment offerings.

What if a jurisdiction has different objectives than those represented by Las Vegas, Macau or Singapore? In the absence of explicit objectives, less desirable outcomes might evolve. One alternative is what has developed in Japan. In Japan,

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15 The regulatory issues that remain significant in Macau include concerns over money laundering, loan sharking, and participation in gaming operations by Triads. In particular, these issues pose problems for American, Australian and European regulators as well as for gaming companies licensed in those jurisdictions.

there are in excess of 18,000 pachinko/pachisuro parlors located throughout the country. A typical pachinko/pachisuro parlor has about 300 electronic gaming devices in a retail outlet, half of them pachinko (a form of vertical pinball), and the other half electronic gaming devices.[16] Total gaming revenues generated by these parlors in 2004 were approximately US$30 billion which, on a per capita basis, exceeds what Americans spend annually on their entire mix of gambling products and services. In general, such gaming is considered an "unattractive" gaming product and is more likely to invite social and political backlash. This is probably not considered a desirable outcome.

If Europe is going to end up with a reasonable mix of gaming and casino services, what might need to happen to bring it about is a change in fundamental law, as well as a lowering of tax rates and improvements in competitive conditions. However, many European Union countries remain committed to their protectionist policies for gambling and casinos, but either legal challenges or cross border competition could bring about changes that trigger a rationalized evolution.

In summary, one challenge that the European Union and its policy makers need to seriously evaluate is the absence of focused casino and gaming policy consistent with legal developments in the European Union, along with the risk of a continuing spread of "convenience gambling" in the Member States. If this were to occur, the European Union could very well end up with "unattractive" gaming in the Japanese sense, in contrast to "attractive" gaming in the context of the other jurisdictions discussed.[17] Furthermore, the social impacts associated with such gambling might be more pronounced. Countries where gambling has become most controversial – such as Australia, New Zealand, and Canada – demonstrate this particular point. Finally, if the objective is to use casinos for broader economic development purposes or as catalysts to change the general attractiveness or ambience of particular areas, then convenience gambling, Japanese-style, that is already evolving in many countries in Europe, would erode that potential and may end up creating relatively undesirable outcomes.

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16 CLSA Asia-Pacific Markets, "Unfavorable Odds: Japanese Pachinko Pachislot," February 6, 2007.

17 Pachinko and other forms of "convenience gambling" (gaming machines located in retail outlets, arcades, bars and taverns, or Spartan purpose-built facilities) might be considered "unattractive gambling" in the sense that they do not provide gaming in aesthetically pleasing settings, they often draw their customers from disadvantaged sub-groups of society, they do not bring about visible economic benefits in the form of job creation or capital investment, and they seem to have a disproportionate impact on problem gambling in communities. See, for example, *Pachinko Nation* by David Plotz, U.S.-Japan Foundation Media Fellows Program, 2001–2002, (retrieved at <www.japansociety.org/web_docs/plotz_pachinko.pdf>).

THE STUDY OF GAMBLING SERVICES IN THE INTERNAL MARKET OF THE EUROPEAN UNION: A SUMMARY OF THE FINAL REPORT

William Eadington

1. Purpose of the Study

The purpose of the *Gambling Services Study*[1] was to evaluate how the differing laws regulating on-line and off-line gambling services, as well as games in the editorial content of the media and certain types of promotional games, impact upon the smooth functioning of the Internal Market for these and associated (e.g. media, sports, charity, tourism) services, and thus could restrict the economic and employment growth associated with such services.

The Swiss Institute of Comparative Law proposed to identify and specify all national regulations concerning services relating to the defined market sectors amongst the 25 Member States of the European Union by presenting and analyzing, country by country, the various regulatory measures applied (or proposed) by public authorities or private organizations.

1.1. The Legal Study

The first part of the report, devoted to the legal study, consisted of two chapters. The first chapter had 25 sections, each dedicated to a different Member State of the European Union. It examined the legal situation in each country with respect to gambling. After a short introduction to the legal system of the Member State and a list of its relevant legal definitions, each country report provided a list of relevant national legislation and recognized codes in force for each market sector, a list of key national jurisprudence and key decisions by administrative authorities or self-regulatory organizations for each market sector, and a list of relevant proposed national legislation or codes for each market sector.

The second chapter of the legal study was a pan-European survey for each

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1   See notes on pp. 71 and 73 for further information on this Study.

market sector. It examined the justifications of restrictions in respect to European law. The first section was devoted to an analysis of the decisions of the European Court of Justice and of the criteria developed by the European Court of Justice. The second section compared these criteria to the various national legislative provisions and jurisprudential holdings. Here again, there is a table concerning each Member State. This is followed by a comparative overview of taxation of gambling services by each of the Member States, including tables which indicate the degrees of divergence of the fiscal burden imposed on various market sectors in the various Member States and tables which summarize the relevant provisions of tax law in force in each Member State.

1.2. Economic Considerations

The veritable backbone of the economic side of this report consisted of 25 separate presentations of the gambling industries of individual European Union Member States. Those presentations systematically integrated all of the useful and *prima facie* factual data received from stakeholders and (where necessary and very much subject to availability) country specific data to be found in economic publications and other secondary sources. Those presentations offer an enormous potential for analytical research into various aspects of gambling in Europe, which potential has by no means been exhausted by this Study.

Within the constraints of available time and resources that were available, the economics research team focused its attention on those points which were essential to the report, namely the size and structure of the European Union's gambling industry and the ways in which its underlying economic parameters were likely to react to different possible stimulations. Much more research needs to be done in order to underpin future policy making; however, future researchers will certainly find the country-specific presentations in this report to be an invaluable resource.

Indeed, if future policy in the European Union is going to be based on accurate data and factual information, and advised by evidence-based research, then there is going to have to be a greater commitment by Member States and European Union institutions to addressing these information and research shortcomings. The fact that gambling services in the European Union are already characterized by revenues in excess of € 50,000 million, as well as substantial contributions to tax revenues and good causes, suggests that this should be a fairly high priority. It implies the need for a commitment to develop official statistics to cover the gambling services industries of the individual Member States and of the European Union as a whole. It also requires much more attention be paid to individual sectors of the market for gambling services, especially the media gambling, sales promotional, and charity gambling sectors on which so little information is currently available. Consequently they were subject to hardly any analysis in the *Gambling Services Study*. That was probably the most important conclusion of the economics research team that compiled this report.

2. The Aggregate European Union Gambling Industry

For the purposes of this report, the economics research team extracted a number of important aggregate statistics from the 25 country-specific presentations.

Gross Gaming Revenues (revenues after payment of prizes) generated in each European Union Member State during at least the years 2000 to 2004 inclusive, in so far as the relevant data were available, were individually presented for each of the following sectors of the gambling industry: lotteries, casino gaming, machine gambling outside casinos, betting and bingo. Those figures in turn were consolidated into European Union-wide aggregates, which revealed the following highly pertinent proportions of the total Gross Gaming Revenues that are attributable to each sector:

Sector	Share of Gross Gaming Revenues
Lottery	44.6%
Casino gaming	14.6%
Machine gambling outside casinos	18.8%
Betting	17.2%
Bingo	4.8%

Although these figures were almost certainly not exact, they did indicate the relative importance of the various sectors of the industry. That is a consideration which should be borne in mind when looking at any part of the *Gambling Services Study*.

For further clarification, each of the above mentioned market sectors was subsequently statistically analyzed by comparing Member States and distilling European Union-wide aggregates. The report contained a number of other analytically important statistics, including spending per capita in each market sector and the European Union-wide propensity to gamble in each sector. As concerns the ratio of Gross Gaming Revenues to GDP for the 25 Member States for the year 2003, it is noteworthy that the ratio remained under one percent for all Member States except for Cyprus, Malta (where the betting services sector is characterized by a much higher than average proportion of services supplied remotely), and Slovenia, which has a casino industry that attracts a significant portion of its Gross Gaming Revenues from cross-border custom or international tourism.

Based upon the statistical data so compiled, the following general observations and conclusions were drawn by the economics research team about the legal gambling services markets in the European Union. First, as a result of their analysis, the team was able to determine that the five largest sectors of the

European Union gambling market generated Gross Gaming Revenues (operator winnings, less payment of prizes) of approximately €51,500 million in 2003. Secondly, the market frameworks for gambling in the European Union are very much heterogeneous. Commercial and government owned gaming industries of Member States are organized under a wide variety of ownership regimes and market structures. Ownership and market structures are affected by numerous factors, including Member State laws and regulations; restrictions on product types, characteristics, points of sale, availability, and marketing effort; economies of scale; network effects; and impacts of new technologies.

Generally speaking, most European Union commercial gaming industries are significantly constrained by law and regulation, as well as by ownership structures and statutory objectives. As a result, they operate in ways that – in comparison to what unrestricted free markets in gambling services with reasonable allocations of property rights and provision of legal protections would bring about – adversely affect the quality, quantity, price, and availability of gambling services.

It is accordingly necessary to pay close attention to the particular economic characteristics of each market sector in each Member State, as these can have important welfare implications. The report took specific account of the following characteristics:

- monopoly franchises

- other restrictions on competition

- network effects

- economies of scale

- geographic constraints

- regulatory constraints

- consumer protection

- extraordinary tax structures

Thirdly, certain comparisons with overseas gambling markets are illuminative. As against the European Union figure of approximately €51,500 million in 2003, the legal American gaming industries in 2003 generated Gross Gaming Revenues of US$72,800 million (€60,700 million).

Though aggregate Gross Gaming Revenues were similar between the United States and European Union, their composition differed considerably between the European Union Member States as a group and the United States. For example, in the United States, commercial and tribal casinos generated about US$42,100 million of the total United States Gross Gaming Revenues in 2003 (58% of the United States total), whereas in the European Union, casinos comprised only about €7,500 million of Gross Gaming Revenues (15% of the European

Union total.) In the United States, gaming machines (also referred to as slots, electronic gaming devices, or video lottery terminals) outside of casinos are still relatively uncommon; in 2003, such devices generated Gross Gaming Revenues of US$3,900 million (5% of the United States total) whereas in the European Union, gaming machines generated Gross Gaming Revenues of €9,700 million (19% of the European Union total). Lotteries in the United States generated Gross Gaming Revenues of $17,400 million (excluding video lottery terminals), 24% of United States Gross Gaming Revenues, whereas in the European Union, lottery Gross Gaming Revenues were €23,000 million, 45% of the European Union total. Betting services, including on-track and off-track betting on horses and sports, amounted to only US$3,900 million, or 5% of United States Gross Gaming Revenues, whereas in the European Union, the comparable statistic was €8,900 million, 17% of the European Union total. Bingo services and charitable gambling generated about US$4,000 million, or 5% of United States Gross Gaming Revenues, and in the European Union, bingo services were also a relatively small component in the European Union, at €2,400 million, or 5% of the European Union total.

Finally, European Union gambling markets are dominated for the most part by relatively "mature industries," whose revenue growth is more or less paralleling growth in aggregate personal income in the 25 Member States. This has clear implications for future perspectives. It can in particular be expected that many of the gambling services sectors at the national level will experience no more than single-digit growth in the years ahead, unless there are substantial changes in either the legal or the regulatory environments that determine the types of games, the quality and availability of games that can be offered; or in the technological aspects of games and wagering opportunities that might affect their over-all attractiveness to consumers or to potential customers.

Comparisons with overseas markets suggest that aggregate consumer demand for gambling services – as measured by the ratio of country Gross Gaming Revenues to country GDP – may be quite elastic with respect to various supply factors, such as the availability, variety, accessibility, attractiveness, and pricing of gambling offerings. Therefore, if new legislation or legal determinations substantially change the legal and regulatory environment for a particular gambling services sector, it may have dramatic effects on that sector, and – depending on the strength of cross-elasticities of demand – may affect other sectors as well.

In a similar vein, if European Court of Justice or European Commission rulings change the fundamentals of competition or rules of engagement, then significant shifts in spending patterns and sectoral profitability may also follow. Thus, we can expect gambling services sectors to act like mature industries as long as the external legal and competitive environments are stable.

Exceptions to this "mature industry" hypothesis can occur when supply conditions are changed. This can be illustrated by a number of recent examples. The

rapid expansion of fixed odds betting terminals (FOBTs) in the United Kingdom in the early 2000s led to a substantial increase in handle (turnover) and Gross Gaming Revenues in betting shops in the United Kingdom. In a similar manner, the introduction and launch of the National Lottery in the United Kingdom in November 1994 created a new gambling services sector in that country that generated total annual lottery sales of about £5 billion (€7.5 billion) each year thereafter. This did not seem to have significant adverse impacts on the other gambling services sectors in the United Kingdom market, but rather served to increase the total proportion of personal income spent on gambling services in the United Kingdom.

One could expect that the passage of the Gaming Act 2005 in the United Kingdom will have significant supply side impacts that will affect the various gambling services sectors in a variety of ways in that country, and also increase the aggregate spend by British citizens on gaming services. In general, for all European Union Member States, if legislative changes or conditions bring about significant casino resorts of the size and style found in Las Vegas, in Australia, or South Africa, then the casino sector would likely grow dramatically in the countries affected.

As a possible illustration of this potential, in late 2005, the American firm Harrah's Entertainment announced strategic initiatives in Slovenia and Spain that could ultimately lead to destination resort casinos with capital investments of between €500 million and €1 billion. If indeed these come to pass, and depending on what catalytic effect they would have on other countries, these kinds of development could change the relative importance of the casino sector in the European Union and lead to a more significant role of gaming in the aggregate (as measured by the ratio of Gross Gaming Revenues to GDP) throughout the European Union.

3. The Remote Gambling Industry in the European Union

As part of the study leading up to this report, a survey instrument was developed and disseminated to all known remote gaming operators in the European Union, as well as the regulatory authorities in Gibraltar and in Malta. A total of 19 companies from Malta, Gibraltar, Finland and the United Kingdom responded. Because there was not information on the size (as measured in Gross Gaming Revenues) of the respondent companies relative to the size of non-respondents, the survey results could not be used to estimate the aggregate size of the remote gaming sector in the European Union. However, other conclusions could be drawn from the survey data based upon the assumption that the companies that did respond were representative of the sector as a whole.

In the estimation of the 19 respondents, they were generating Gross Gaming Revenues in 2004 of approximately €1.2 billion, having expanded from only

about €115 million in 2001. They forecast that their Gross Gaming Revenues would grow to in excess of €6 billion by 2009. This would suggest an average annual rate of compound growth from 2004 to 2009 of about 40%. Based on an unweighted average of the 19 respondents on this question, betting services generated over half of the Gross Gaming Revenues for remote gaming service companies, casino games about another third and virtual slot machines much of the balance, with the remainder picked up by bingo, internet poker, and lottery products.

Based on overall Gross Gaming Revenue estimates for the remote gaming sector, the 19 companies that responded to the survey reflected about half of the remote gaming services industry for the year 2004. Though not much accuracy could be assigned to this, it was used as a guideline to roughly estimate certain parameters for the entire industry, such as levels of employment. From these results, employment growth for the sector went from less than 500 in 2000 to around 5,000 in 2004. Forecasts for future employment growth would push total employment (within and outside the European Union) to about 10,000, of whom about 6,000 would be employed within the European Union. Thus, even though the remote gaming sector may become an increasingly important part of the gambling services sector in the European Union, it is likely to remain a relatively small employer.

The remote gaming companies were also asked to provide information on the demographics of their registered players. All respondents reported a growing number of registered players within both their primary European Union country of operations and other European Union Member States. They reported an aggregate of 63% of all registered players to be within the 18–35 age group, 32% to be within the 36–55 age group, and 5% to be of age 56 and over.

Respondents were also asked to differentiate between the percentages of their European Union gaming revenues that were generated within the Member State where they are primarily based versus cross-border Gross Gaming Revenues within the European Union. The respondents indicated that between 15% and 30% of their revenues came from other Member States between 2000 and 2003, increasing to about 45% in 2004 (probably due to the expansion of licenses in Malta.) The forecast through 2009 had the percentage of European Union cross-border spending in the 20% to 30% range.

It would appear that the market is still in an early phase of growth, but perhaps showing signs of heading towards maturity. The rates of increase per year were as follows; 2000 162.5%, 2001 233.3%, 2002 55.7% and 2003 31.1%. If the future annual percentage rates of increase remain at two-thirds of the previous year (i.e. in 2004 the increase is 20.5%, in 2005 13.5% and so on), then by 2012 remote gambling Gross Gaming Revenues in Europe would be roughly €2,700 million. Since the European Union accounts for 90.5% of Europe's total gambling spend, we may estimate that the European Union would

generate an interactive Gross Gaming Revenue of about €2,400 million in 2012. This would be about 85% greater than it was in 2003.

Figures published by the River City Group and by the Association of Remote Gambling Operators indicated that the global interactive gambling market provided Gross Gaming Revenues of about €5,700 million (US$7,000 million) per annum as of 2003, with the European Union share being about €1,630 million (US$1,980 million). The global remote and internet gaming industry was forecast to grow from about US$9,000 million in 2004 to US$25,000 million in 2010. However, this forecast probably needs to be lowered in light of passage of the *Unlawful Internet Gambling Enforcement Act* by the United States in 2006.[2]

Based upon a review of other studies of remote and internet gaming – as well as survey data collected as a portion of this study – the economic research team's best estimate of the size of the European Union remote and internet gaming sector (that sector which offers gambling services via the internet, through mobile phone services, and through interactive television wagering) represented between €2,000 million and €3,000 million in Gross Gaming Revenues from European Union consumer expenditures in 2004, and it was growing rapidly. If the above estimates hold true, then the economic importance of remote gambling is likely to continue to rise, but not beyond 5% of the total European Union gambling market by 2012.

4. Scientific Studies and Published Literature on Gambling and its Consequences

In order to provide a firm foundation for developing reasonable scenario models that could provide a basis for planning the future of the gambling services sectors of the Member States of the European Union, the economics research team examined a substantial amount of English-language peer-reviewed economic research that dealt with gambling industries and their economic characteristics. (These studies are referenced and summarized in the main report.) The team also looked at economic literature that examined the relationships between gambling and crime, cost-benefits studies and gambling, and problem gambling. The objective of this review was to allow the generation of reasonable sets of assumptions in development of scenarios that project, in both qualitative and quantitative terms, economic and distribution implications of possible alternative "states of nature" that might prevail with regard to European Union gaming industries in the next decade. For reasonable scenario analysis, empirical measures of some of

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2   The *Unlawful Internet Gambling Enforcement Act* was embedded as an amendment to H.R. 4954 [109th]: Safe Port Act, and was signed into law by President G.W. Bush on October 13, 2006, thus becoming Public Law No: 109–347

the economic and income distribution effects are critical. In order to gauge such relationships, it is necessary to borrow from the findings of prior research that may have explored such estimates among gambling services sectors and with respect to consumer responses to changes in important economic variables.

After the review of the published academic literature, quantitative economic studies concerning gambling demand (handle or sales) and revenue were identified in the following four major gambling areas: pari-mutuel wagering, bookmaker wagering, lottery wagering and casino wagering. The team was unable to locate any published articles with quantitative analysis in the following areas of interest: internet betting, bingo, charity gaming, media games, or sales promotions.

From the point of view of market economics, the report therefore reviewed and summarized the existing scientific literature concerning three of the principal gambling market sectors:

- lotteries;

- casino gaming;

- betting (broken down into fixed-odds or bookmaker betting and totalisator or pari-mutuel betting).

For each of these market sectors, the review focused on four economically important relationships:

- between changes in the price of the particular gambling service and changes in the demand for the particular gambling service (so-called own-price elasticity of demand);

- between changes in the price of other gambling services and changes in the demand for the particular gambling service (so-called substitution effects);

- between changes in the level of governmental regulatory restriction and changes in the demand for the particular gambling service (or more realistically in the demand which could be lawfully satisfied); and

- between changes in the level of consumption of the particular gambling service and changes in the demand for other goods and services (so-called displacement effects).

From the point of view of macroeconomics or "socio-economics", the report reviewed and summarized the existing scientific literature concerning three economically significant relationships that are also of considerable importance for gambling policy and the politics of gambling:

- between changes in the level of consumption of gambling services and changes in the prevalence of personal bankruptcies;

- between changes in the level of consumption of gambling services and changes in the prevalence of crime; and

- between changes in the level of consumption of gambling services and changes in the prevalence of excessive and/or compulsive "problem gambling".

It is important to note that – as is the case in other parts of the world – European Union Member States have only relatively recently recognized problem and pathological gambling as a significant public health issue. So far, they have put comparatively light regulations in place to deal specifically with this issue, and have yet only allocated limited resources to research into, treatment of, public education about and prevention of problem and pathological gambling within their societies, cultures, and social environments. Although all European Union jurisdictions have been concerned in principle to minimize the negative social impacts of commercial gambling, various European Union Member States differ with respect to the nature and structure of the gambling industries they have authorized, as well as with respect to taxation policies dealing with gambling industries. There has, consequently, been no uniformity in the way the governments of European Union Member States have addressed the issue of negative social impacts, including problem gambling.

Most European Union countries have a single national lottery at least in part because of a belief that this provides a degree of control so that problem gambling and player protection issues can be effectively addressed. For the same reason, some countries – such as The Netherlands, Finland, Sweden and Austria – have kept casino gambling under government ownership and control.

Increasingly, those countries which have allowed a proliferation of gambling machines in convenience locations outside of casinos are seeking ways to address the perception – and perhaps the reality – that such machines are especially likely to elicit problem gambling behaviors. European Union Member States are also agreed in principle that it would be desirable to be able to regulate gambling on the internet, but they have not yet agreed on how this can and should be done.

5. Scenarios of Future Growth in the European Union Gambling Industry

As part of the terms of reference of the *Gambling Services Study*, alternative scenarios for the future of the various sectors of the market for gambling services in the Member States of the European Union were put forward. Based on the information gathered with respect to the various sectors, as well as the review of published peer reviewed economics literature discussed above, the economics research team constructed three distinct scenarios based upon distinct

assumptions as to the underlying economic conditions and particularly as to the regulatory environment.

In order to gain a relative sense of how the different scenarios would affect the level of Gross Gaming Revenues among countries and among gambling services sectors – as well as each sector's capabilities to contribute to tax revenues, contributions to designated beneficiaries (i.e. "good causes"), and earnings for shareholders – the economic research team made reasonable estimates as to the level of profit margins by gambling services sector. These were then modified explicitly for the various sectors under each of the three scenarios. The details and findings for the three scenarios are summarized in the companion paper, "Gambling Policy in the European Union: Monopolies, Market Access, Economic Rents, and Competitive Pressures among Gaming Sectors in the Member States", by William R. Eadington, in this volume.

The economic research team believed that the assumptions underlying the three scenarios were generally reasonable illustrations of situations that might emerge in reality. Stakeholders and other readers of the report may or may not agree that they are reasonable. Nonetheless, the real purpose of the presentation of alternative scenarios was not to make concrete forecasts of the future, but rather to demonstrate the probable interactions among the various sectors of the European gambling market resulting from alternative possible developments.

Under scenarios that might lead to a considerable expansion of gambling services competition within the European Union, these might be accompanied by an increase in various unintended adverse consequences associated with gambling. The review of the scientific literature revealed several studies which show no statistically significant linkage between expanded gambling offerings and bankruptcies, while several others show a statistically significant but relatively small linkage between expanded gambling offerings and bankruptcies. Results of the peer reviewed research on the relationship of expanded gambling to crime also produced mixed results, with instances of increases, no change, and decreases relative to the availability of casino gaming. As a result, the scientific evidence on direction and magnitude of expanded gambling offerings and crime is not conclusive one way or the other.

Furthermore, there was no clear scientific research found that linked increases in the availability of gambling services to increases in the rates of problem and pathological gambling, even though there is considerable evidence that suggests this might be the case. Nonetheless, under expanded gaming in the European Union, there very well may be increased attention paid to these possibilities, and a subsequent political backlash because of the perception (if not the reality) of the consequences of such expansion.

Among other findings, it was clear from the results of this analysis that Member States of the European Union need to sponsor or encourage additional scientific research to address many of these important social impact questions.

In the interim, policy will have to be made based upon the limited research that is available, much of which was generated in other countries, with perhaps important social, political and cultural differences.

Consumer Interests and the Regulation and Taxation of Gambling

David Forrest

1. Motivation

In his definitive survey of the economics of casino gaming, Eadington (1999) draws attention to the extent to which users of gambling services are treated as "second class citizens" when public policy is constructed and debated. Whereas consumer interests weigh heavily in cost benefit analysis in other sectors of the economy, proposals on what sorts of gambling should be tolerated, how much (if any) competition should be allowed, where facilities should be located and what taxes should be levied are routinely evaluated with no consideration at all of impacts on consumers. For example, decisions to authorise new casinos may be justified by reference to the tax revenues they will create or the regeneration benefits to communities where they will be located. But consultants' reports will almost never mention the most obvious welfare gain, namely the increased satisfaction enjoyed by households when they are able to choose to allocate some of their leisure budget to a new good the availability of which widens their choice of leisure services.

Potentially, leaving consumer interests out of the calculations will lead to decisions which are sub-optimal in terms of aggregate social welfare. For example, at the time of writing, the Casino Advisory Panel is holding hearings on where the single very large casino to be permitted under the United Kingdom's 2005 Gambling Act should be located. The Panel is charged with identifying the candidate city which would gain most in terms of regeneration of the local economy and urban fabric from hosting the new facility. One of the bookmakers' favourites is a depressed seaside resort remote from the largest concentrations of population. In the application of the standard cost benefit framework, any local gains there would be assessed; but so too would the loss to consumers from being able to access the amenity only infrequently and then at the cost to themselves and the environment of much longer car trips than if the new casino were in

one of the major conurbations. Ignoring the consumer interest in the evaluation is likely to lead to poor quality decision making.

The lack of systematic measurement of consumer benefits from provision of gambling services is both a symptom and a cause of gamblers' interests being disregarded as if gamblers were second class citizens. This chapter will report new estimates of such benefits which are sufficiently large that, while methodological limitations make estimates necessarily imprecise, it is clear that omitting to attempt them at all is likely considerably to distort decisions. It will be argued that research efforts should be keenly focused on the implications for consumer interests of policies such as extending availability of gambling, regulating the industry to different levels and opening up national markets to competition from operators in other European Union states. Only once quantified, or at least described, can any consumer gains be compared with the negative social consequences that may follow changes in the gambling environment.
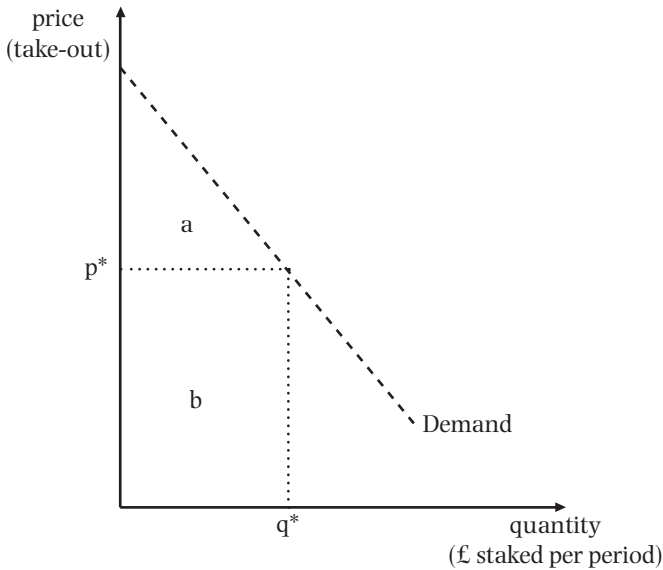
2. Consumer Surplus and Lotteries

The economist's preferred conceptualisation of consumption benefit is consumer surplus. This is the aggregation of the difference between what each user would be willing to pay for a good or service and what he or she actually pays. This is positive for the great majority of consumers since price is set to attract the marginal participant in the market, leaving infra marginal consumers with a net benefit from the fact that they value the service more than it costs them to purchase. With a known or estimated demand curve, the sum of these benefits across consumers is easily calculated.

Fig.1 illustrates the calculation. "Price" for a gambling product is identified with the take-out or expected house win per unit bet while "quantity" is the total amount staked per period. With take-out set at p*, stakes are q* and area *b* then represents the total amount lost by players each period. This is their expenditure (gross gaming revenue from the viewpoint of the supplier). But their net benefit or consumer surplus is area *a*. If a new policy impinges on operation of the market, impact on consumers may be measured by how much area *a* is expected to change.

A rare example of this approach being taken in an analysis of a gambling market is an article in *Journal of Public Economics* by Farrell and Walker (1999). Their focus was on the lotto game offered by the United Kingdom National Lottery. First, they inferred the shape of the demand curve by observing how draw-by-draw sales responded to variations in value-for-money associated with rollovers and special promotional draws. Then, in contrast to other authors who have adopted a purely governmental perspective and used such estimated demand curves to address the question of whether tax revenue was being maximised, they

*Fig. 1. Consumer surplus from a gaming product*

calculated both consumer surplus and the loss of potential consumer surplus associated with the lottery tax.

The lottery tax is very high in Britain, as in most jurisdictions. Take-out in a regular draw is 55 pence (per £1 ticket). Of this, 41 pence is tax (part of which is paid to the government and part of which is paid to "Good Causes" distribution funds). As illustrated in Fig. 2, a stylised representation of their findings, Farrell and Walker estimated that the loss in consumer surplus from imposition of the tax was £2.03bn per year.[1] Of this, £1.45bn was claimed in tax revenue but the remaining £0.48bn was a pure "deadweight loss" to society and this may be interpreted as the value of the satisfaction consumers would have obtained from the extra tickets they would have purchased had the value-for-money offered by the game not been lowered by the tax.

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1 Strictly, consumer surplus should be evaluated relative to the 'compensated' demand curve but this will differ only very slightly from the 'ordinary' demand curve where the proportion of consumer income allocated to the good is low. According to UK household expenditure data, extremely few players spend more than a few pounds per week on lotto games. Generally in gambling, 'ordinary' demand curves will be adequate for calculation of consumer surplus calculations if only demand by non-problem gamblers' is considered since then spending per head is typically low.

Fig. 2. Loss of consumer surplus from a lottery tax
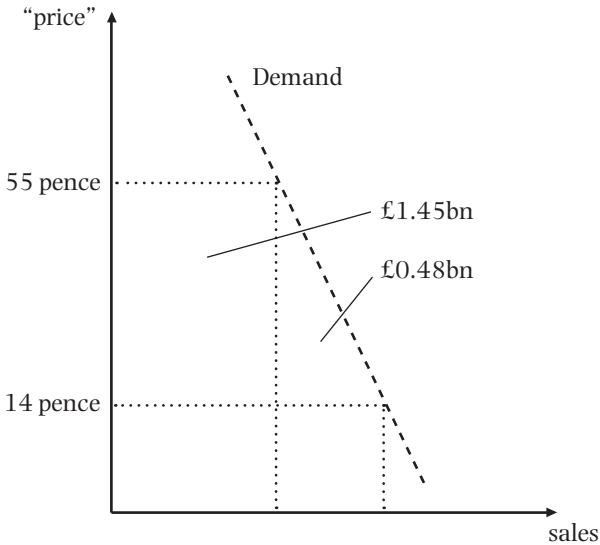
Unless introduced to correct for an externality, taxation of any good or service invariably creates such a loss but in this specific case it was particularly high, £0.33 per £1 of revenue raised.[2] The lottery tax may therefore be judged 'inefficient' on the basis of the standard criteria of welfare economics. That it remains largely unquestioned, notwithstanding that it is likely to be regressive as well as inefficient, may be explained by the convention that players' interests are not to be counted in assessment of lottery (or any other gambling) policy. Indeed the National Lottery Act explicitly set the policy goal of maximising revenue (subject to constraints against under-age play and inappropriate marketing techniques), a contrast with the recommendation of John Maynard Keynes whose evidence to the Royal Commission on Gambling in 1933 advocated a "people's lottery" where the state would pay 90% of receipts in prizes.

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2 Demand elasticity estimated by Farrell and Walker was somewhat greater than that found in subsequent studies (for a discussion of reasons, see Forrest (2003)). If one accepts that elasticity was overestimated by Farrell and Walker, the value of the deadweight loss they report should be reduced (and the value of consumer surplus generated by the existence of the lottery increased) but orders of magnitude would be similar.

3. Allowing for Pathological Gambling

I have given here an illustration of how, if economists calculate consumer surplus, taking their estimates seriously may point to very different policies from those in place now. However, the technique should not be accepted uncritically. It involves measuring benefits to players with respect to a self evaluation, the willingness to pay (a proxy for expected utility) of each individual consumer. And use of that self evaluation is legitimate only if it is based on rational, informed spending decisions. It is hard to object to Farrell and Walker's estimates of consumer surplus from the lotto game and welfare losses from the lotto tax because there is a consensus that compulsive behaviour is rare amongst lottery players[3] (except in countries such as China where it is the only legal gambling medium) and it can be presumed, as readily as in other fields that individuals know best what serves their own interests and where they can gain utility.

However, many forms of gambling, but especially perhaps electronic gaming machines, are associated with a relatively high incidence of problem or pathological behaviour and, while the majority of *individuals* playing machines in casinos are likely to be fully in control of their decision taking, a large proportion of *spending* may be accounted for by problem gamblers. Demand curves are the basis for calculation of consumer surplus but, if their position and shape are driven by the decisions of those who appear irrational and self-harming, the resulting estimates lose legitimacy and credibility.

The report on gambling by the Australian Productivity Commission (1999) confronted the problem with detailed argument. The possible approaches it describes would yield a range of estimates for the consumer surplus associated with a gaming product depending on whether the problem were ignored (all players assumed rational) or whether spending of problem gamblers were removed from the demand curve (apparent consumer surplus of problem gamblers set aside) or whether spending of problem gamblers were treated more subtly (the report's preferred consumer surplus figures assume problem gamblers gain consumer surplus up to the level of play of median players but generate negative surplus for themselves beyond this point).

Figure 3 illustrates this preferred Australian Productivity Commission approach to the calculation of consumer surplus. The demand curve is disaggregated into two sectors comprised of recreational and compulsive players.

In the left panel, *a* is consumer surplus for recreational players and is a component in the amount of consumer surplus as it would normally be calculated. In the right panel, there are two demand curves. D_{C1} is the demand curve for compulsive players (*c+d* there is their evident consumer surplus but this is an

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3   For example, Griffiths (1999) concluded that lotteries "do not tend to be addictive for adults".

Fig. 3. Consumer surplus of recreational and compulsive players
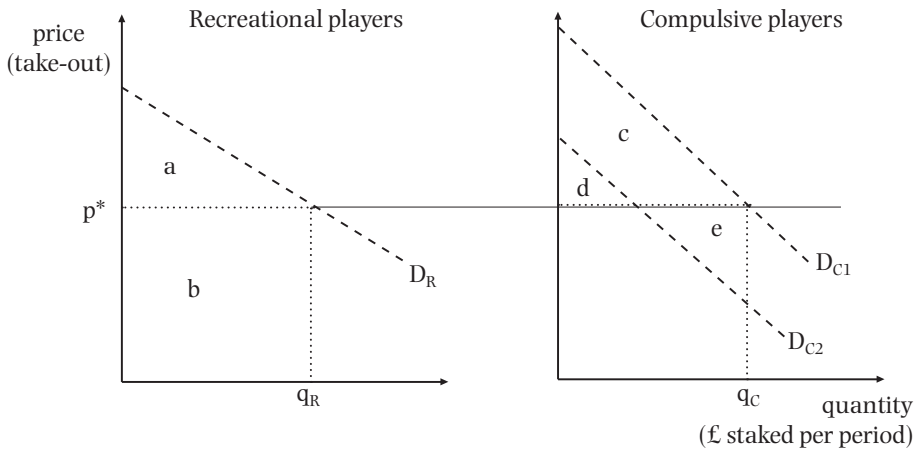
illegitimate measure of benefit because compulsion leads them to 'excessive' play). D_{C2} is the demand curve that would characterise this sub-group if they played only to 'reasonable' levels, defined by reference to the level of play of a median player. With respect to this 'legitimate' level of play, the group gains consumer surplus of d. But its actual level of play is higher and this excess play is deemed to generate negative consumer surplus: median players not behaving compulsively would recognise that the enjoyment to be had on these excess gambles was not actually worth the cost incurred. Thus the Australian Productivity Commission represented consumer surplus across all gamblers as $a+d-e$.

There is a certain logic to the Commission's line of reasoning but the division of problem gamblers' play into normal and excess units could be regarded as contrived. In some sense the problem gambler's first plays of the machine in the evening are the product of compulsion as much as those plays made after the Commission's 'median' players have gone home. Following the Australian Productivity Commission in equating consumer surplus with $a+d-e$ would lead to considerable scepticism of the scientific basis for estimation of consumer surplus.

In attempting, with my doctoral student Yuliya Crane, to forecast consumer surplus from new casinos in the United Kingdom, our preference was therefore to focus on area a in Fig. 2, a measure of the benefit to recreational gamblers from giving them access to the new product represented by the casinos. The qualitative debate on liberalisation of gambling sometimes refers to the need to weigh the benefit to the majority, who play responsibly, against the harm

associated with problem gaming. Focus on *a* will yield empirical estimation of the benefit referred to in this debate.

4. Consumer Benefit from a New Gaming Product

So long as the demand curve is linear, the value of consumer surplus, area *a*, is given by the expression

$$\text{consumer surplus} = .5(\text{GGR})/|\varepsilon|$$

where GGR is price times quantity (which is Gross Gaming Revenue in the parlance of the industry) for recreational players and $|\varepsilon|$ is the absolute value of elasticity of demand (for example, if demand were unit-elastic at current price, a consensus assumption in most lotto markets, consumer surplus would amount to exactly half of all player losses).

We set out to forecast benefits from the extension of electronic gaming machines in the United Kingdom following the 2005 Gambling Act. Hitherto casinos in the United Kingdom have been members' clubs based on table games, with very strong restrictions on the machine gaming popular in other jurisdictions. Participation has been only 2% of adults in a year. From 2009, seventeen new casinos will be authorised, all much larger than existing casinos and with high prize gaming machines (1,250 in the largest casino, termed the 'super casino' in the popular press but the 'regional casino' in the legislation).

The increase in the availability of casino-style gaming machines looks likely in fact to be greater than that envisioned by legislators. In addition to its provisions for new style casinos, the 2005 Act allowed grandfather rights to the existing (126) casinos, operating under legislation dating from 1968; moreover, they were offered the concessions that admission would no longer be restricted to members and they would be able to operate with twenty machines of the same category as most of the new (2005 Act) casinos. An unforeseen consequence of leaving the 1968 Act in force until 2006 was that there were over one hundred new licence applications under the 1968 Act by the deadline. Thus the number of locations offering casino style electronic gaming machines is likely to be nearly 250 by 2009, a radical change in the gambling landscape and one perhaps not envisioned by Parliament.

There has been considerable media focus on the dangers (explored in Dodgson, Maunders and Chesters (2004)) that will be posed by new electronic gaming machines. The dangers are undoubtedly real; for example, some 10% of users of electronic gaming machines in Australia are believed to exhibit some degree of pathological gambling behaviour (Australian Productivity Commission (1999)). But the policy will also generate clear consumer benefit for responsible users of

facilities and this we sought to measure with our focus on the consumer surplus of 'recreational gamblers'.

Employing the formula above, we required two items of data:

a) forecast annual Gross Gaming Revenue from recreational gamblers; and

b) estimated elasticity of demand.

The full range of facilities following from the 2005 Act will not be operative until 2009 and so any forecast of Gross Gaming Revenue is necessarily made on the basis of inadequate information. It cannot be known for sure how British consumers will respond to the availability of what will essentially be a new product. However, it is possible to draw on international experience to inform speculation. In particular, we employ here evidence provided by Australian states and territories which permitted operation of electronic gaming machines from various dates in the 1980s and 1990s. Australia is arguably similar to Britain culturally and specifically the gambling environment into which machines were introduced was very like that of Britain today,[4] with a similar level of expenditure on gambling relative to income.

Gaming machines in Australia are available within Las Vegas style casinos but there is typically only one of these in each state, for example Victoria is served by the Crown casino in Melbourne. In most states (Western Australia is the exception which prohibits machine gaming outside the one casino it permits), casino style machines are also accessible in gaming halls attached to 'hotels' (pubs) and members' clubs and these are very thick on the ground in the most populous states, Victoria and New South Wales. Gaming halls typically house 100–200 jackpot machines.

This pattern of provision is not unlike that anticipated for Great Britain from 2009. Moreover, prize levels permitted in United Kingdom establishments other than the single regional casino will be comparable with those offered in Australian gambling halls while most commentators expect rates of tax that will also be similar.[5] This encouraged us to base estimates of the scale of activity that will be generated in new casinos on the basis of what happened following introduction of electronic gaming machines in Australia.

The annual official publication *Australian Gambling Statistics*, published for more than twenty years, provides a rich data source (with separate accounting

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4   For example, horse betting was available (and popular) through both bookmakers and the pari mutuel (tote), as was wagering on team sports, and state lotteries offered both scratchcards and a range of on-line games

5   Tax rates on machines located in gaming halls vary by state but are typically in the range of 35–40% of GGR. Note however that the rate is much lower in the small number of establishments termed 'casinos'.

for the casino and gaming halls sectors). It reveals that in Victoria in 2001–2002, player losses in electronic gaming machines amounted to 2.24% of household disposable income.[6] The existing casino sector in Great Britain claims only 0.1% of income[7] but we know of no reason why the introduction of jackpot gaming machines should not prove as attractive to British as to Australian consumers. On the other hand, Victoria has the densest network of gaming halls of any of the states and the level of expenditure may be indicative only of that which would be achieved in a saturated market. In Britain, there will be more restricted supply and therefore we judged it reasonable to base estimates of annual consumer benefit on an assumption that gross gaming revenue will be 1.5% of (current) household disposable income.

We proposed to evaluate only consumer surplus in respect of play by recreational, as opposed to problem, gamblers. Separating expenditure between the two groups is necessarily a process fraught with difficulty as it depends on the success of survey evidence in identifying problem players. Standard screens for problem and pathological gambling were designed for a clinical setting and their efficiency when applied to the general population is unproven. Nevertheless we attempted to forecast the proportion of expenditure that would be accounted for by problem gamblers by again assuming that experience in the new casino sector will follow that revealed by events in Australia. We made a series of projections using (survey) evidence in Australian Productivity Commission (1999), which noted that gaming machines generate more problem gambling than other media, and based subsequent calculations on discounting 30.3% of expenditure in the new casino sector because it would come from compulsive players. Our estimate of consumer surplus for recreational players is therefore on the basis that annual gross gaming revenue from this group will amount to 1.005% of current aggregate household disposable income (over £8bn per annum).

We had to combine this with an assumption concerning the value of elasticity of demand. Swiss Institute of Comparative Law (2006) includes a review of academic studies of elasticities for various gambling services. The bulk of empirical research has evaluated demand as elastic. This is to be expected. In most jurisdictions, regulation ensures that operators have considerable monopoly power. To profit maximise, they will push up price (take-out) into the elastic range of the demand curve. Accordingly, we present an estimate based on the working assumption that elasticity will take the value −1.3.

Combining this value for elasticity with our forecast above of gross gaming revenue yields an estimate that, once the market has reached its steady state, the new casinos in Great Britain will deliver £3.17bn of consumer surplus per

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6   Tasmanian Gambling Commission (2002)

7   Calculated from data available in Swiss Institute of Comparative Law (2006)

year to recreational gamblers.[8] This is equivalent to approximately €4.75bn annual benefit.

The benefit claimed here is very substantial in that it dominates projected tax revenue. Further, Crane (2006) attempts to evaluate the cost of problem gambling created by the new casino sector. Even if problem gambling reaches high levels reported for Australia, and even if negative social impacts are valued at the highest tariff suggested by competing views of what constitutes social cost, the estimate (£1.8bn per year) still falls considerably short of the benefit to recreational gamblers reported from the calculations above. To put things another way, were there evidence that problem gambling impacts could be mitigated by large scale public education and/or pathological gambling treatment programmes, considerable sums of expenditure could be justified if the alternative were to forego the high consumption benefits of recreational gamblers.

While this finding is based on a heroic series of assumptions, the order of magnitude of benefits from provision of new casinos is so high as to make it clear that decisions will be severely distorted if consideration of consumer interests is not accorded an appropriate place in the process of policy making. This illustrative case focuses on benefit from permitting a new form of gambling. But the implication, that the measurement of consumer surplus has a role in policy making, also applies to details of regulation. For example, in Great Britain the Gambling Commission is, at the time of writing, consulting industry and expert opinion on possible restrictions on game and machine design, for example in respect of speed of play and noise levels. Restrictions are intended to lower levels of stimuli so as to reduce play by problem gamblers. But if the gaming environment becomes less attractive as a result, gross gaming revenue, and therefore consumer surplus, from recreational players will also fall and this would be a cost of restrictions. It may be a large loss.

The review of scientific evidence included in Swiss Institute of Comparative Law (2006) identifies the small number of papers that have examined the elasticity of demand with respect to government restrictions, such as bet limits and space allocated to machines. All report very strong responses in Gross Gaming Revenue when restrictions are eased or lifted. Of course, relative benefits and costs of restrictions depend on the extents to which their depressing effect on expenditure come from reductions in 'recreational' and 'problem' play, an issue not explicitly addressed in the literature. But the findings surveyed in the report by the Swiss Institute nevertheless imply that regulators should take strong account of the loss to recreational users when conditions for licences impinge on the nature of the product in an attempt to mitigate problem gambling.

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8   The result will of course be sensitive to the assumptions made. For example, repeating the calculation with elasticity of −0.8 gives a benefit figure of £5.15bn per year.

There is scope for substantial research in how 'legitimate' consumer surplus is affected by all manner of gambling regulation.

5. Competition in the European Union

There have been a number of references above to the report by the Swiss Institute of Comparative Law on the internal market for gambling services within the European Union. The publication of this report in 2006 has focussed attention on restrictions that prevent organisations in one member state from offering gambling services to residents of other member states. Whether such restrictions are to be regarded as legitimate looks likely to be decided by evolving case law rather than explicit decisions by Ministers. An early ruling, in the *Schindler case*,[9] emphasised 'proportionality': any restriction on trade claimed to be motivated by the need to mitigate negative social consequences from gambling must be proportionate to the loss of economic welfare associated with anti-competitive practices. Given that our data above imply that benefits to consumers constitute a dominant element in gains to be had from the gambling sector, it would appear appropriate to focus debate on the nature of the losses players suffer when they are prevented from purchasing from a supplier based in another member state.

Restrictions on cross-border trade are nearly always in the context of the national market itself being far from competitive and have the effect of preserving economic rents generated for state owned or sanctioned monopolies or cartels, at the direct expense of consumers. In the case of lottery games, such restrictions, encouraged by the World Lottery Association, are nearly universal. Lottery players, of course, face the highest take-out rates of all gamblers. While this is partly because consumers appear willing to pay more for gambling that offers life changing prizes, it is undoubtedly partly also because lottery agencies do not traditionally enter each others' territories. This continues even in the era of on-line play, which is available in most European states but commonly only for residents. Were the barriers to become less rigid, there is a possibility that there could emerge some inter state competition on price (take-out) such as appears to have developed recently in the United States. This of course would advantage consumers.

However, the peculiar economics of lotteries make the case not as straightforward as it might appear and developments in the industry make an outbreak of price competition now appear less plausible. Lotteries comprise a network good. Their attractiveness to players increases the greater overall sales are because then the jackpot becomes more interesting, offering a more vivid dream. In the past, residents of small states have been deprived of the full excitement of

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9   Case C-275/92, Schindler.

high prize lotto games because the population was too small to permit sufficient funds to be accumulated in the prize fund at conventional high take-out rates. The lotteries in these countries needed protection for survival because, if larger foreign lotteries were allowed to sell into the market, many players might give up on the domestic game. But when they quit, prize funds would diminish further, making the game even less attractive and perhaps initiating a vicious circle of falling sales until the operation became unviable. Consumers in general would be then be better off because they would be playing a (foreign) game they preferred but those without easy access to the foreign game would be worse off. And of course, the state would have been deprived of its tax revenue.

The situation today has changed. In line with international trends, the European lottery market has developed transnational lotteries offered by lottery blocks, that is groups of national lottery organisations which market a common game in order to gather together very large jackpots. Thus we have the seven strong Nordic Lottery and the nine member EuroMillions. This development suits governments because tax levied on lottery products stays at home while the pooling of prizes boosts sales. Consumers, especially in small states, gain to the extent of the product being made more appealing. On the other hand, the high take-out players face is likely now to continue regardless of any lifting of prohibitions against competition across state borders in the European Union. The national lottery organisations have effectively formed cartels. The high jackpots they have created have built a formidable barrier to entry. A new operator would find it difficult, and expensive in terms of marketing and subsidising of jackpots at launch, to reach a critical mass of sales where the jackpot was large enough to prevent players migrating back to the official game; if they did so, a downward spiral of sales and prize levels would surely follow. New entrants therefore face high costs and high risk. There might of course be niche markets to be tapped in offering games with special characteristics; but the mass participation market is probably safe from competition breaking out and consumers will continue to face high take-outs, essentially because where a product has, to a strong extent, the characteristics of a network good, the market is likely to be a 'natural monopoly'.

The situation is very different in betting. This sector is the focus of several legal challenges concerning prohibitions against exporting services across national boundaries within the European Union. Some countries, such as Sweden, protect their local industries by prohibiting entry by land based operations but have no explicit prohibition on residents accessing internet gambling services offered from other jurisdictions. Other countries, for example France and The Netherlands have maintained stronger protection by attempting to block access of their citizens to betting offered on line by bookmakers from Austria and the United Kingdom. It may be difficult to defend restrictions of this sort where the

member state in question permits both land based and e-betting to be offered by its established domestic operator.

Consumer interests would potentially gain from the removal of these barriers in terms of both price and non-price dimensions of the product. Betting on sports events and on horse racing off-track is a relatively simple product where, with exceptions in a few countries, consumers do not participate in a social environment. This makes the domestic industry vulnerable to price competition from on line suppliers, particularly from jurisdictions which provide a well regulated environment for bookmaking. That prices to bettors are likely to be driven down when they become free to wager with operators based outside national borders was vividly demonstrated in 2001 when the United Kingdom government was induced to more than halve its effective rate of tax on betting because of gamblers placing their wagers offshore.[10] The decision was taken because the tax was forcing take-out too far above levels available offshore for it to be sustainable. The resulting sharp increase in betting volumes, as take-out fell in line with the tax reduction, was too big to be explained merely by repatriation of wagers previously placed offshore. It had to be concluded that existing users of betting shops were very responsive indeed to the improvement in the value of bets (Paton, Siegel and Vaughan Williams (2004)). High demand elasticity implies of course, that when price is reduced by removing a tax or removing barriers to entry, consumer surplus gain will be very substantial. The principle of proportionality would require that such gain be given due weight when national governments seek to protect their own, and producer, interests by maintenance of barriers to trade within the Union. Of course, quantification of gains would inform legal decision taking and this would be a useful area for economists to research.

There is every reason to believe that permitting bookmakers to serve markets hitherto supplied by monopoly state or state sanctioned agencies would lead to significant price falls and therefore (because demand is elastic) a strong stimulus to betting. For example, economic rents associated with operation of horse betting in Sweden, are large enough to permit a 36% tax on gross gaming revenue whereas the United Kingdom government has been compelled by the competitive environment in which its industry operates to accept a rate of only 3%. In France horse betting remains very popular, with 13% of adults participating in a year; but its bettors have no choice but to wager through Pari Mutuel-Urbain where take-out is more than 27%; bookmakers in the United Kingdom typically retain

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10 According to survey evidence reported in Mintel Leisure Intelligence (2001), 10% of bettors had wagered offshore in the preceding 12 months. It appears plausible that high rollers would have been disproportionately represented in this figure, because they had more incentive to avoid tax, and therefore the fraction of betting revenue under threat was much higher than 10%.

only 13% of stakes.[11] Introducing competition would therefore potentially lower take-out substantially. Further, it could generate additional consumer gains from greater choice of product. In France, horse bettors must bet on a pari mutuel basis whereas in jurisdictions where pari mutuel and bookmaker betting coexist, a large majority of bettors appear to prefer to wager at fixed odds.

While the cases of Sweden and France are just illustrations, they are comparable to each other because, in each case, a proportion of the profits from the betting organisations is diverted to support of the domestic racing industry. To what extent may the need to subsidise racing be a legitimate defence of restrictions?

In respect of entry by land based operations, it would appear that this could be accommodated by replacing support from monopoly profits with subsidy from a tax on all horse race bets placed within the jurisdiction. However, if betting services are provided remotely, then, so long as a critical fraction of the population is willing to bet by internet, domestic taxes may become non-sustainable at rates consistent with supporting the current level of activity in the sport. There is a possible inefficiency here. Racing, and to a lesser extent other sports, produces an externality for the betting industry and will be underproduced if it cannot charge for that externality. An obvious way of resolving the issue without resort to protectionist measures would be to assert intellectual property rights and charge both domestic and foreign suppliers copyright fees for use of race cards as subjects for betting. However, this route to 'internalising the externality' is dependent on courts awarding ownership of rights to organisations representing the racing industry as a whole. This issue will require creativity to resolve and economic analysis will surely have a role.

6. Concluding Remarks

Restrictions on gambling are a feature of nearly all jurisdictions. They are motivated both by the protection of economic rents (in which governments share) and by a desire to mitigate social problems associated with gambling. Those who have most to lose financially from liberalisation (existing operators) commonly emphasise problem gambling aspects of the issue in seeking to frustrate change. Little is said in public debate about the interests of those who use gambling opportunities responsibly as a leisure choice. Those consumers will gain from the freedom to choose new gambling products and from price reductions where services change from being offered by a monopolist to being open to competition. It is argued here that such gains are capable of measurement and systematic research, underpinned by the notion of consumer surplus, would usefully inform

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11 Illustrative figures presented in this paragraph are calculated from country reports in Swiss Institute of Comparative Law (2006).

political decisions on gambling regulation and, indeed, taxation. Quantification of gains (or losses) to consumers from new policies would make it harder for their interests to be ignored because, as gamblers, it was felt acceptable that they be treated as 'second class citizens'.

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What Are the Costs and Benefits of Gambling in the United Kingdom?

Yuliya Crane

1. Setting the Scene

For a long time, the United Kingdom government considered replacing a very old and out of date Gambling Act, which dates back to 1968. Following the example of Australia where the Productivity Commission produced a substantial *Gaming Report* in 1999, analysing the present state of the industry, its externalities and future trends, the Department of Culture, Media and Sport commissioned a gambling review study, chaired by Sir Alan Budd in 2001. This report confirmed that the existing regulation was out of date and needed reviewing. The report suggested a considerable relaxation of laws governing the operations of casino gaming. The cross-industry group for gambling deregulation predicted that the number of Britons visiting a casino in any one year would have jumped from 3 per cent to 10 per cent (Ahmed and Mathiason, 2003) if the Budd proposals were implemented.

The Department of Culture, Media and Sport published a response to Budd's study, accepting the vast majority of its proposals. However, after a draft bill became public, there was a large wave of protests from anti-gambling organisations. As a result, subsequent drafts of the bill proposed less and less change. The Draft Gambling Bill originally called for more than forty super-casinos, or as many as the market would bear, but that number was dropped to twenty during negotiations between Tessa Jowell, the Culture Secretary, and the Labour Party in 2004 and then lowered to eight in February 2005 (Smith, 2005).

After several years of debate on the appropriate level of gambling regulation, the Gambling Bill was finally passed by Parliament and became law on Thursday, April 7, 2005. Following great pressure from anti-gambling organisations, general popular concern over the proposed new types of gambling (Dodgson, et al., 2004) and the government's desire to pass the Bill before the election, the Act allows for only one "regional" (super) casino, which will be able to have over forty gaming tables and up to 1,250 class "A" (unlimited prize and stake)

gaming machines. Its location was determined on 30th January 2007 by Casino Advisory Panel, which was "extremely impressed" by Manchester's proposal for supercasino site in SportCity (Webster and Coates, 2007). Manchester was awarded the licence ahead of previous favourites to host the casino – Blackpool and Greenwich (Millennium Dome).

Eight "large" casinos, which are defined as over $1500m^2$, are also to be introduced in Britain, subject to regional planning and development (Great Yarmouth, Kingston-upon-Hull, Leeds, Middlesbrough, Milton Keynes, Newham, Solihull and Southampton). There will also be eight new so-called "small" casinos, which are nevertheless large and different in characteristics from existing casinos (Bath and North East Somerset, Dumfries and Galloway, East Lindsey, Luton, Scarborough, Swansea, Torbay and Wilton). The new Gambling Act, however, does not allow any class "A" gaming machines anywhere except in the single regional casino. Perhaps the Act does not bring as dramatic changes to the industry as was initially anticipated. However, it is still likely to considerably shake up the existing gambling sector.

Recent opinion survey studies have shown that public perception is predominantly positive about gambling activities in the United Kingdom. 88.7% of respondents to the survey, conducted by The National Centre for Social Research, had taken part in one or more gambling activity, most of them play the National lottery and scratch cards. However, only about 3% of the adult population in the United Kingdom currently visits a casino at least once a year. This is very likely to change when the new eight "small" and eight "large" and a "regional" casino are introduced. They will represent a totally different experience for gamblers from existing casinos. The new casinos are going to be more similar to American casinos or Australian gaming halls, because they will be dominated by gambling machines. The innovating product that these casinos will offer may attract participation levels similar to participation in gaming halls in Australia. Gambling participation and expenditure are predicted to double in the United Kingdom from the current level of around 1% of disposable income (Marx, 2002). Some expect that, together with the positive economic effects, the expansion of gambling opportunities, might also lead to an increase in negative externalities such as an increase in cases of pathological gambling and problems associated with addiction (Eadington, 1996).

Regulators world-wide increasingly rely on economic analysis. Most economists would argue that economic efficiency ought to be one of the fundamental criteria for evaluating proposed (e.g. gambling) regulation. Due to the peculiar nature of gambling, which has equally passionate opponents and supporters, and a world-wide move to legalise and liberalise gambling, governments are particularly determined to get the legislative balance right in order to yield extra benefits, while minimising social costs. One of the approaches often employed

as an economic tool for comparing the desirable and undesirable impacts of proposed policies is cost-benefit analysis (Arrow, *et al.,* 1997).

The gambling industry generates (social and private) benefits in the same way that any other commercial entertainment enterprise does. There is no physical output from gambling, but for many consumers gambling is a form of recreation and entertainment, like sports or theatre. Economic theory refers to consumption benefits as "consumer surplus", which is likely to be the principal benefit from liberalising the provision of gaming.

This paper analyses the economic costs and benefits to British society following the deregulation of high prize gaming machines and the introduction of new style casinos. The research is set out to link cost-benefit analysis back to social choice theory and welfare economics, while specifically concentrating on the methodology of assessing social costs and consumer benefits which flow from the introduction of deregulation of an industry. This paper suggests possible effects in the United Kingdom from the introduction of small, large and regional casinos, by looking at the experience of Australia, where electronic gaming machines (EGM) with high prizes are offered in venues similar to small and large casinos in the United Kingdom. There are sixteen such casinos to be introduced in the United Kingdom in addition to the existing 126 small and medium casinos. The new casinos, however, will offer a completely new product in terms of a large number of high-prize gaming machines. Australia also has 'elite' casinos similar to the style of a regional casino to be built in the United Kingdom and akin to those found in Las Vegas. Initially, the draft Gambling Bill proposed an unlimited number of regional casinos in the United Kingdom but provision was made for only one in the 2005 Gambling Act.

2. Cost-Benefit Analysis

Cost-benefit analysis is about looking at the losers and winners from implementing a policy change, and measuring and comparing those gains and losses using money as a unit of measurement. This approach is best represented in a paper by Walker and Barnet (1999) regarding the gambling industry. The main difference between cost-benefit analysis and other methods of economic evaluation (e.g. cost-effectiveness) is that it seeks to place monetary values on both the inputs and outcomes (situation before and after a regulatory change). It is a tool used in an attempt to quantify and compare the economic costs and benefits of alternative actions. The results of cost-benefit analysis allow decision makers to determine if a policy is economically desirable and can also rank alternative policies. The important distinction between cost-benefit analysis and financial feasibility tests is that the latter concentrates purely on the revenues and costs of sponsoring and receiving parties. A cost-benefit analysis, however, is a more complete measurement of the effect of policy in that it also aims to measure

those costs and benefits imposed on other sectors or members of the community (Barker and Button, 1975).

"A "benefit" is any gain to any individual included in the group in question" (Pearce, 1983). That gain may accrue in the form of money, or it may accrue as some sense of pleasure, satisfaction or happiness. All it has to be is a gain in utility. Pearce (1983) defines a cost as anything that creates a loss of utility or welfare whether or not this involves a flow of money. Cost can also be thought of as opportunity cost – benefits that are foregone due to the chosen policy change. Some costs are straightforward and easy to measure (e.g. problem gambler treatment costs), others are hard to pin point and even harder to measure (e.g. psychological costs). One must consider which costs are relevant to society as a whole, rather than just including transfers.

Benefits, in turn are often measured by beneficiaries' willingness to pay. A cost-benefit analysis lists all parties affected by a policy and then values the effect of the policy on their welfare, which is often measured by consumer surplus. A simple and workable definition of consumer surplus, given to us by Mishan (1971), is "the maximum a consumer will pay for a given amount of a good, less the amount he actually pays." Consumer surplus is of course, not the only benefit of a policy – economic regeneration and other more tangible benefits are also included in classical cost-benefit analysis.

So-called production-related benefits should be treated with care, as an increase in value added, employment, tourism and tax revenue could be generated by different industries, other than gambling. An increase in revenue, employment or tax from the gambling industry could represent a decrease in these indicators in other industries, which is a displacement effect (Fenich and Hashimoto, 2004) and "to estimate the net impact of gambling it would be necessary to examine the comparative economic effects of gambling expenditures and of the alternative forms of consumption or saving" (Collins and Lapsley, 2000). For example, an increase in revenue and employment in a casino sector might correspond to a decrease in revenue and employment in local restaurants.

There is no standard methodology for analysing the costs and benefits of the gambling industry. Different authors use different definitions of what are costs and benefits in regards to gambling and how they should be measured. Therefore their findings often differ substantially depending on the methodology used. Developing a standard methodology would be valuable, as that would allow for comparison between studies across time and space and for better understanding of the impacts of changes in regulation.

3. Calculating Costs and Benefits

From a theoretical viewpoint, the aim of cost-benefit analysis is to measure changes in consumer surplus and producer surplus – the net amount of value in excess of costs when goods and services are bought and sold.

As was discussed above, the net benefit to consumers is the difference between consumer valuation of the purchased goods and services (willingness to pay) and what they actually pay. In regards to producers, if the marginal cost curve of an industry is represented by the industry supply curve, producer surplus represents the excess of revenue received over aggregate marginal costs (ACIL, 1999b). The closest to the true measure of it is a gross (before tax) profit.

The problem with producer surplus, however, is that gross profit does not take into account the risks borne by the entrepreneur. Also, in a competitive industry, economic profit is close to zero, even if the accounting gross profit is positive, and therefore the producer surplus is also close to zero. In addition, if the market is monopolistic or oligopolistic, economic profit may be dissipated by rent seeking activities, such as lobbying and colluding to maintain monopoly power. These are true directly unproductive activities, which may reduce producer surplus to close to zero (Walker, 2000).

However, when a part of producer surplus (together with a part of consumer surplus) is transferred to government in the form of taxes, this represents a net increase in social benefits (so long as is has not already been included as a benefit to the producer/consumer). In addition, "good causes contributions", which are increasingly expected of gambling industries across the world (Swiss Institute of Comparative Law, 2006b; GBGC, 2005), also represent a pure transfer of producer surplus to the rest of the society and therefore an increase in societal welfare (Basham and White, 2002). Some countries, like Finland and Cyprus, have a gambling industry consisting of state owned enterprises, where all the profit goes directly to the government (Swiss Institute of Comparative Law, 2006b). Here, all contributions to government are equivalent to producer surplus and should count as social benefit.

Even though taxation represents a transfer of consumer and producer surpluses to governments and therefore a social benefit, if it is levied on gambling turnover, it also creates a deadweight loss, which represents a social cost, as shown in Figure 1. In a non-distorted competitive market, for example, when business entities are taxed on their turnover, consumer surplus is the area above market price P and below the demand curve D, while producer surplus is above the supply curve S and below the market price P. When a tax is imposed, the supply curve shifts up, the price of a good or service increases (P to Ptax) and quantity demanded reduces (Q to Qtax). This creates a deadweight loss inefficiency represented by the triangle *abc*.

This triangle is a part of original consumer and producer surplus, which disappears when a tax is introduced. This is a cost to society from introducing

a tax. In the cost-benefit analysis of allowing new gaming, it is not measured directly as a cost, but it taken into account to the extent that measured benefits and costs are lower than they would be were the product untaxed. This is likely to be relatively important in the case of gambling, which is often subject to abnormally high tax rates.

*Figure 1: The Effect of Turnover Taxation on Consumer and Producer Surpluses*
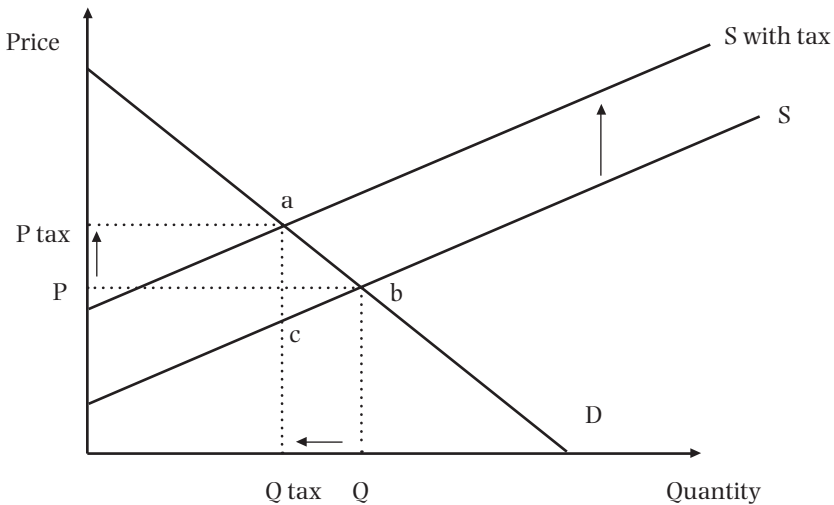
However, in the United Kingdom all gambling sectors other than the National Lottery are taxed on gross gaming revenue, which is turnover minus players' winnings, rather than on turnover. Even though the lottery is taxed on its turnover, given a fixed take out rate, the effect of the taxation on the lottery is the same as on other gambling industries. With profit maximisation assumed, such taxation will, in a monopolistic market, only decrease operators' profit. It will not change the price or quantity of the offered goods. This is because an attempt pass on the tax with increase in price, for example, will reduce quantity demanded (from q to q_1) and ultimately decrease supplier's profit (from $\prod$ to $\prod_1$), as shown in Figure 2 below.

Thus, in the instance of tax being imposed on profit under monopolistic conditions, taxation will serve as a way of transferring producer surplus to the government at the value of $(\prod - \prod(tax)) \times q$, which is the difference in profit from one unit $(\prod - \prod(tax))$ multiplied by profit maximising quantity (q), without having any effect on quantity (which remains at q) or consumer surplus. This is likely to be the case in the new casino market, where seventeen casinos are expected to

have regional monopolies. This type of taxation, however, has a negative effect on the level of investment in the long-run, which decreases potential consumer surplus and tax revenue.

Figure 2: The Effect of Revenue Taxation on Producer Surpluses
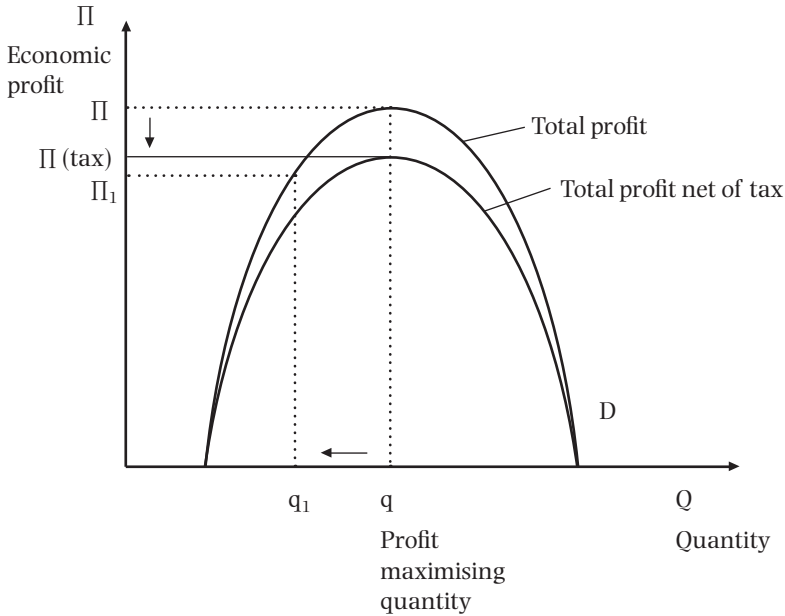
The size of consumer and producer surplus depends on the slopes of demand and supply curves (or marginal revenue and marginal cost curves, in the case of a monopoly). The steeper the demand curve, the less responsive consumers are to changes in price and the larger consumer surplus is. The steepness of ordinary and compensated demand curves is usually different, with the compensated demand curve being steeper.

The Australian Productivity Commission (1999) used a compensated demand curve to account for the fact that real incomes will vary systematically along an ordinary demand curve. Strictly speaking, according to welfare economics, the compensated demand curve, which shows the substitution effect of price change on the number of units of a good the consumer will purchase, should be used in calculating change in welfare. This is because real income should be held constant to ensure there is no change in the marginal utility of income, since money is serving as a proxy for utility. However in practice, the difference

between the compensated demand curve and the ordinary demand curve is very small, while its calculation is complicated. Most goods attract a very small portion of a consumer's budget. Thus, a decrease in the price of a good does not affect a consumer's overall budget, real income and utility significantly nor does it make the consumer much better off. There has to be a big change in price for a good that attracts a large proportion of the budget for real income to change significantly. Therefore, most practitioners use the ordinary demand curve for estimating costs and benefits, and that is what is used here.

While standard cost-benefit methodology suggests that social cost is equal to private costs plus externalities, in the context of gambling economics, externalities are often identified with social cost. Therefore, most publications in gambling economics imply that total cost is equal to social cost (which is comprised of externalities) plus private costs. This paper follows the definitions widely accepted in the economics of gambling. The standard methodology of welfare economics accepts that (Eadington, 1998):

> "...if some members of society are made better off by an action and others are made worse off, and if those made better off in the aggregate could financially compensate those who lost, then it is an improvement in social welfare even if no compensation is actually made from the winners to the losers."

From this point of view, bailout loans to a problem gambler, unemployment compensation, bad debts and theft of property are not social costs, but rather transfer payments from one individual to another, as they do not reduce aggregate social welfare. However, the commitment of resources by individuals or government to try to avoid theft or to "cure" problem gamblers and the psychic costs that affect individuals are examples of social costs. Some argue, however, that theft is a generator of social costs since, aside from psychic cost, the new owner will almost always value the good less than the old owner.

The cost to society from the introduction/deregulation of gambling is mostly represented by the costs imposed by problem gamblers. Pathological gamblers often require state medical support and financial payments. Increases in problem gambling are often associated with rises in bankruptcy levels, crime and corruption. While there is no conclusive evidence with regards to links with crime and corruption, the only assumed cost to the society here is inefficient use of resources (administration). The cost of a stolen good, the welfare payments and even bankruptcy are not considered to be real costs in the welfare economics sense. They are simple transfers within a society.

The estimation of benefits and costs must make a clear distinction between the private and social costs and benefits imposed. Definitions of what contributes to private costs and benefits and what contributes to social ones vary substantially depending mostly on views about the rationality of gamblers and on what

comprises society. Therefore, the results of a cost-benefit exercise should undergo a robustness test, but adjusting findings according to different assumptions.

The findings of Australian Productivity Commission (1999a) are used here as the basis for the calculation of social costs and benefits estimates. The results are adjusted according to three sets of assumptions. The first scenario follows precisely the Australian Productivity Commission's approach and assumes problem gamblers are not (fully) rational and includes some of their private costs in calculations. For two alternative social costs estimates, the Commission's approach is adjusted to be consistent with classical cost-benefits analysis methodology. The first alternative set of estimates (second scenario) is based on the assumption that problem gamblers are rational and any negative private costs are already embedded in their willingness to pay. The third scenario, in addition to assumptions made in the second scenario, treats households as the units of society and regards costs imposed on the household by a problem gambler as personal costs. The social benefits are estimated to consist of the consumer surplus and a large amount of the producer surplus which are transferred to the government in the form of taxes. Contributions for monopoly licences are assumed to drive residual producer surplus close to zero.

3.1. How to Estimate a Future?

It is hard to predict the consequences of the liberalisation of gambling in the United Kingdom. Even though the Gambling Act was passed in April 2005, major changes can only be expected to occur after the Act has fully entered into force in September 2007. However there has already been an announcement of where the seventeen new casinos will be located. The principal influence on the industry is expected to be from the new legislation introducing eight "large" and eight "small" casinos and a "regional" casino in addition to the existing 141 comparatively very small establishments.[1] In effect, these will provide a new gambling product for the United Kingdom.

The legislation requires the "regional" casino to have a minimum total customer area of 5,000 m², and up to 1,250 category A (unlimited jackpot gaming machines) will be permitted. "Large" casinos will be required to provide a minimum total customer area of 1,500m², and will be permitted up to 150 Category B gaming machines, with a maximum jackpot of £4,000, while "small" casinos will have a minimum total customer area of 750m², and will be permitted up to 80 Category B gaming machines, with a maximum jackpot of £4,000. The regional and eight large casinos will be also allowed to offer bingo, and all three categories of new casinos will be able to offer betting.

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1 The current number of existing casinos was identified by the United Kingdom Gaming Commission in July 2006.

Currently, casinos operate as gaming table establishments, with very few gaming machines. The Deregulation (Casinos) Order (SI 1999 No. 2136), which came into force on 24 August 1999, allowed ten instead of six jackpot machines to be available for gaming in a casino. The Gaming Machines (Maximum Prizes) Regulations (SI 2001 No. 3970), which came into force on 1 January 2002, increased the maximum prize per game for a casino jackpot machine from £1,000 to £2,000. The limit was then further increased to £4,000 by The Gaming Machines (Maximum Prizes) Regulations in 2005, further to the Gaming Act 2005 (SI 2005 No. 2775), which came into force on 31 October 2005.

Although a casino may apply to substitute the jackpot machines with a larger number of machines with smaller prizes (up to £25), British casinos so far are dominated by table games. While each gaming machine generates an estimated win of £40,000 per annum in an average casino, table games usually generate around £260,000 per annum per table (GBGC, 2005). This is a very different picture from, for example, casinos in France and the United States, where gaming machines account for the largest proportion of revenue and are growing at a faster rate than table games. This is possibly because the ratio of gaming machines per table there is much higher in those countries and gaming machines offer higher stakes and prizes. The difference in space allocation is because regulations constrain United Kingdom operators from dividing the gaming floor between machines and tables so as to equalise GGR (gross gaming revenue) per square foot. Table 1 below shows the breakdown of house win per activity, while Table 2 shows how few high prize gaming machines were in casinos in the United Kingdom by 2003. The number of machines is expected to rise dramatically following the Gambling Act 2005.

Table 1: Casino House Win (GGR) Per Activity (£ millions) 1999 – 2003:

	1998/99	1999/00	2000/01	2001/02	2002/03
Gaming machines	24.5	23.3	31.8	32.6	33.6
Table games	439.5	522.7	501.2	586.4	635.4
United Kingdom Total	464	546	533	619	669

Source: GBGC Report, 2005

Table 2: Number of Gaming Machines at Casinos in the United Kingdom 1998 –
    2003:

	1998	*1999*	*2000*	*2001*	*2002*	*2003*
Jackpot machines	612	582	795	814	841	894
Growth (%)		-4.9	36.57	2.4	3.3	6.3
Maximum prize machines included in above	N/A	297	326	367	N/A	116

Source: GBGC Report, 2005

The new legislation establishes a process for the creation of a casino industry that is more comparable with casinos in the United States (Marx, 2002) and the high prize gaming halls in Australia. Marx estimated in a rough form the demand for gambling after deregulation in Britain based on the United States experience. It could be argued however, that Australia is more appropriate as a template for predicting the United Kingdom demand, for several reasons.

When casinos were introduced in the United States in the late 1980s, they had almost no competition, other than state lotteries, in the gambling market. By contrast the United Kingdom already has strong competition to any potential new gambling services in terms of horseracing and sports betting, the National Lottery and bingo. Australia, on the other hand, already had considerable gambling activity, when several states decided to permit large scale gaming halls with high-prize gambling machines during the 1980s. Despite the lack of table games in Australian gaming halls, they are in essence very similar to casinos in the United States and the proposed new casinos in the United Kingdom, which are to be dominated by machines.

Australia presents a natural setting in which to examine the impact of deregulation of the casino sector. Before the introduction of casinos and gambling machines, the Australian gambling market was very similar to the British and dominated by lotto and betting (Uppal, 2004). Even though there are occasional exceptionally high jackpots, the practical maximum prize level of gambling machines in New South Wales, similar to the rest of Australia, is AU$4000. This is consistent with unlimited prize machines in the regional casinos and similar in order of magnitude to the £4000 legal maximum prizes applied to new B1 type machines in new "large" and "small" casinos, and to a lesser degree in casinos under the Gambling Act 1968 in the United Kingdom.

The rates paid to gamblers in terms of winnings are expected to be very similar in the United Kingdom to those in Australia at approximately 10%. Therefore, given the same price of gambling on gaming machines, the demand for high-prize gaming machines is also likely to be similar.

It is still unclear which tax regime is going to be applied to new casinos. Even though there was some speculation, the announcement by Gordon Brown (as Chancellor of the Exchequer) in his March 2007 Budget speech that gaming duty would rise to 50% for the new supercasino on revenue exceeding 10 million pounds sterling, a firm decision on casino taxation has not been taken. If gaming duty would indeed be increased to 50%, this would in effect double the previously expected taxation level of 20–25% (Coates S., 2007). The increase in taxes would cause an increase in the deadweight losses to society, as higher prices are likely to decrease demand. Decreases in spending and rises in taxation are two conflicting forces and therefore the effect on government revenue would depend largely on which force is stronger. Higher prices also decrease consumer benefits in terms of consumer surplus. For the purpose of this chapter it is assumed that gambling industry would proceed developing with pre-Budget 2007 announcement assumptions. While there is no value added tax (VAT) on table games, gaming machine revenue is subject to VAT.

After discussion with industry sources, it was decided here to adopt an estimate of gambling privilege taxes of 23% of gross gaming revenue. These are the taxes that would be contributed to the government over and above the VAT and normal corporate taxes. 23% represents the net increase in tax rate applied on spending on gambling rather than on other leisure activities that might be displaced by gambling.

The overall tax regime for the new casinos in the United Kingdom (gambling privilege taxes plus normal corporate taxes) is likely to be similar to the taxes on Australian gaming halls, at around 35%–40% of gross gaming revenue. Due to its federal constitution, Australian states and territories liberalised gambling at different dates and there are therefore several cases of regulation changes and their impact to examine. In addition, there are very similar cultural patterns, such as behaviour and spending patterns, in Australia and the United Kingdom, due to the historically very close relationship between the countries. Therefore, based on these assumptions, demand conditions for gaming machines in the United Kingdom are likely to be similar to those in Australia.

3.2. *Estimating Costs Based on the Australian Productivity Commission Report*

Australia was the subject of the most comprehensive study of the gambling industry and its effect on society to have been published to date (Australia's Gambling Industries, 1999). Australian Productivity Commission conducted two extensive surveys, which included questions about a range of possible adverse consequences of gambling together with the set of questions used in the South Oaks Gambling Screen (hereinafter referred to as "SOGS") for problem gamblers: the National Gambling Survey, which was aimed at regular gamblers who engage in some form of gambling on average once a week, and the Survey of Clients

of Counselling Agencies, which was aimed at problem gamblers who were undergoing counselling. The results from The Survey of Clients of Counselling Agencies indicated that the average period of problem gambling is 8.9 years.[2] Where the answers were received based on the "duration of gambling problem", they were converted to an annual basis using the average lengths of gambling problem (8.9 years).

The Australian Productivity Commission report acknowledged that the extent to which some adverse effects can be attributed to gambling is debatable. The Australian Productivity Commission estimated that about 15% – 20% of, for example, depression, divorce and separation that were reported to be related to gambling in the gambling surveys, would exist even in the absence of gambling. This is consistent with economists' views, e.g. Collins and Lapsley (2000). Therefore, where appropriate a 20% "causality" discount to the number of people affected was applied in the Australian Productivity Commission estimations of the personal and family impact of problem gambling. The final Australian Productivity Commission social costs estimates are presented below.

Table 3: Australian Costs of Problem Gambling 1997/98 (in AU$ millions per year):

Social Cost Component	AU$m low	AU$m high
Financial		
Bankruptcy	1.3	1.3
Productivity and employment		
Productivity loss at work	21	150
Productivity loss outside work	7.2	50
Job change		
earnings loss	24	24
employee job search	13	13
employer staff replacement cost	22	22

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2   The way this figure was estimated suggests it be treated cautiously. Because it was only based on the survey of clients of counselling agencies, this figure might represent the number of years prior to seeking help, rather than the whole duration of the gambling problem.

Social Cost Component	AU$m low	AU$m high
Crime and legal		
Cost of police incidents	3.2	3.2
Court cases	5.6	5.6
Jail costs	5.1	5.1
Personal and family		
Emotional distress of immediate family		
Moderate problem gamblers	ne	ne
Severe problem gamblers	756	2 267
Emotional distress of parents		
Moderate problem gamblers	ne	ne
Severe problem gamblers	0	666
Break-up of a relationship [a]	288	864
Financial cost of divorce	2.8	2.8
Emotional cost of divorce	126	253
Cost of violence	2.8	8.3
Depression [b]	231	692
Thought of suicide [c]	120	239
Attempted suicide	70	117
Impact on immediate family	81	161
Impact on parents	0	21
Treatment costs		
Gambling counselling services	20	20
Total of above	1800	5586

a   Excluding those that lead to divorce or separation.

b   Excluding those reporting thoughts of suicide.

c   Excluding estimated attempted suicides.

Note: "ne" means not estimated

Source: Australian Productivity Commission (1999a), Appendix J.

The Australian Productivity Commission estimated low and high ranges of costs where costs can vary substantially or there is insufficient information to make a more precise estimate. Only the external costs (those imposed by decision makers on others) would normally provide the justification for government intervention on efficiency grounds. However, the Commission included a significant element of problem gamblers' internal costs (except the money spent directly on gambling) in its estimates of "costs that gambling imposes on the Australian community" (Australian Productivity Commission, chapter 9, 1999, p.9.6). In addition to estimating social costs, the Australian Productivity Commission also estimates some undesirable "transfers" that occur due problem gambling. They are summarised below in Table 4.

Table 4: Value of Annual Transfers as a Result of Problem Gambling 1997/98 in Australia (in AU$ millions):

Social Cost Component	AU$m low	AU$m high
Debts	26.4	26.4
Unemployment payments	4.1	4.1
Value of money obtained illegally	4.9	31.3
Total	35	62

*Source: Australian Productivity Commission (*1999a*), Appendix J.*

The Australian Productivity Commission and the present paper present a variety of social cost estimates. One reason for this is because people can take different prospectives on rationality. Neo-classical economics presumes individuals to be fully rational. This implies that all their actions improve their utility and their willingness to pay for goods and services account for all the negative, as well as positive, consequences of their purchases. However, a key element to rationality is perfect information. Therefore, some argue that if information is imperfect, then individuals may not be acting fully rationally. It means that it might be easier to be addicted to a good or service, where people cannot see clearly what the costs of consumption might be. One example of that is smoking.

In the 1950s smoking was fashionable, but from the time when anti-smoking campaigns started to take place in the 1990s and educated the population about the extent of the damage that smoking does to their health, the number of smokers reduced dramatically. In gambling, it is less clear to an individual person what costs gambling might bring. In addition, direct health costs are more tangible and easier to understand than, for example, a threat of suicide that severe gambling addiction might bring. Orphanides and Zervos (1995) suggested, however, that

individuals learn during the course of their life and make corrections to their decisions based on better information available to them. This explains regret and the willingness of some gamblers to terminate their addiction.

Below, each of the costs proposed by the Australian Productivity Commission is discussed and two levels of adjustments are made to the process of estimation. First of all, all personal costs incurred by gamblers and all transfers are excluded from the estimation. This seems to be an appropriate assumption, since cost-benefit analysis takes into consideration only social costs that are imposed on society. Costs to the individual need not be evaluated separately because rational individuals account for any effects of consumption, negative and positive, in their willingness to pay.

The second level assumption follows from the neo-classical perception that society consists of households rather than of individuals and therefore potential costs to other members of the household are considered by individuals during the decision making process and are included in the willingness to pay. Many will still have reservations about the classical cost-benefit approach where costs to households are considered foreseeable and private. However, all three sets of estimates, based on modified and adjusted costs, are included to test whether the assumptions have a critical effect on findings.

3.2.1. Financial Costs

The Commission considered debts and bankruptcy as financial costs of problem gambling. However, it recognised that these costs may not form a part of social costs, but represent transfers. The Australian Productivity Commission estimated that half of the value of debt is borne by other members of the problem gambler's family, which is approximately AU$26m annually. This estimation forms a part of the Commission's figure for undesirable transfers caused by problem gamblers.

Similarly to debt, the value of gambling-related bankruptcies is a transfer within society to the extent that what the borrower avoids paying back the creditor loses. However, the administrative cost of bankruptcy proceedings represents economic inefficiency and therefore imposes a social cost (Grinols, 2004). The number of "gambling and speculation" bankruptcies indicated by official statistics was 317, while the cost per bankruptcy averages around AU$4,000. Thus, the total cost of gambling related bankruptcies was estimated to be AU$1.2m per year.

3.2.2. Productivity Costs

From the National Gambling Survey the Australian Productivity Commission calculated a lower estimate of lost productivity, where 7,000 people indicated that they experience lost productivity "often to always"; and a higher estimate, where 49,200 people indicated lost productivity "sometimes to always". The

Australian Productivity Commission acknowledged that some of this loss of productivity could be trivial and assumed that on average 7.9% of lost productivity can be attributed to gambling. This is, for example, three times greater that Dickerson's (1999) estimate of 2.5% of work time. Using average annual earnings of AU$38,600, the Commission estimate the total cost of lost productivity as a result of problem gambling to be between AU$21m and AU$150m each year.

While loss of productivity is a valid component of cost to the employer and possibly a personal cost to the gambler, should the employee be fired or loses part of earnings, productivity costs do not contribute to social costs in a cost-benefit analysis framework. Democratic society and classical cost-benefit analysis aim to maximise utility, not output (Layard and Glaister, 1994; Mishan, 1988; Pearce, 1983). Therefore, lost productivity represents a transfer of utility from an employer, in terms of lost output, to the employee, in terms of gained leisure (Walker and Barnett, 1999). Thus, *productivity cost should not be included in the total social cost estimates.*

About 30% of regular gamblers were not employed at the time of the survey. The Australian Productivity Commission estimates that if they were included with the same level of productivity loss, this would increase the value of total cost by AU$7m to AU$50m. The Commission suggested that a reduction in productivity for those at home, bringing up families etc., is just as real loss as the decline in productivity from those employed.

3.2.3. Job Change Costs

Similarly to Collins and Lapsley (2000), the Australian Productivity Commission argued that there are essentially three costs to society involved in a change in job: the loss in income over the period of unemployment, the financial cost of job search and the cost to the employer of finding and training a replacement. At the same time they acknowledge that unemployment benefits represent just a transfer to the unemployed within a society.

Overall, the average duration of unemployment due to job change in Australia is around 6 weeks. On the basis of AU$4,300 lost income per job change for 5,600 people, the total estimated annual cost was AU$24m. Compared to estimated annual unemployment benefits of AU$4.1m, the figure representing the lost income was judged reasonable by the Commission. The payment of unemployment benefits was treated by the Australian Productivity Commission as a transfer of money within society. Even though the inclusion of lost income, time and productivity are at the core of cost-benefit analysis as applied by some authors (e.g. Grinols, 2004), classical cost benefit analysis does not consider any of the above as cost to society overall. This type of costs represents private, not social cost and therefore *should not be included in the calculation of total social cost* (e.g. Eadington, 2000; Walker, 2000c; Walker and Barnett, 1999).

There are however real costs of unemployment in terms of employees' cost of job search and employer cost of recruiting a new employer and training him. If an employee involuntary loses his job, he might not gain much leisure as he has to spend his time on his job search. Using Dickerson *et al.*'s (1998) estimate of AU$2,357 of job search costs per person and the Australian Productivity Commission's own estimate of 5,377 people changing jobs a year as a result of their gambling, the Commission estimated the total job search cost of employees to be AU$13m.

In analysing the cost of staff replacement, the Australian Productivity Commission assumed, based on the literature available, that employer search and replacement cost equals 10 per cent of annual salary. Based on average earnings, this cost was AU$3,862. With 5,600 people being replaced in a year, there was a total cost to employers of AU$22m.

3.2.4. Crime and Legal Costs

The National Gambling Survey asked a number of questions on the extent of illegal activities undertaken by gamblers as a result of their gambling. Based on their responses, it was estimated that 20,900 people committed some form of gambling related crime in 1997/98, of which 13,600 had bounced cheques deliberately and 9,700 committed other crimes. As with bad debts, the value of money or goods stolen may be regarded from economic perspective as a transfer within society, rather then a cost (Collins and Lapsley, 2000; Eadington, 2000; Walker and Barnett, 1999).

The real cost of crime is the effort that society must take to protect property together with the costs of the criminal justice system. Based on Walker's (1997) estimates, the Commission used AU$500 as a lower estimate and AU$3,225 as a higher estimate of the value of money and stolen goods per incident. This represents a transfer of AU$5m to AU$31m per year through gambling related crimes, other than bounced cheques.

One of the externalities of crime that is relevant to cost-benefit analysis is usage of police enforcement (Grinols, 2004). Estimating from the National Gambling Survey that 6,300 people were involved in an incident with the police as a result of their gambling activities and using Dickerson *et al.*'s (1998) cost estimate of AU$510 per police incident, the APC estimated the total cost of gambling related policing in Australia as AU$3.2m a year.

From the survey it appears that there are 700 gambling related court cases a year in Australia, which cost on average AU$8,000. On this basis, the court cases involving problem gamblers cost AU$5.6m per year, which contributed further to the social cost of gambling.

Similarly, the cost of jail sentences forms a part of social costs because it represents the use of productive resources to supervise prisoners. The Australian Productivity Commission estimated it to be AU$5.1m each year, based on 336

people receiving a jail sentence as a result of their problem gambling, with an average sentence of 3.4 months and an average annual cost per prisoner of $52,983.

3.2.5. Personal and Family Costs

Personal and family costs are among the hardest to value, and yet they comprise a large part of the Australian Productivity Commission's estimate of social cost. However, despite uncertainty surrounding these estimates, not including them would in effect value their costs at zero, which is likely to involve greater error.

The family and personal costs incurred due to gambling most commonly take the form of psychological (e.g. depression), rather then physical damage (Grinols, 2004). The Commission's survey did not provide an insight on the impact of gambling on physical health, but revealed specific statistics on the number of people reporting adverse effect on their psychological wellbeing. The main difficulty for the Australian Productivity Commission was, therefore, to quantify "pain and suffering", as they termed it. One way of doing this was to use victims' compensation legislation. The Australian Productivity Commission (1999a, appendix J, p.J.24) used the New South Wales *Victims Compensation Amendment Act* 1998, as the basis of its estimation. The Act allows for compensation as follows:

> "chronic psychological or psychiatric disorder that is moderately disabling, $5,000 to $15,000; and

> chronic psychological or psychiatric disorder that is severely disabling, $30,000 to $50,000."

It is, of course, debatable whether legislators are indeed able to provide the right estimations of the cost of "pain and suffering", but these numbers would be used by government in economic evaluations during decision taking across a range of policy areas. Therefore these numbers might be argued as the correct ones to use to preserve consistency across the whole of government.

The Commission attempted to place a dollar value on emotional distress caused by problem gambling where there is no direct "injury" involved and acknowledged that the highest payments would have been made for serious offences (e.g. rape and sexual assault, child abuse), while gambling normally caused much less severe distress (in the worst case, thoughts of suicide and attempted suicide). Therefore, the Commission used lower end compensation for most of its estimates, as shown in Table 5 below. In addition, it assumed that family and friends are caught up in the emotional damage involved in problem gambling of an individual.

Table 5: Range of Values Assigned to the Emotional Costs Associated with Problem Gambling (in AU$ per person):

Adverse consequence identified	Lower cost AU$	Higher cost AU$
Emotional costs for the immediate family		
of moderate problem gamblers	ne	ne
of severe problem gamblers	5 000	15 000
Emotional costs for the parents		
of moderate problem gamblers	ne	ne
of severe problem gamblers	0	5 000
Relationship breakdown	5 000	15 000
Divorce or separation	15 000	30 000
Violence	5 000	15 000
Depression		
rarely to sometimes	ne	ne
often to always	5 000	15 000
Seriously thought of suicide	15 000	30 000
Attempted suicide		
for the gambler	30 000	50 000
for the immediate family	15 000	30 000
for the parents	0	5 000
Successful suicides	ne	ne

Note: ne = not estimated.

Source: Australian Productivity Commission (1999a), Appendix J.

Emotional costs for family members were estimated only for severe problem gamblers, assuming that the average family size of problem gamblers is 3.3 (74.5% of respondents to the surveys reported partners as suffering due to having problem gambler in the household) and that the average number of parents is 1.8 (47.8% of parents reported suffering a moderate to major adverse effect). It was estimated that 129,300 severe problem gamblers had adversely affected 151,100 members of immediate family and 133,200 parents. This generates a large cost range from AU$756m to a massive AU$2.267bn for the immediate

family and zero[3] to $666m for parents, depending on compensation schedule used (see Table 5).

The Australian Productivity Commission estimated, in appendix T of its report (1999), the likely number of divorces and separations attributable to problem gambling to be 2,560 per year. Using a cost of divorce or separation of AU$1,100 (including government filing fee, standard legal fees etc.) from Szabo (1997), the Commission estimated the total annual financial cost of divorce and separation as a result of gambling to be $2.8m.

Quantifying the emotional cost of relationship breakdown, divorce and separation is more ambiguous than estimating financial costs. From the National Gambling Survey, the Commission estimated that in the preceding 12 months, 39,200 relationships broke down as a result of gambling behaviour. From this, subtracting the number of divorces and separations, multiplying by two (to account for two parties) and adjusting for "causality" (less 20%), the Australian Productivity Commission estimated that 57,600 people had been adversely affected by a relationship breakdown in a year. Using the lower band of the compensation schedule (AU$5,000 to AU$15,000), the total cost of relationship breakdown was estimated to be in the range of AU$288m to AU$864m.

However, the Commission included the personal emotional distress of problem gamblers themselves in these calculations. The neo-classical rationality perspective (discussed previously) would imply that personal costs, such as this, should not be included in the total social cost calculation, as they are already reflected in the willingness to pay for goods or services. Therefore, (again if society is considered to consist of individuals rather than households) *the emotional cost of relationship breakdown* of 28,800 people in Australia was half of the estimates provided by the Australian Productivity Commission and *was between AU$144m and AU$432m* in 1997/98, where personal costs to problem gamblers from relationship breakdown is excluded.

Similarly, the Australian Productivity Commission estimated that 3,200 divorces took place in 1997/98. Applying the causality discount (20%), multiplying by the number of people in the household (3.3, including the problem gambler) and using a midrange compensation schedule of AU$15,000 – AU$30,000, the total emotional cost of divorce and separation was estimated as between AU$126 and AU$253m. Again, further to the argument in the previous paragraph, the private costs of problem gamblers should not have been included in the social cost estimation. Excluding the costs that problem gamblers bear themselves

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3   It has to be noted that the APC used a very extreme assumption in estimation of lower boundary of emotional costs incurred by parents of problem gamblers. It implies that none of the parents are affected by the pathological addiction of its offspring, which is unrealistic.

(using a household of 2.3), the total emotional of divorce and separation *was between AU$88.32m and AU$176.64m in Australia in 1997/98.*

Information on violence exhibited by problem gamblers was available only from the survey of problem gamblers in counselling. The estimate of 13.1 percent was then multiplied by the total number of severe problem gamblers (who generated a South Oaks Gambling Screen score of 10 or above) and adjusted to an annual basis. It is possible that the total number of problem gamblers involved in violence might be exaggerated, as perhaps more severe cases of problem gambling, with greater adverse effects on surrounding people, are referred to counselling. After adjusting for "causality" the number of gamblers, who presumably were involved in violence as a result of their gambling addiction, was estimated as 551 in a year. With a lower range of compensation schedule (refer to Table 5), the total cost of violence was between AU$2.8m and AU$8.3m. Even though violence may also have physical cost beyond emotional damage, the Australian Productivity Commission did not value such costs according to criminal compensation scales, because it did not consider it to be substantial.

The National Gambling Survey indicated that around 49,400 gamblers "often" suffer from depression and 21,200 are "always" depressed in a given 12 months. Adjusting these numbers for causality and removing from the number of those who are "always" depressed the number of those with serious thoughts of suicide (12,900), gives a number of people depressed: 39,520 people "often" and 6,640 people "always". Using the lower compensation schedule band and adding together the estimates for those who reportedly were "often" and "always" depressed, gives the total depression cost estimate of between AU$231m and AU$692m.

The Commission did not attempt to estimate medical costs involved in treating depression. However, according to neo-classical economics, the medical costs are the only real social costs of depression associated with problem gambling and only then given a medical system where the state or insurance pays. Given that medical assistance in Australia is supported by the state, costs of treating problem gamblers contribute to total social costs. The Australian Productivity Commission did not account for that, but instead calculated only psychological costs to individuals. But, problem gamblers' personal cost from depression (which, in the case of Australia, does not include any medical cost) *should not be included in the total social cost of gambling.*

The Australian Productivity Commission's national gambling survey showed that around 12,900 gamblers seriously contemplated suicide in a year preceding the survey as a result of their gambling problems. Subtracting those who attempted suicide and adjusting for causality (because gambling might not be the main reason for contemplating suicide), gave an estimate of almost 8,000 people. The Commission placed a range of values on suicide contemplation and attempted suicide of AU$15,000 for a lower estimate and AU$30,000 for

an upper estimate. This yielded an estimated annual cost for those seriously contemplating suicide of AU$120m to AU$239m. Similarly to the previous argument, these costs are private problem gamblers' costs and *should not form part of the estimation of social cost,* according to the neo-classical perspective.

The information on the number of attempted suicides was only available to the Australian Productivity Commission from the survey of problem gamblers in counselling and therefore might be exaggerated. After adjusting for "causality", the estimated number of attempted suicides in Australia in 1997/98 is 2348. After using the higher compensation schedule (AU$30,000 to AU$50,000), the Commission estimated annual Australia-wide cost from attempted suicides of AU$70m to AU$117m. Again, strictly speaking, attempted suicide brings a personal emotional cost to the problem gambler and this cost *should not be included in the total social cost,* if classical cost-benefit analysis approach is utilised.

However, if the society is viewed as a collection of individuals, then the impact on families of attempted suicide by problem gamblers represents a social cost. This cost was quantified by the Australian Productivity Commission as AU$81m to AU$161m to immediate family and zero to AU$21m to parents of problem gamblers. The estimate was based on 2.3 immediate family members (excluding the problem gambler) and an assumption that problem gamblers have 1.8 parents. The Commission used AU$15,000 to AU$30,000 compensation for immediate family members and zero to AU$5,000 compensation for each parent.

The Commission estimated that there could be 35 to 60 effective suicides in Australia annually as a result of problem gambling. The Australian Productivity Commission did not attempt to measure the cost to the families of these suicides, though it is thought to be substantial.

The Australian Productivity Commission estimated that the total personal and family cost created by problem gambling is in the range of AU$1,678m to AU$3,024m per annum. The estimated personal and family cost, that contribute to total social cost, is significantly reduced to AU$1,075m – AU$1,468m if problem gamblers are treated as rational individuals and if personal costs and transfers within society are excluded. The third level of assumptions, where problem gamblers are assumed to behave rationally and society is presumed to comprise individuals, implies that there is no personal or family cost associated with problem gambling at all.

3.2.6. *Treatment and Other Costs*

Chapter 16 of the Australian Productivity Commission report describes the provision of a range of services funded by government for assisting problem gamblers. The Commission estimated that in the 1997/98 government provided AU$20m for gambling counselling throughout Australia. However, other costs incurred by voluntary and non-governmental organisations have not been included in the above cost of treatment. In addition, government funding into research of

problem gambling has not been included in the Australian Productivity Commission report. Grinols (2004) suggests that direct regulatory costs should be taken into account, but unfortunately the Australian Productivity Commission's estimations of total social cost did not account for these.

3.3. Social Costs

3.3.1. Adjusted Estimation of Total Social Costs in Australia, Based on the Australian Productivity Commission Report

The Australian Productivity Commission estimated that the total costs that problem gambling imposes on Australian society annually amounts to AU\$1.8bn to AU\$5.6bn. However, after adjusting the Australian Productivity Commission estimation to classical cost-benefit analysis methodology, the estimated total cost of problem gambling in Australia is significantly decreased as shown in Table 6 below. Here we assume that problem gamblers are 'rational' and therefore their personal costs should not be included in the calculation of social costs. However, the estimates below include personal costs incurred by family members of problem gamblers, as this scenario assumes that society comprises of individuals and not households.

Table 6: Adjusted Australian Costs of Problem Gambling 1997/98 (in AU\$m):

Social Cost Component	AU\$m low	AU\$m high
Financial		
Bankruptcy	1.3	1.3
Productivity and employment		
Productivity loss at work	0	0
Productivity loss outside work	0	0
Job change		
Earnings loss	0	0
Employee job search	13	13
Employer staff replacement cost	22	22
Crime and legal		
Cost of police incidents	3.2	3.2
Court cases	5.6	5.6
Jail costs	5.1	5.1

Social Cost Component	AU$m low	AU$m high
Personal and family		
Emotional distress of immediate family		
Moderate problem gamblers	ne	ne
Severe problem gamblers	756	2 267
Emotional distress of parents		
Moderate problem gamblers	ne	ne
Severe problem gamblers	0	666
Break-up of a relationship [a]	144	432
Financial cost of divorce	2.8	2.8
Emotional cost of divorce	88.32	176.64
Cost of violence	2.8	8.3
Depression [b]	0	0
Thought of suicide [c]	0	0
Attempted suicide	0	0
Impact on immediate family	81	161
Impact on parents	0	21
Treatment costs		
Gambling counselling services	20	20
Total of above	1145.12	1537.94

a   Excluding those that lead to divorce or separation.

b   Excluding those reporting thoughts of suicide.

c   Excluding estimated attempted suicides.

Source: Adapted from Australian Productivity Commission (1999a), Appendix J, together with own estimates

After adjusting for personal costs and transfers, originally included by the Australian Productivity Commission in the Australian Gambling Industries report, the total social cost of gambling is between AU$1.145bn and AU$1.538bn per year. The adjusted value of the transfers induced by gambling is significantly larger then the original estimates AU$35 – AU$62m (see Table 4). When including

lost productivity and earnings, gambling related transfers within Australia are estimated to be between AU$88 and AU$286m annually.

The real social cost of gambling could be even smaller than indicated above. If the society in question is considered to consist of households rather than individuals, and problem gamblers are considered to be rational and to give equal weight to family members' welfare as to their own, then the total social cost appears to be at AU$73m, as shown in Table 7 below. This is the most optimistic and the most radical approach in estimating the social cost of problem gambling.

Table 7: Adjusted Australian Costs of Problem Gambling 1997/98, assuming society comprised households (in AU$ millions):

Social Cost Component	AU$m low	AU$m high
Financial		
Bankruptcy	1.3	1.3
Productivity and employment		
Productivity loss at work	0	0
Productivity loss outside work	0	0
Job change		
earnings loss	0	0
employee job search	13	13
employer staff replacement cost	22	22
Crime and legal		
Cost of police incidents	3.2	3.2
Court cases	5.6	5.6
Jail costs	5.1	5.1
Financial cost of divorce	2.8	2.8
Treatment costs		
Gambling counselling services	20	20
Total of above	73	73

Source: Adapted from Australian Productivity Commission (1999a), Appendix J, together with own estimates

Gambling is very often seen as a vice, similar to illicit drugs, alcohol and tobacco. However, the externalities from gambling are considerably smaller than externalities from drugs, alcohol and tobacco. For the sake of comparison, the figure estimated by Collins and Lapsley (1996) for social costs of other "social problems" was AU\$1.7bn for illicit drugs, AU\$4.5bn for alcohol and AU\$12.7bn for tobacco in Australia. NERA (Dodgson, *et al.*, 2003) estimated that alcohol consumption in London alone imposes at least £3.86bn of cost on the society. However, some caution should be used in comparing estimates done at different times and locations using different methodologies.

It has to be noted that the above are conservative estimates of total social costs, because the Australian Productivity Commission did not take into account several costs due to unavailability of data or perception that the costs might not be substantial. For example, medical costs associated with conditions such as depression and costs of actual suicides were not included. Medical costs, though, would only contribute to total social costs if they are not borne privately, but by, for example, state health system (as is the case in Australia) or a health insurance company.

3.3.2. Estimation of Social Costs by Mode of Gambling

Central to this Chapter is the introduction of a new gambling product – high-prize gaming machines. Separating Australian Productivity Commission estimates by mode of gambling, the following breakdown appears (Table 8). The breakdown by mode in Australia is then adjusted to methodology of two alternative scenario and represented in Table 9 below.

While gaming machines have the largest share of gambling expenditure of the various types of gambling, the rate of problem gambling associated with them is also the highest (just over 42% of total gaming machine expenditure). This leads to the highest amount of spending (losses) by problem gamblers on this mode of gambling, which is 76% of total problem gamblers' expenditure (Table 9). Therefore, 76% of the social costs were allocated to the gambling machines market. Such a large proportion of problem gambling associated with gaming machines was estimated by the National Institute of Economic and Industry Research in New South Wales (2003) on the basis of gaming machine density.

As aforementioned, the total social cost of gambling in Australia could vary from AU\$73m (all personal costs are excluded and the social decision taking unit is presumed to be the household) to AU\$1537.9m (all personal costs are excluded and society is treated as consisting of individuals) to AU\$5586m (original Australian Productivity Commission estimate), depending on methodology. The social cost of gaming machines, which is of particular interest to this Chapter, is estimated to contribute over three quarters of total social cost. While the Australian Productivity Commission estimates the social cost of gaming machines

Table 8: Social Costs of Gambling by Mode of Gambling 1997–98 in Australia (in AU$ millions):

Type of gambling	Share of expenditure in that mode accounted for by problem gamblers (%)	Expenditure by problem gamblers (AU$ million)	Social costs of gambling (AU$ million)
Wagering	33.1	529	267–830
Lotteries	5.7	68	34–106
Scratch cards	19.1	47	24–74
Gaming machines	42.3	2 710	1369–4250
Casino gaming	10.7	96	48–150
Other	25.0	112	57–176
All gambling	33.0	3 562	1800–5586

Source: Australian Productivity Commission (1999a), Appendix J.

Table 9: Adjusted Social Costs of Gambling by Mode of Gambling 1997–98 in Australia (in AU$ millions):

Type of gambling	Share of expenditure on that mode by problem gamblers, out of total problem gamblers expenditure (%)	Adjusted Social Costs of Gambling (from Table 6) (AU$ million)		Adjusted social costs of gambling, assuming society comprised of households (from Table 7) (AU$ million)	
		Low	High	Low	High
Wagering	14.85	170.05	228.38	10.84	10.84
Lotteries	1.91	21.87	29.37	1.39	1.39
Scratch cards	1.32	15.12	20.30	0.96	0.96
Gaming machines	76.08	871.21	1170.06	55.54	55.54
Casino gaming	2.70	30.92	41.52	1.97	1.97
Other	3.14	35.96	48.29	2.29	2.29
All gambling	100	1145.12	1537.94	73.00	73.00

Source: Own estimates, based on Australian Productivity Commission (1999a), Appendix J.

to be between AU$1,369 and AU$4,250m, excluding private costs reduces this to AU$871.21 – AU$1170.06m. The assumption that society comprises of households rather than individuals reduces it further to AU$55.54m.

Destination casinos account for a relatively low share of problem gamblers' expenditure at 2.7%. The social cost of destination casinos is estimated by the Australian Productivity Commission to be AU$48 – AU$150m. Excluding private costs, this generates an estimate of casino social cost between AU$31.7m and AU$46.9m and excluding family associated costs decreases social costs estimates to AU$2.7 – AU$7.4m annually.

3.3.3. Estimation of Social Cost per Person in Australia, Based on the Australian Productivity Commission report

The Australian Productivity Commission estimated that 293,000 problem gamblers generated a range of social costs estimated to be equivalent to AU$6,100 to AU$19,100 per person per year, based on their estimates of total social costs (see Table 3). When converted to British pounds using the 1998 exchange rate, these costs are approximately equivalent to £2,400 and £7,000. Out of this amount, approximately £1,700 – £5,300 is attributable to gambling on gaming machines. These and the adjusted estimates are summarised in Table 10 below.

Table 10: Social Costs of Gambling per Person 1997–98:

	APC estimates of social costs of gambling	*Adjusted social costs of gambling*	*Adjusted social costs of gambling, assuming society comprised of households*
Total social cost (AU$m)	1,800–5,586	1,145–1,538	73
Social cost per problem gambler (AU$)	6,100–19,100	3,908–5,249	250
Social cost per problem gambler (£)	2,400–7,000	1,400–1,900	91
Social cost attributable to gaming machines (AU$m)	1,369–4,250	871–1170	55.5
Gaming machines social cost per problem gambler (AU$)	4,672–14,505	2,973–3,993	190
Gaming machines social cost per problem gambler (£)	1,700–5,300	1,100–1,460	70

Source: Adjusted from Australian Productivity Commission (1999a), Appendix J, and own analysis.

3.3.4. Estimation of Costs Based on New Casinos Built in the United Kingdom

According to the National Statistics Office[4], the population of the United Kingdom was 59.8m in mid 2004. United Kingdom population growth has been steady at around 0.2 to 0.5 per cent a year, with growth in recent years tending to be a little faster than earlier. However, population the United Kingdom population is not expected to change significantly in the near future. In 2004, approximately 19 per cent of the population was aged under age 16, which is 11.37m people. Even though, those above 16 can legally buy a lottery ticket and play gaming machines located outside casinos, 17–18 years olds are not allowed to play in a casino in the United Kingdom. According to the Census 2001, there were 1.44m people aged 17–18 in 2001. Assuming this amount did not changed significantly, the total number of over 18s was 47.03m in 2004.[5]

The recent Gambling Prevalence study in the United Kingdom (Creigh-Tyte and Lepper, 2004), carried out for the Department for Culture, Media and Sport, showed no increase in participation levels since 1999 in most types of gambling (study reported in Sproston, *et al.*, 2000). In fact, Creigh-Tyye and Lepper report a slight decline in the overall participation in gambling: 71% of the respondents gambled in the preceding twelve month to February 2004, in comparison to 73%, who gambled in 1999, as shown in Table 11. Regular gambling (at least once a week) also declined slightly from over half of the population to just under half of the adult population. Participation in scratch cards, the National Lottery, fruit machines, private bets and football pools experienced the most significant declines (4–6%). This shows that given the tight regulation in place during that period, the gambling industry had little space for growth.

For the sake of comparison, the Australian Productivity Commission (1999) found that over 80% of the Australian population gambles at least once a year, while 40% are regular gamblers, i.e. participation rates are similar to those in Britain. However, Australia's average rate of problem gamblers is 2.1% of the adult population, compared with only 0.6–0.8% in the United Kingdom. The state that has the most liberal gambling machines regulations, New South Wales, has a prevalence rate for problem gambling above 2.5% (NIEIR, 2003). Given that the percentages of the population that participates in gambling is so similar between Australia and the United Kingdom, it is striking that the problem gambling rates are so different, which is due to gamblers in Australia spending more per person. Lobbyists (NERA: Dodgson, et al., 2002; Dodgson, et al., 2004) argue that this difference can be explained by the presence of easily accessible high prize gaming machines in Australia.

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4   <www.statistics.gov.uk/CCI/nugget.asp?ID = 6>.

5   59,834,300 – 11,368,517 – 1,438,966

Table 11: Participation in Gambling in the United Kingdom:

	Previous 12 Months		Previous 7 Days	
	NOP Survey February 2004	*% Change 1999 to 2004*	*NOP Survey February 2004*	*% Change 1999 to 2004*
National Lottery	61%	–4%	41%	–6%
Other lotteries	7%	–1%	2%	–2%
Scratch cards	16%	–6%	5%	–3%
Football pools	5%	–4%	3%	–3%
Bingo	9%	+2%	4%	0%
Gaming machines	9%	–5%	3%	–3%
Horseraces	11%	–2%	3%	0%
Dog Races	4%	0%	1%	0%
Events at a bookmaker	4%	+1%	1%	0%
Casino table games	2%	–1%	Neg.	n/a
Betting exchange	Neg.	n/a	Neg.	n/a
Internet	1%	n/a	Neg.	n/a

Source: Adapted from the GBGC Report

Several studies have predicted a rise in the number of problem gamblers following the deregulation of the gambling industry in the United Kingdom. However, only very few studies indicated just how large the increase will be. NERA in its earlier studies (Dodgson and Chesters, 2003; Dodgson, et al., 2002) suggested that as a result of high prize gambling machines legalised in Britain, the rate of problem gambling could increase from the existing 0.6% – 0.8% to reach 2% – 2.5%, which is the level of problem gambling in Australia. However, since the deregulation of gambling industry in the United Kingdom was not as substantive as was originally anticipated, NERA revised its estimates of the number of future problem gamblers (Dodgson and Maunder, 2005; Dodgson, et al., 2004) resulting from new casinos to 1.4% – 1.6%.

The decreased estimate is also the result of NERA realising that not all problem gamblers in Australia are caused by gaming machines. In fact, NERA cites Fisher's (1996) report, which states that the proportion of casino related problem gamblers is approximately 70%. This means that out of 2% – 2.5% of total problem gamblers in Australia, only 1.4% – 1.75% suffer from pathological

casino addiction. Similarly, the APC estimates suggest that 76% (see Table 9) of problem gamblers are addicted to gaming machines. This implies that out of the total adult population in Australia, approximately 1.52% – 1.9% are problem gamblers due to gaming machines.

The United Kingdom has generally similar policy regimes to Australia, and to South Australia and Victoria in particular. However, in some Australian states, gambling halls with high prize gaming machines are as common as bookmaker shops in Britain, while the 2005 Gambling Act restricts high prize gaming machines to 17 new casinos and to earlier casinos established under the 1968 Act (up to 20 high prize gaming machines). Given that the high prize gaming machines in the United Kingdom will be not as accessible as high prize gambling machines in Australia, the rate of problem gambling that follows will probably be less than in Australia.

Assuming that the total rate of problem gamblers in the United Kingdom will reach 1.5% of adult population after the new casinos are introduced, then the number of problem gamblers will increase to 705,400. This means that there will be an increase in problem gambling by 0.7% of adult population (329,200 people), considering that currently there are 0.8% of problem gamblers. This additional number of problem gamblers would be contributed by new casinos and newly available high-prize gaming machines. There is also likely to be some displacement in the source of problem gambling, where those addicted to, for example, betting could switch their expenditure and their addiction to jackpot gaming machines.

Applying estimated social costs per problem gambler to the total number of problem gamblers provide us with the estimates of total social cost of gambling in the United Kingdom, as summarised in Table 12 below. Assuming additional costs to be the same per problem gambler for all types of gambling, social cost attributable to gaming machines is also estimated.

Scenario 1: Assuming that the Australian Productivity Commission (1999) estimates of per problem gambler cost in the range of approximately £2,400-£7,700 per year are correct, then, when these estimates are applied to the potential number of problem gamblers in the United Kingdom, the cost of problem gambling in the United Kingdom is likely to be between £1.693 and £5.432bn per year. Out of these total costs, £0.56-£1.75bn will be induced by additional gambling machines. This can be compared to the estimated cost from the current level of problem gambling in the United Kingdom of £0.655-£2.6bn per year.

Scenario 2: Alternatively, it could be assumed that the Australian Productivity Commission methodology of measuring social cost needs to be adjusted to exclude personal costs and transfers, but retaining all the costs imposed on the family members by problem gamblers. If the Australian Productivity Commission estimates of social cost are adjusted to comply with this assumption, then the total social cost of gambling in the United Kingdom would be around

£988 – £1,340m when the new 17 casinos are build in the United Kingdom. The new casinos with high prize gaming machines though will contribute to only £362 – £481m of these costs.

Scenario 3: The second alternative set of assumptions is based on adjusting the Australian Productivity Commission estimates to exclude all private costs and transfers, including any costs to other family members imposed by problem gamblers. If we follow rigorous neo-classical economics in estimation of social cost and treat within-household cost as self-inflicted and foreseeable, then the total social cost of gambling in Britain is estimated to be around £64m, of which £23m will be contributed by gamblers becoming pathologically addicted to new high prize gaming machines.

Table 12: Estimation of Costs Based on New Casinos Built in the United Kingdom:

	APC estimates of social costs of gambling	*Adjusted social costs of gambling*	*Adjusted social costs of gambling, assuming society comprised of households*
	Scenario 1	*Scenario 2*	*Scenario 3*
Total social cost (£m)	1,693–5,432	988–1,340	64
Social cost per problem gambler (£)	2,400–7,000	1,400–1,900	91
Social cost attributable to gaming machines (£m)	560–1,745	362–481	23
Gaming machines social cost per problem gambler (£)	1,700–5,300	1,100–1,460	70

The difference between cost estimates is very large, which highlights the sensitivity of results to the methodological approach.

3.4. Estimation of Benefits

3.4.1. Estimation of Transfers to the Government

According to the 2000–01 Family Expenditure Survey, average weekly household gambling expenditure (the amount of money lost) was £3.90 per week. This equals £7.8bn total expenditure per year, which is 1% of total household expenditure and 5% of total leisure expenditure. In Australia, for example, around 3% of total household disposable income was spent on gambling on average across all states.

However, in 1981–1982 gambling expenditure in South Australia, for example, amounted to only 1.05% of household consumption, which changed dramatically when high-prize gaming machines were permitted to operate in the state (NIEIR, 2000). This suggests that gambling expenditure overall and casino expenditure in particular, would increase dramatically when new casinos with high-prize gaming machines are built in the United Kingdom.

In fact, currently casino expenditure in the United Kingdom represents the smallest branch of the gambling industry, as can be seen from Table 13. It amounts to less than 9% of total gambling revenue. Such a low share of casino expenditure in total gambling spread in the United Kingdom, in comparison to, for example, France (31.6% in 2005), Netherlands (32.7% in 2004) and Australia (68.3% – gaming halls and 16.6% – destination casinos in 2002), can be explained by differences in the setting, in games offered and the overall experience offered by current venues (Swiss Institute of Comparative Law, 2006b; The Tasmanian Gaming Commission, 2002).

Until now, British casinos have been clubs for table gaming, with very few gaming machines. From international experience, the new product that will be offered by the seventeen new casinos and (to the extent of 20 high-prize machines) by existing casinos with "grandfather rights" under the 2005 Act, will not only raise overall gambling industry expenditure (stakes minus winnings), but will also capture a significant share of the gambling market.

Table 13: GGR by Gambling Sector in the United Kingdom (2000–2003)

Year	Total (£ m)	Lottery (£ m)	Casino (£ m)	Gaming machines (£ m)	Betting (£ m)	Bingo (£ m)
2000	6,403.66	2,250.22	546.00	1,119.63	1,749.80	738.00
2001	6,147.43	2,246.91	533.00	1,382.33	1,614.75	370.45
2002	7,258.11	2,272.11	619.00	1,286.00	2,250.00	831.00
2003	7,726.55	2,386.55	669.00	1,309.00	,483.00	879.00

Source: Swiss Institute of Comparative Law, 2006.

When the 16 "small" and "large" casinos and one regional casino are built with entertainment, hotels and high-prize gaming machines, this will create a new industry that did not exist previously. This industry is likely to generate a significant demand, similar to when gaming halls were introduced in Australia. In 2002, household disposable income in Victoria was AU$114.63bn and electronic

gaming machines expenditure amounted to AU$2.56bn., as shown in table 14. This means that in 2002 the proportion of household disposable income spent on electronic gaming machines was 2.24%. Similarly, South Australians spent 1.97% of their disposable income on gaming machines. Neither of those states had high-prize gaming machines until the 1980s, and in both of them overall growth in gambling expenditure was driven by these electronic gaming machines. Overall Australians spent 2.03% of household disposable income on electronic gaming machines.

Currently, in the United Kingdom consumers spend only 0.09% of their household disposable income on casinos. However, the consumption of the new product of regional and destination casinos is conservatively assumed here to reach the level of 1.5% of household disposable income in the long run. This is based on the fact that the United Kingdom legislation will permit lower density of gambling opportunities. This means that the Gross Gaming Revenue of new establishments could reach £11.15bn (compared with existing spending in small and medium casinos at £669m).

Table 14: The Proportion of Household Disposable Income Spent in Gaming Halls in Australia 2000–2002[6] and the Proportion of Household Disposable Income Spent in Casinos in the United Kingdom 2000–2003:

Victoria

	HDI (AU$m)	Gaming machines GGR (AU$m)	Proportion of gaming machines GGR in HDI (%)	Total gambling GGR (AU$m)	Proportion of total gambling GGR in HDI (%)
2000	101,337	2,170.5	2.14	3,782.821	3.73
2001	110,819	2,366.042	2.135	4,167.258	3.76
2002	114,633	2,562.876	2.236	4,364.622	3.81

6   On 13 August 1998, the Australian Commonwealth Government announced plans to reform the Australian taxation system including the introduction of a goods and services tax (GST). On 1 July 2000 the GST replaced wholesale sales tax which was applied at varying rates to a range of products (*The Tasmanian Gaming Commission, The Tasmanian Gaming Commission (2002), Australian Gaming Statistics 1976–77 to 2001–02.*). The GST is a broad-based tax of 10% on most supplies of goods and services consumed in Australia. This includes gaming products. Therefore, the gaming tax revenue in Australia accounts for non-gambling specific taxes and 2000–01 figures are not directly comparable with those of preceding years.

South Australia

	HDI (AU$m)	Gaming machines GGR (AU$m)	Proportion of gaming machines GGR in HDI (%)	Total gambling GGR (AU$m)	Proportion of total gambling GGR in HDI (%)
2000	26,699	485.987	1.82	790.544	2.96
2001	28,910	543.469	1.88	844.598	2.92
2002	30,784	606.814	1.97	909.568	2.95

Australia (total)

	HDI (AU$m)	Gaming machines GGR (AU$m)	Proportion of gaming machines GGR in HDI (%)	Total gambling GGR (AU$m)	Proportion of total gambling GGR in HDI (%)
2000	386,370	7,654.131	1.98	13,336.589	3.45
2001	422,338	8,319.589	1.97	14,353.636	3.40
2002	439,474	8,916.182	2.03	15,005.134	3.41

United Kingdom

	HDI (£m)	Casinos GGR (£m)	Proportion of casinos GGR in HDI (%)	Total gambling GGR (£m)	Proportion of total gambling GGR in HDI (%)
2000	600,826	546	0.09	6,404	1.07
2001	632,496	533	0.08	6,147	0.97
2002	664,562	619	0.09	7,258	1.09
2003	697,160	669	0.10	7,727	1.11

Source: The Tasmanian Gaming Commission, 2002; Study of Gambling Services in the Internal Market of the European Union, 2006b; National Statistics United Kingdom, accessed at <www.statistics.gov.uk>; own analysis.

The 2005 British Gambling Act allowed for one regional destination super-casino to be built in addition to sixteen "small" and "large" new generation casinos. The regional casino will be permitted to have up to 1,250 unlimited-prize gaming machines and is expected to provide large scale entertainment. It will have a leisure complex including a large hotel. This casino will be very similar to the grand casinos in Las Vegas, Atlantic City and to casinos in Australia. In January

2007, Manchester was selected from the shortlist of eight candidate cities and awarded the permission to build the super-casino.

In Australia, there are thirteen such casinos. Each of them has a regional monopoly and each state has at least one casino. They attract a number of international tourists, mainly from Japan and other parts of Asia. The state of Victoria has only one casino (Crown Casino) in Melbourne, which attracts less foreign players than, for example, casinos in Sydney and Canberra. It is reasonable to assume that the new regional casino in the United Kingdom will be similar to the one in Melbourne. Melbourne has a population of approximately 3.7m people. Greater Manchester County has 2.24m people and over 11m people live within 60 minutes drive from Manchester (according to the National Statistics Office).

Taking into consideration similar cultural and behavioural patterns between Australia and the United Kingdom, it can be assumed that gamblers will be tending to spend similar amount on casino gambling per person. Approximately three times more population live within travel distance of the hypothesised casino in Manchester in comparison to the casino in Melbourne. However, considering the fact that some of the Melbourne casino expenditure is accounted for by foreign tourists, that the tax rate is expected to be around 23% (similar to the rest of the casinos in the United Kingdom and not 11%, as on casinos in Australia), and that there will be restrictions on the number of jackpot gaming machines permitted in the regional casino in the United Kingdom, it is realistic to assume that the amount of the casino Gross Gaming Revenue in Manchester will be only 2 times larger than the casino Gross Gaming Revenue in Melbourne. Given the Melbourne casino gross gaming revenue was AU$911m in 2002 (refer to Table 15), which is approximately £335m (using the 2002 exchange rate), it is likely that the new regional casino in the United Kingdom will attain approximately £670m in gross gambling revenue.

To assess consumer benefits, it is necessary to assume that the size of the overall gambling market in the United Kingdom will rise to a maximum of current level of spending on gambling plus an estimated increase in expenditure from the addition of new gambling establishments. Currently, the United Kingdom gambling market attracts just over 1.1% of total household disposable income (refer to Table 14). The sixteen new "small" and "large" casinos with high prize gaming machines represent a brand new product in the market and, based on the Australian experience, they are expected (together with new demand generated by "grandfather rights" casinos using newly permitted high prize gaming machines) to attract 1.5% of household disposable income.

The "regional" casino will also bring a totally new experience to the British gamblers, but will not have as substantial effect on the United Kingdom economy as the thirteen casinos in Australia. This is because while in Australia, there is a casino in every major city, in the United Kingdom there is only going to be one

such casino. Allowing for some displacement within the gambling industry between existing and new products, it is reasonable to assume that the overall size of the gambling industry in the United Kingdom will reach 2.5% of household disposable income, which is £18.58bn, when new gambling establishments are built and fully functional.

Table 15: Government Revenue from Gaming Machines in Australia and Melbourne Casino in Victoria 2000–2003[7]:

	Victoria		South Australia	
	Gov't revenue from keno / gaming machines (AU$m)	*Percentage of gaming machines / keno GGR contributed to Gov't (%)*	*Gov't revenue from keno / gaming machines (AU$m)*	*Percentage of gaming machines / keno GGR contributed to Gov't (%)*
2000	935.353	42.96%	211.778	42%
2001	802.990	33.84%	189.916	34%
2002	904.626	35.21%	213.071	34%
	Melbourne Casino in Victoria			
	Casino GGR (AU$m)	*Total gambling GGR in Victoria (Au$)*	*Government revenue from casino (AU$m)*	*Percentage of casino GGR contributed to the Government (%)*
2000	823.869	3,782.82	155.114	18.8%
2001	945.746	4,167.26	105.860	11.2%
2002	911.198	4,364.62	99.732	10.9%

Source: The Tasmanian Gaming Commission, 2002; own analysis.

It is reasonable to assume that the 16 new casinos in the United Kingdom will face a similar overall tax take of approximately 35% – 40% of gross gaming revenue. Of these, according to industry sources, approximately 23% will be gambling privilege taxes. This means that, providing demand for the new casino industry reaches 1.5% of household disposable income spending (as estimated above), the British Government will receive £2.565bn per annum in revenue. If we assume that the regional casino will be taxed at the 23% similarly to the other new casinos in the United Kingdom, then the government will receive an

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7   Please refer to footnote 6.

additional £154m in taxes. Overall, new casinos will contribute almost £3bn (£2,719m) in taxes.

There are no substantial good causes contributions expected from the new industry; therefore transfers to the government will consist entirely of tax revenue. There could, of course, be a substitution effect within the gambling industry, whereby revenue from another sector could decrease as a result of the introduction of these sixteen plus one new casinos. However, due to the fact that this will be a completely new product and there is a suppressed demand for gambling in the United Kingdom, it is expected that displacement effects will not be great.

3.4.2. Discussion on Producer Surplus

The gambling industry, similar to any other industry in an economy, contributes to societal welfare by creating, among other things, producer surplus. As discussed above, producer surplus measures the area under the price line and above the supply curve (which is also the marginal cost curve of the industry in a competitive market e.g. betting in the United Kingdom). In a monopoly market, which would approximate the situation for the restricted number of new casinos, there is no supply curve. The producer surplus is therefore the area under the price and above individual marginal cost.

In accounting terms, the closest measure for producer surplus is gross profit (minus fixed costs). A large proportion of the producer surplus, together with consumer surplus, is transferred to government in taxes and good causes contributions. In the gambling industry that traditionally amounts to a greater proportion of the surplus than in most industries. The remaining producer surplus could be best approximated by net (after tax) profit that a company receives from undertaking a business activity.

In the gambling industry, however, a large amount of remaining producer surplus is spent in lobbying and protecting a monopolistic or dominant position in the market (for example, many lottery, betting or casino operators in the European Union resist opening borders for cross national supply of gambling services, arguing that they can offer better protection for vulnerable parts of the population from compulsive gambling when their monopoly is maintained). In addition, governments often "auction" the rights for providing gambling services, where potential suppliers will continue to bid for them until the point when a project becomes marginal, bidding away their producer surplus. However, the potential revenue to the government from the bidding process is then a part of transfers to the government from consumers and suppliers, and therefore it contributes to the total societal benefits from gambling deregulation.

In the United Kingdom, the bidding process for casino licences takes the form of having to offer "non-gaming facilities". These facilities could potentially generate additional profit or increase the attractiveness of a casino, as, for example,

hotels and cinemas; or could be non-profitable, as, for example, a conference centre or a new wing for a local hospital provided by a casino in the way other developers build community facilities under Section 106 planning agreements. The regulatory authority then decides on the attractiveness and contribution to social objectives of the projects. Unfortunately, it is currently unclear exactly how the bidding process will proceed and it is very difficult to speculate. Therefore, the total benefits from introducing the new casinos might be underestimated.

Based on the notion that all of the producer surplus will be spent on lobbying to keep monopolistic rights, the actual producer surplus in the gambling industry is expected to be close to zero. This assumption is made because of the strong restrictions on the number of new licenses permitted under the 2005 Gambling Act. In addition, to the extent that the regional casino licence in particular may be granted to an overseas operator, producer surplus would not in any case be counted in a United Kingdom cost-benefit exercise.

3.4.3. Consumer Surplus in the United Kingdom

The Australian Productivity Commission (1999) suggests that consumer surplus is "a measure of their [consumers] preparedness to pay over and above the cost of purchasing the product". Consumer surplus is measured by considering the level of current consumption and the extent to which this consumption would change if the price were to change. Therefore, the size of consumer surplus depends on the price elasticity of demand for product or service, where the less elastic the product demand, the higher will be the estimate of consumer surplus.

There have been few attempts to measure price elasticity of demand for the gambling industry as a whole. One of the reasons is that different gambling sectors could have different elasticities and, as a result, different rates of consumer surplus to consumer expenditure. The Australian Productivity Commission quotes a consumer surplus estimation from casino deregulation in New South Wales by Swan (1992), who suggests that it represents 29% of casino revenue (Gross Gaming Revenue). ACIL's submission to the Australian Productivity Commission in 1999 estimated three numerical examples, where if price elasticity of demand equals –1.5, the rule for finding consumer surplus is to multiply total expenditure by 0.3; if price elasticity of demand if –1, then the total expenditure needs to by multiplied by 0.5; and if price elasticity is –0.5, then in order to find consumer surplus one need to multiply total expenditure by 1. ACIL, however, believe that the true price elasticity of demand for gambling as a whole is between –0.5 and –1, which implies that consumer surplus is between 50% and 100% of Gross Gaming Revenue.

A different submission to the Australian Productivity Commission from CIE considered price elasticity estimates of –0.3, –1 and –1.7. CIE explained that 0.3 is in line with elasticities of other heavy taxed goods, such as tobacco, while the 1.7 estimate is an average from empirical estimates across different gambling

industries. The unitary elasticity is simply presented as a midrange estimate. This is, however, a theoretically flawed idea, because individual rival products have much larger elasticities than the whole industry, as there are likely to be close substitutes within the industry. It, therefore, does not make sense to average elasticities across gambling media in order to find an elasticity estimate for the gambling industry overall.

The range of elasticity of demand estimates for gambling could be due to the fact that normally elasticity changes along the demand curve. Depending on the level of the price, which is often determined by regulation in the gambling industry, price demand elasticity for gambling products in different jurisdictions differs as shown in Figure 3 below.

Figure 3: Demand Price Elasticity Schedule
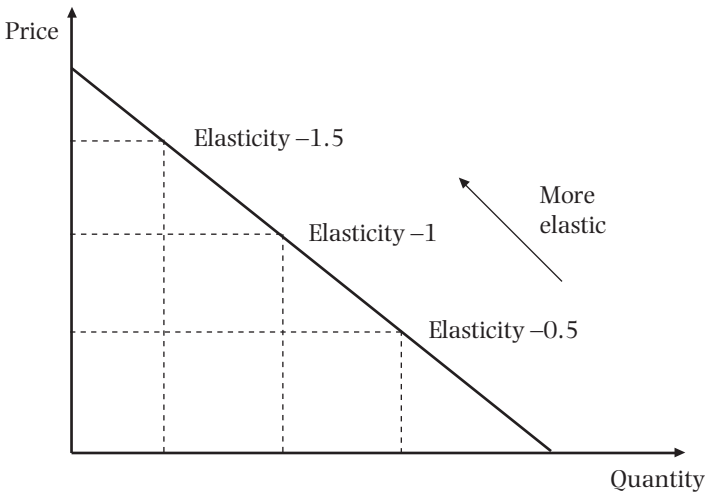
The Australian Productivity Commission separated consumers of gambling services into three categories: recreational gamblers, moderate problem gamblers and severe problem gamblers. The Commission believed that problem gamblers do not enjoy gambling, beyond the point of becoming addicted. It argued that gamblers loose their rationality and have negative consumer surplus when they gamble above their addiction level, while spending by far a greater proportion of their income on gambling than recreational consumers. Therefore problem gamblers' consumption should be separated from total expenditure, and their consumer surplus should be estimated separately. When making estimates of benefits from gambling, the Australian Productivity Commission used two

scenarios: one with a low elasticity and one with a high elasticity. The elasticities chosen by the Commission are presented in the Table 16 below:

Table 16: Price Elasticities of Demand for Gambling Used in the APC's Estimates of Benefits

	Low Demand Elasticity	*High Demand Elasticity*
Recreational gamblers	−0.8	−1.3
Moderate problem gamblers	−0.6	−1
Severe problem gamblers	−0.3	−1

Source: Australian Productivity Commission, 1999a.

The situation when problem gamblers are considered as irrational is illustrated in Figure 4 below. Here, the total demand curve (*Dtotal*) includes both recreational and problem gamblers, while the *Drecreational* accounts for only recreational gamblers. The consumer surplus is represented by areas *a* and *b* and tax revenue received by government is represented by areas *d* and *c*. Assuming that problem gamblers are irrational implies that they do not necessarily enjoy the product they are buying: rather their behaviour is compulsive.

Therefore, they may be regarded as receiving no consumer surplus from gambling (area *a* is ignored). Because problem gamblers do not receive 'value for money', taxes received by government do not form part of total social benefits either (area *c* is treated as zero). Taxes on problem gambling expenditure represent simple transfer from problem gamblers (imposing cost on them) to government (generating benefit for it). The remaining positive benefits relates only to recreational consumer surplus (area *b*) and taxes contributed by recreational gamblers (area *d*).

The rational addiction model, proposed by Becker and Murphy (1988), argues, however, that addicts as well as non-addicts are rational: their past consumption influences current consumption and at the same time they are aware of future consequences of current consumption. Becker and Murphy showed that addicts exhibit forward planning behaviour, where the possibility of future changes influences present gamblers' consumption, which is a definition of rationality. Orphanides and Zervos (1995; 1998), further improved the original rational addiction model by introducing learning and regret.

*Figure 4: Consumer Surplus for Problem and Recreational Gamblers, without
Construction of Additional 'non-problem' Demand Curve*
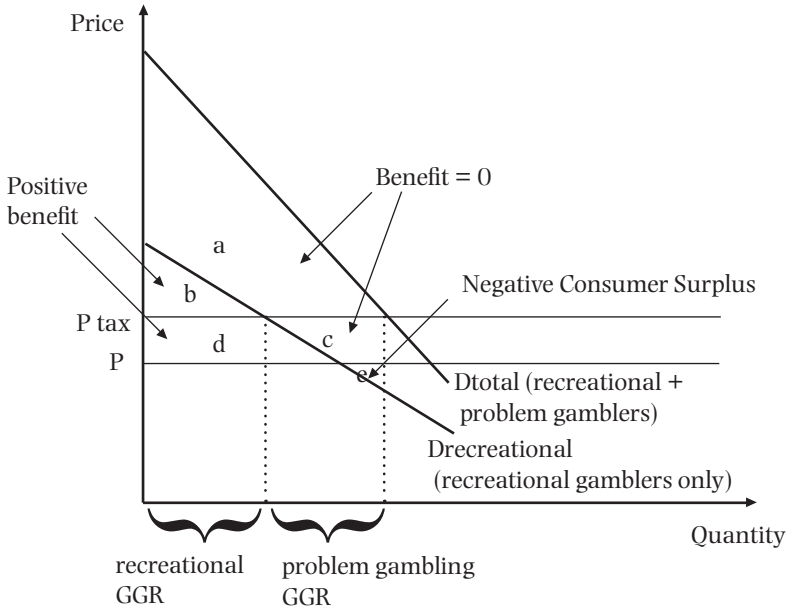
The value of consumer surplus could be estimated as suggested by Australian Productivity Commission (1999):

$$S_n = (p(1+t)_n \times q_n)/2\varepsilon_n$$

Where S_n = consumer surplus
$p(1+t)_n$ = price of gambling, including tax t.
q_n = quantity demanded at current price
ε_n = price elasticity of demand

It is derived from the equation for calculation of price elasticity

$$\varepsilon = \frac{\Delta q}{\Delta p} \times \frac{p}{q}$$

where ε = price elasticity
Δq = change in income
Δp = change in price for a good

and from the classical equation for calculation of consumer surplus

$$S = \Delta p \times q \, / \, 2$$

where S = consumer surplus
Δp = change in price for a good
q = quantity demanded

In fact, $p(1+t)_n \times q_n$ is equal to Gross Gaming Revenue. Therefore, consumer surplus is equal to Gross Gaming Revenue divided by twice demand elasticity.

Following the introduction of a new product, consumers are likely to benefit not only from greater choice of gambling possibilities, but also from enjoying the new product to a higher extent than indicated by the price they pay for it. The resulting consumer surplus can be calculated using the formula suggested by the Australian Productivity Commission (1999), as described above.

3.4.3.1. Estimation of Consumer Surplus – All Gamblers are Rational

Assuming that the price elasticity of demand is –1.3 and all gamblers are treated the same as recreational players, regardless of their addiction, the annual consumer surplus from the introduction of new casinos and permitting high-price gaming machines in the existing casinos in the United Kingdom is £4,546m. This is estimated as follows:

Consumer surplus = GGR/2 × absolute value of price elasticity

Consumer surplus = (£11.15bn + £0.67bn)/2 × 1.3 = £ £4.55bn

If another elasticity estimate (–0.8), suggested by the Australian Productivity Commission for recreational gamblers, is used, then higher estimates of consumer surplus result will be larger. Assuming all gamblers are rational, the consumer surplus estimates are as summarised in Table 17.

Table 17: Estimates of Consumer Surplus – All Gamblers

	Low Demand Elasticity	High Demand Elasticity
Price Elasticity	–0.8	–1.3
Consumer Surplus per year (£bn)	£7.38	£4.55

3.4.3.2. Estimation of Consumer Surplus – Problem and Recreational Gamblers are Treated Differently

The Australian Productivity Commission suggested that the benefits, which problem gamblers receive should be discounted because they cannot be said

to enjoy their consumption beyond the level of addiction. In Australia, most gamblers spend (lose) around AU$650 each year, while problem gamblers (and therefore their families) are spending on average AU$12,200 each per year on gambling.

Liberalising access to gambling in Australia resulted in a significant switch of consumer spending to gambling products with gambling averaging at just over AU$760 per adult in 1997–98 (Australian Productivity Commission, 1999). The total gambling expenditure (player losses) that year was AU$10.8bn by Australians with a further AU$540m spend by foreign players in thirteen Australian casinos. There were 14.1m adults estimated as living in Australia (Australian Productivity Commission, 1999). Of this number, 293,000 were estimated to be problem gamblers (163,000 of them had moderate addiction and 129,000 severe), which is 2.1% of the total Australian adult population.

As a group, problem gamblers appear to account for an estimated 33% of the money spent (the amount lost by consumers) on gambling in Australia in 1997–98 and for 42.3% of the money spent on gaming machines in particular. Out of total problem gambling expenditure (stakes minus winnings), 76.08% was lost on gambling machines. It was earlier estimated that total gambling expenditure in the United Kingdom could reach £18.58bn, of which £11.82bn (1.5% of household disposable income) would be contributed by the new casinos. Assuming problem gamblers will be created by new casinos at the same rate as gaming halls contributed to problem gamblers in Australia, the number of problem gamblers in the United Kingdom will increase from its current level of 0.8% to reach 1.5% of adult population, creating an additional 0.7% of adults who are problem gamblers.

Again, taking Australian experience as the foundation for estimates (though modifying the procedures to reflect anticipated lower spend per head in Britain), problem gamblers addicted to new establishments are likely to spend (lose) around £10,880 each on gambling per year. If the prevalence of problem gambling will rise to 1.5%, problem gambling expenditure (player losses) on the new casinos would reach £3.6bn.

It is reasonable to assume that following the new casinos being built there will be an increase in public interest in gambling. Most of the increase gambling demand is likely to come from existing gamblers who will increase their consumption. However, the new product might interest people who did not previously participate in gambling. Participation in gambling has recently declined from 73% in 1999 to 71% in 2003 (GBGC, 2005). Perhaps this trend will be reversed and the amount of population with an interest in gambling will increase to 75%. Over 35.27bn people would potentially participate in gambling (refer to Table 11).

Table 18: The Number and Spending of Problem Gamblers in Australia and in the United Kingdom:

		Total problem gamblers	Additional problem gamblers generated by high prize gambling machines
Australia			
Number	No.	292,736	
Per cent of adults	%	2.1	
Per cent of gambling expenditure	%	33.0	42.3
Per person spending	$	12,168	
United Kingdom estimates			
Number	No.	705,400[a]	329,190[a]
Per cent of adults	%	1.5	0.7
Per cent of gambling expenditure	%	23.6[b]	30.3[b]
Problem gamblers expenditure	£m	4,385[c]	3,581[d]
Per person spending	£	6,220	10,880

a This is based on the 47.03m adult population in the United Kingdom.

b Determined proportionally from the Australian data, based on the problem gambling rate being 1.5% rather than 2.1%.

c This is based on 23.6% of total expenditure on gambling (£18.58bn) being spent by problem gamblers.

d This is based on 30.3% of expenditure on gambling machines (£11.82bn) being spent by problem gamblers.

Source: Adapted from Australian Productivity Commission, Chapter 5, 1999a; own estimates.

Table 19: The Division of Gambling Expenditure between Recreational and Problem Gamblers in the United Kingdom, Following the Introduction of New Casinos.

		Gambling Overall	*New Casino Sector*
Total Gambling Expenditure (1.5% of HDI)	%	100	100
Expenditure by Recreational Gamblers	%	76.4	69.7
Expenditure by Problem Gamblers	%	23.6	30.3
Total Gambling Expenditure (1.5% of HDI)	£m	18,580	11,820
Expenditure by Recreational Gamblers	£m	14,195	8,239
Expenditure by Problem Gamblers	£m	4,385	3,581

As before, assuming that the price elasticity of demand is close to -1.3, the consumer surplus that recreational gamblers will receive from the introduction of seventeen new casinos in the United Kingdom will be £3.17bn given of additional problem gambling rate of 0.7%. It is estimated as follows:

Table 20: Estimates of Consumer Surplus – Recreational Gamblers Only

	Low Demand Elasticity	*High Demand Elasticity*
Price Elasticity	-0.8	-1.3
Consumer Surplus per year (£bn)	5.149	3.169

Below, two methodologies of measuring problem gamblers' consumer surplus are used as a robustness measure. Firstly, the Australian Productivity Commission's approach in dividing problem gamblers' expenditure into 'normal' and 'excess' consumption is utilised. This approach assumes problem gamblers to be rational at the initial stages of consumption and lose their rationality beyond the addiction point. As was explained previously, it is hard to believe that at the point of their lives where gamblers are considered to have a pathological addiction to gambling, they are rational concerning some of their consumption

but concerning not the rest. It is more plausible that problem gamblers either act fully rationally, as assumed above, or completely irrationally all the time. Therefore, the second approached utilised below assumes that problem gamblers are not acting rationally at any level of their consumption.

The First Approach

The Commission (Australian Productivity Commission, 1999a) estimated the 'non-problem' level of spending (the amount of money lost) by problem gamblers using survey information on the level of spending of *regular* recreational gamblers. This level is AU$1,500, which is higher than the level of spending of average recreational players (AU$645), but much lower than the amount problem gamblers actually spend per person (AU$12,200). Overall, the Commission estimated annual 'non-problem' expenditure by all problem gamblers to be less than 15% of their actual spending. Assuming that this ratio will hold in the United Kingdom, when the new casinos are introduced, then the 'normal' level of spending by problem gamblers will be only £658m for the gambling market overall and £537m for the new casinos market in particular.

The Australian Productivity Commission separated problem gamblers into two categories: moderate and severe problem gamblers. It was argued above that this separation is artificial and it is more meaningful to work with the total number of problem gamblers. It is reasonable to assume that problem gamblers would be spending most or all of their available income on gambling. Therefore, if there is a decrease in the price of gambling, problem gamblers are likely to show an equivalent increase in the quantity they consume. That is why the unitary price elasticity seems most appropriate for describing problem gamblers' demand.

The Australian Productivity Commission, in fact, used unitary price elasticity as their high estimate and –0.6 and –0.3 as low estimates for problem gamblers demand (see Table 16). The lower range elasticities are explained by the perception that problem gamblers do not respond to changes in price as recreational gamblers would, due to their addiction. While this explanation is inconsistent with economic theory, the lower elasticity estimate was used in calculation as an alternative scenario. Using the formula, previously used for calculating consumer surplus, and unitary elasticity, problem gamblers consumer surplus from the new British casinos, ignoring their addiction, will be approximately £270m (Table 21).

This way, the Australian Productivity Commission argued that not all of the benefits which problem gamblers derive from gambling are discounted. The difference between the value of spending on gambling in excess of the 'normal' spending can be seen as a reflection of the extent to which problem gamblers do not get value-for-money for their spending. Given the estimates above, 'excess' problem gamblers' expenditure in the United Kingdom will be £3,727m

(£4,385m-£658m) for gambling overall including £3,044m (£3,581m-£537m) for new casinos in particular.

Table 21: Estimates of Positive Consumer Surplus Enjoyed by Problem Gamblers, in the Absence of Their Addiction (Based on Australian Productivity Commission approach)

	Low Demand Elasticity	High Demand Elasticity
Price Elasticity	–0.6	–1
Consumer Surplus per year (£m)	447.63	268.58

If problem gamblers are considered to behave irrationally beyond the 'normal' expenditure level, and that they do not enjoy consumption above this level, then the tax revenue collected from the 'excess' level should be discounted. This is because the benefits for the government are matched by the exact costs to "irrational" problem gamblers. Therefore it is not an unambiguous gain for society, but a simple transfer. In the context of the new British casino industry it means that revenue to the government from the gambling privilege taxes on new casinos should be adjusted by £700m (23% of £3,044).

The methodology adopted by the Australian Productivity Commission also implies that there is a negative consumer surplus absorbed by problem gamblers because of their "excess" expenditure (area "e" in Figure 4). The amount of negative consumer surplus in the triangle "e" could be estimated using the consumer surplus formula described and used above. Assuming unitary demand elasticity, the negative consumer surplus from consuming new casino gambling in the United Kingdom beyond 'non-problem' lever is approximately £1,170m.

Table 22: Estimates of Negative Consumer Surplus Incurred by Problem Gamblers (Based on Australian Productivity Commission approach)

	Low Demand Elasticity	High Demand Elasticity
Price Elasticity	–0.6	–1
Consumer Surplus per year (£m)	1,953	1,172

The Second Approach

The alternative to the Australian Productivity Commission's methodology is to consider all expenditure (player losses) by problem gamblers as irrational. As

explained earlier, if problem gamblers are considered to be irrational at all, then this approach seems to be more realistic.

As above, taxes paid from the problem gamblers' expenditure when they act irrationally, does not represent an increase in societal welfare. Instead, it is a simple transfer, which represents a cost to problem gamblers and a benefit to the rest of the society. Therefore, gambling privilege taxes, which are estimated earlier in this Chapter, should be adjusted to problem gamblers' loss. Using an assumed taxation rate of 23%, the government tax revenue should be adjusted by £824m (23% of £3,851m).

Due to problem gamblers not being rational, negative consumer surplus is created in the area below the price line and above the demand curve. The negative consumer surplus is estimated using price elasticities, suggested by the Australian Productivity Commission (1999a) and the estimated total problem gamblers' expenditure on new high-prize gaming in the United Kingdom. The total loss to problem gamblers addicted to new style casinos is equal to approximately £1.38bn, as described in Table 23 below.

Table 24 summarises consumer surplus estimates calculated under various assumptions outlined above.

3.4.4. Calculation of Total Benefits

Table 25 below estimates the value of total social benefits that new casinos with high-prize gaming machines are going to bring to the United Kingdom annually. The value of total social benefits depends largely on the assumptions in estimating consumer surplus of problem gamblers. The table shows three approaches, discussed above, in estimating benefits attributed to problem gamblers: when problem gamblers are assumed to be fully rational and to enjoy additional expenditure they receive; when problem gamblers are assumed to have a certain level of expenditure, below which they act rationally and beyond which they act irrationally, losing the satisfaction from their consumption; and when problem gamblers are assumed to be "not rational" at all levels of their consumption.

3.5. *Comparing Costs with Benefits from the Introduction of Sixteen New Casinos in the United Kingdom*

The costs and benefits of introducing new casinos in the United Kingdom following the 2005 Gambling Act are presented below in Table 26.

The estimates of costs that follow from the Australian Productivity Commission methodology represent the most pessimistic case scenarios (scenario 1A and scenario 1B) , where problem gamblers are perceived to be not (fully) rational. The worst case scenario for calculating social benefits of gambling

Table 23: Estimates of Negative Consumer Surplus Incurred by Problem Gamblers (Based on Gamblers Being Irrational at Every Point of their Consumption)

	Low Demand Elasticity	High Demand Elasticity
Price Elasticity	−0.6	−1
Consumer Surplus per year (£m)	2,297.8	1,378.7

Table 24: Estimates of Total Consumer Surplus

	Low Demand Elasticity	High Demand Elasticity
Assuming All Gamblers are Rational		
Price Elasticity – Recreational Gamblers	−0.8	−1.3
Consumer Surplus – Recreational Gamblers Only per year (£m)	5,149	3,169
Assuming Problem Gamblers are Irrational beyond 'Normal' Level of Consumption		
Price Elasticity – Problem Gamblers	−0.6	−1
Positive Consumer Surplus Enjoyed by Problem Gamblers, in the Absence of Their Addiction	447.63	268.58
Negative Consumer Surplus Incurred by Problem Gamblers on 'Excess' Gambling	1,953	1,172
Adjustment to Government Tax Revenue (£m)	700	700
Total Consumer Surplus – Problem Gamblers are Irrational beyond 'Normal' Level of Consumption (£m)	2,944	1,566
Assuming Problem Gamblers are Irrational at All Levels of Their Consumption		
Price Elasticity – Problem Gamblers	−0.6	−1
Negative Consumer Surplus Incurred by Problem Gamblers on 'Excess' Gambling	2,297.8	1,378.7
Adjustment to Government Tax Revenue (£m)	824	824
Total Consumer Surplus – Problem Gamblers are Irrational at All Levels of Their Consumption (£m)	2,027	966

Table 25: Estimates of Total Benefits from Introduction of the New Casinos in the United Kingdom

	Low Demand Elasticity	High Demand Elasticity
Assuming All Gamblers are Rational		
Consumer Surplus (£m)	7,380	4,550
Transfers to the Government (£m)	2,719	2,719
Residual Producer Surplus	close to zero	close to zero
Total Benefits (£m)	10,099	7,269
Assuming Problem Gamblers are Irrational beyond 'Normal' Level of Consumption		
Consumer Surplus (£m)	2,944	1,566
Transfers to the Government (£m)	2,719	2,719
Residual Producer Surplus	close to zero	close to zero
Total Benefits (£m)	5,663	4,285
Assuming Problem Gamblers are Irrational at All Levels of Their Consumption		
Consumer Surplus (£m)	2,027	966
Transfers to the Government (£m)	2,719	2,719
Residual Producer Surplus	close to zero	close to zero
Total Benefits (£m)	4,746	3,685

Table 26: Comparison of Total Costs and Benefits from Introduction of the New Casinos in the United Kingdom

	Scenario 1A: *Problem Gamblers are not rational. Society is treated as comprising of individuals*		Scenario 1B: *Problem Gamblers are not rational above 'normal' level of consumption. Society is treated as comprising of individuals (APC approach)*	
Costs	*APC Estimates of Social Costs of Gambling*		*APC Estimates of Social Costs of Gambling*	
Total Social Cost Attributable to Gaming Machines (£m)	560 – 1,745		560 – 1,745	
Benefits	*Low Demand Elasticity*	*High Demand Elasticity*	*Low Demand Elasticity*	*High Demand Elasticity*
Elasticities – Recreational Gamblers	–0.8	–1.3	–0.8	–1.3
Elasticities – Problem Gamblers	–0.6	–1	–0.6	–1
Consumer Surplus (£m)	2,027	966	2,944	1,566
Transfers to Government (assuming a uniform tax of 23%) (£m)	2,719	2,719	2,719	2,719
Residual Producer Surplus	close to zero	close to zero	close to zero	close to zero
Total Social Benefits Attributable to Gaming Machine (£m)	4,746	3,685	5,663	4,285
Net Benefits (£m)	4,186–3,001	3,125–1,940	5,103–3,918	3,725–2,540

	Scenario 2: Problem gamblers are rational. Society is treated as comprising of individuals		Scenario 3: Problem gamblers are rational. Society is treated as comprising of households	
Costs	*Adjusted Social Costs of Gambling*		*Adjusted Social Costs of Gambling, assuming society comprised of households*	
Total Social Cost Attributable to Gaming Machines (£m)	362 – 481		23	
Benefits	*Low Demand Elasticity*	*High Demand Elasticity*	*Low Demand Elasticity*	*High Demand Elasticity*
Elasticities – Recreational Gamblers	–0.8	–1.3	–0.8	–1.3
Elasticities – Problem Gamblers	–	–	–	–
Consumer Surplus (£m)	7,380	4,550	7,380	4,550
Transfers to Government (assuming a uniform tax of 23%) (£m)	2,719	2,719	2,719	2,719
Residual Producer Surplus	close to zero	close to zero	close to zero	close to zero
Total Social Benefits Attributable to Gaming Machine (£m)	10,099	7,269	10,099	7,269
Net Benefits (£m)	9,737–9,618	6,907–6,788	10,076	7,246

presumes that problem gamblers are totally irrational (scenario 1A). The net benefit estimates count all personal costs of problem gamblers (except the amount of money directly spent on gambling) and all family costs as social costs, and discount consumer surplus and transfers to government from expenditure by problem gamblers. The higher elasticity estimate generates the most pessimistic net benefits estimates based on this methodology.

4. Conclusion

Cost-benefit analysis can play an important role in legislative and regulatory policy debates on protecting the vulnerable and improving consumer choice. It provides a useful framework for consistently organising disparate information, and in this way, it can improve the process, and hence the outcome, of policy analysis.

The United Kingdom gambling industry continues to grow rapidly, as shown in Table 27 below. This confirms that there was a large amount of unsatisfied demand for gambling in the United Kingdom, which was captured by permitting new or deregulating existing forms of gambling, such as introducing the National Lottery in 1994. Some deregulation has been driven by (international) competition and specifically by the threat from growing internet gambling. The reduction of effective taxation in the betting industry is 2001 is an example of this. These trends create additional benefits for consumers in terms of higher consumer surplus from participation and greater choice to satisfy particular preferences.

It was estimated here that when the proposed new United Kingdom casinos are built and fully functional, they will contribute a total of £7.3bn-£10.1bn benefits to consumers in terms of consumer surplus and taxation per year, assuming all consumers are treated as rational (scenarios 2 and 3). The difference in benefit estimates depends on demand condition. The more price elastic gambling services are, the smaller the benefits from consuming those services. Some argue that problem gamblers are not rational, which implies that they do not receive satisfaction which is at least equal to or above their expenditure. Following the assumption that problem gamblers are not rational, the amount of benefits from gambling decreases by almost half to £3.7bn-£4.7bn per annum (scenario 1A).

The Australian Productivity Commission suggests, however, that problem gamblers might exhibit some rationality at the initial stages of their consumption, but become irrational beyond a "normal" level of consumption. While this approach sounds unrealistic, total benefits were calculated according to its methodology in order to provide a robustness test to the assumption that permitting new casinos in the United Kingdom is largely beneficial. The net benefits, that are estimated by following the methodology of this approach

(scenario 1B), amount to £4.3bn-£5.7bn per year. This magnitude of benefits is similar to the benefits yielded by methodology where problem gamblers are treated as completely irrational at all levels of their consumption.

Table 27: United Kingdom Gambling Industry Summary 1996 – 2003:

£m (€ m)	1996	1998	2000	2002	2003
Gross stakes (turnover)	40,476 (58,691)	42,120 (61,073)	48,134 (69,793)	52,426 (76,016)	63,815 (92,511)
GGR (incl. on-shore internet)	6,831 (9,902)	7,348 (10,651)	7,304 (10,587)	7,522 (10,905)	7,831 (11,353)
Off-shore internet GGR	n/a	n/a	n/a	n/a	115,000 (166,727)
GGR	6,831 (9,903)	7,348 (10,653)	7,304 (10,587)	7,522 (10,905)	7,946 (11,521)
Change in GGR %	16.9 (24,505)	17.4 (25,230)	15.2 (22,040)	14.3 (20,733)	12.3 (17,833)
Duty paid	1,459 (2,115)	1,545 (2,239)	1,516 (2,197)	1,439 (2,085)	1,291 (1,871)
Levies and good causes	1,500 (2,174)	1,763 (2,555)	1,556 (2,255)	1,480 (2,145)	1,417 (2,054)

Source: Adapted from the GBGC Report, 2005

Even though good-cause contributions by casinos are traditionally low, the gambling privilege taxes they are required to pay are considerably higher than taxes on other leisure and gambling activities. The estimates of benefits do not include the benefits generated by casino operators bidding for a licence, such as building or improving non-casino facilities. While the promise to build these facilities might improve casino operators' chances of receiving a licence, it also decreases their producer surplus. Some of the proposed non-casino investment, such as road improvements or building a new hotel, could generate profit or increase the attractiveness of a casino, while others have a charitable nature, such as improving local schools and hospitals. Thus, casino operators' producer surplus is transferred to other parts of society through taxes and non-gaming investments. Unfortunately, at this point of time, it is very difficult to estimate

the size of non-gaming investments and, therefore, total benefits are underestimated.

The increase in gambling opportunities will, however, cause a growth in the incidence of compulsive gambling. Based on Australian experience, where the provision of gambling facilities is similar to that likely to be achieved in Britain as a result of the Gambling Act, and cultural and behaviour patterns are also similar, the numbers of problem gambles could grow from 0.8% to 1.5% of the adult population. This means that 0.7% of the adult population will become addicted as a result of new casinos being introduced. Problem gambling is the main cost to the society from deregulation of gambling. When the seventeen "small", "large" and "regional" casinos, which will provide a totally new experience, are introduced in the United Kingdom, social costs imposed by problem gamblers could reach £1.745bn or could be as little as £0.023bn, depending on assumptions made in estimating social cost. However, total social costs are most likely to be in the region of £0.362–£0.481bn annually, estimated in scenario 2, which follows the classical cost-benefit methodology and assumes that problem gamblers are rational and society comprises of individuals.

The two main assumptions which influence the size of social cost estimates are the rationality of problem gamblers and the perspective taken on whether society could be treated as comprising of households or of individuals as the decision taking units. Assuming that problem gamblers are not rational and do not foresee the costs they create to the members of their family yields the highest social cost of £560–£1,745m per year (scenarios 1A and 1B). This approach follows the cost estimation methodology utilised by the Australian Productivity Commission (1999a). When rationality of all gamblers is assumed and all personal costs and transfers within society are excluded, the estimated social cost is reduced to £362–£481m per year (scenario 2). This scenario still assumes that costs incurred by family members of problem gamblers contribute to total social costs. The most radical methodology is represented in scenario 3, where all costs to problem gamblers and their families are perceived as foreseeable and internal, and therefore excluded from total social cost estimation. This approach estimates the lowest social cost of problem gambling at only £23m per year.

The debate around the gambling industry interests the majority of people. Some of them have very strong views on "goods" or "bads" that can be created by a new casino industry. Lobbyists from both sides often exaggerate facts in order to bring their point across. In such conditions regulators need to be able decide efficiently on the policy options available. Cost-benefit analysis of the new casinos permitted in the United Kingdom aims to aid regulatory decision taking by presenting scientific estimates that illustrate annual economic consequences from introducing new casinos with high-prize gaming machines in the United Kingdom.

    The difference made by using different methodologies of measuring costs and benefits attributed to new casinos and by different price elasticities of gambling services offered, means that the results from the cost-benefit analysis could vary substantially. Net benefits from introducing new casinos in the United Kingdom could reach £10.08bn or could be as little as £1.94bn, but even with the most unfavourable assumptions deregulation of these casinos has a significant and positive effect on the total societal welfare of the United Kingdom. According to mid-estimates, net benefits from introducing new casinos are going to be in the range of £6.9-£6.8bn per year (scenario 2 with "high" demand elasticity). These are also the most theoretically sound estimates. This is a very important finding for the regulatory process of the gambling industry in the United Kingdom, especially considering that current casino regulation may be regarded as provisional. It has been announced that, depending on the performance of the seventeen permitted casinos, there is likely to be a further liberalisation of the sector.

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THE END OF A MONOPOLY:
AN AMERICAN CASINO IN MAASTRICHT

Gerd Leers

Gambling, and its status in Europe, is a hot topic these days. As you all know, the state has a monopoly on gambling in most European countries. One of the questions now being considered is how long such a monopoly will be feasible at a time when market forces are increasing within a liberalised European market. Just consider the fact that Europe's largest country, Germany, already has some seven thousand privately run amusement arcades.

In the Netherlands, the debate on this topic was sparked off when one of the world's largest entertainment companies – Harrah's of Las Vegas, the owner of Caesar's Palace – expressed an interest in establishing an entertainment centre, including a casino, in my city, Maastricht. The Dutch government was quick to object to Harrah's request and to Maastricht's receptive response. That was partly because the Cabinet insists on retaining the Dutch state monopoly, and because it sees gambling as a threat to public health, owing to the risk of addiction.

It is in that context that I would like to give you a brief report on what I encountered one evening last week. It was the kind of autumn evening that any average inhabitant of Maastricht might have. At seven o'clock, I left work and started for home. I purchased the evening newspaper at a shop on the corner of the square where our Town Hall is located. As I stood at the cash register to pay for the paper, I was bombarded by advertisements for scratch cards, lottery tickets, and the New Year's Eve Lottery with its super jackpot. I evidently ran an enormous risk of becoming a millionaire.

When I stepped outside again, a city bus sped past. A loud advertisement on the side of the bus advised me to "Hedge your bets!" – Gambling Tip No. Seven by Holland Casino. I then passed two amusement arcades – you know the kind, full of slot machines flashing their lights.

At home, I had a little work to do on my computer. Before I could even get started, however, I had to struggle through a load of spam, all of it about gambling. Digital casino operators from Singapore to Rio de Janeiro are allowed to enter my home in Maastricht, uninvited and without the slightest penalty.

I concluded the evening by watching a football programme on TV. There were reports on matches in the Holland Casino Premier Division. For those of you from outside the Netherlands: the Dutch Premier Division is named after its main sponsor, Holland Casino.

So I have to ask myself: What do you mean, state monopoly? What do you mean, risk of addiction? None of what I have described has led to a public outcry, and yet the Cabinet is afraid that an integrated resort combining leisure and entertainment in Maastricht – the casino being just a small part of the complex – will lead to mass addiction to gambling.

But perhaps the Cabinet is mistaking that addiction for the addictive quality of Maastricht as a city. After all, you can never get enough of Maastricht. But I can assure you that it is an addiction with a therapeutic effect.

Let's turn our attention to a different topic now, ladies and gentlemen. I'd like to look more closely at the economic impact on the entire South Limburg region should Harrah's come to Maastricht. It will be quite considerable, after all.

To give you the right context, however, I will begin by briefly describing the history of South Limburg's economy, with Maastricht as its capital, core and economic driver. In the past century, South Limburg's economy was a monoculture. Maastricht was dominated by the earthenware and glass industry, and the surrounding area by the mining industry. The mines closed in the late nineteen sixties, and in Maastricht the earthenware industry went into decline. That led to huge social problems and mass unemployment.

Fortunately, the public administrators of the time were not the kind to give up easily. They put together an impressive list of development programmes and financial aid packages. It was in that context that Maastricht's government decided to transform the city from an industrial base to a services centre. The master plan provided for two drivers: a university, including a teaching hospital, and an international conference and exhibition centre.

It took blood, sweat and tears to convince the sceptics – especially those in The Hague – that the city government had come up with a promising plan for an economic turnaround. "We can understand wanting to have a small local university, but what does a provincial town like Maastricht want with an international conference centre? Doesn't stand a chance in hell," was the conclusion. Well: If at first you don't succeed, try, try again. Fortunately, Maastricht got what it wanted.

And the result is that it now has a leading international university and a flourishing conference centre. More than one hundred international organisations and multinational companies have settled in Maastricht; it is among the top forty conference cities in the world; and it welcomes fifteen million visitors a year, among Dutch cities second only to Amsterdam in that respect.

But what is more important is the essence: Maastricht has succeeded in transforming itself into a services centre. Thirty years ago, our city had forty

thousand jobs in industry; today it has eighty thousand jobs in the services sector. Some people call it the Maastricht version of the *Wirtschaftswunder*, and rightly so.

Ladies and gentlemen, the world doesn't stop, not even for Maastricht. Worldwide trends – for example globalisation and digitisation – have presented us with a new economic reality. An exodus to low-wage countries is afoot in every sector. In the Netherlands, the South Limburg region has been hit particularly hard by this development. The result is that our city must once again change course and head in a less vulnerable direction.

Well then, one of our economic priorities for the near future is to encourage the growth of the leisure economy. That is our collective term for quality city trips, conference tourism, fun shopping, theatre outings, gastronomy and events. It is an area that offers greater opportunities and fewer risks. After all, we all have a lot more leisure time than we used to, and our society is more prosperous than ever before.

The Dutch Social and Cultural Planning Office has calculated that spending on leisure time activities has increased by no less than eighteen percent since the year two thousand. Projections are that spending will continue to rise to twenty-five percent in the next four years. Maastricht and its environs want to reap the benefits of this trend; they are in a good position to do so, and indeed they must.

I can already hear you mumbling: "That's what a lot of cities and regions say. Isn't it unlikely that they're all going to emerge triumphant from the same contest?" Well, in the case of Maastricht I would beg to disagree. We are certainly not overestimating our charms when we claim to have certain advantages. Maastricht is an inviolable product: it has unique selling points. Our city centre is full of listed buildings and historic monuments; there are excellent museums and theatres; we have a wide range of exclusive shops of different kinds; our restaurants our renowned for their gastronomic quality; we have top hotels, modern amenities, and much more.

What is particularly special about Maastricht is its indefinable ambience. It has been described as an exotic cocktail of traditional and trendy, international and local. Maastricht lies nestled in a splendid landscape of hills, marlpits, picturesque villages and even vineyards. No wonder the city and its environs are known as a little bit of foreign soil in the Netherlands. Let me assure you: these are not just the subjective opinions of Maastricht's mayor. They are well known facts, reported in travel guides and in the international trade press.

I also have the statistics to prove my points. In 1993, Maastricht had twenty hotels with a total of a thousand rooms. By 2003, there were thirty-eight hotels and two thousand rooms. That's double the amount, a growth that would not have been possible if the birthplace of the European Union did not have something to offer. Tourism in our city of one hundred and twenty thousand inhabitants

generates some two hundred million euros every year. That is seven percent of our Gross Urban Product of approximately three billion euros. In terms of employment, there are seven thousand jobs in the tourist sector in Maastricht and environs, or eighteen percent of total employment.

But as positive as this picture already is, ladies and gentlemen, it is not the whole story. Above all, it is not "futureproof". We cannot afford to be complacent. If we want our leisure economy to grow to maturity – if we want to achieve a second Maastricht *Wirtschaftswunder* – then we have plenty of work ahead of us. We will really have to put our backs into it.

As I just said, we attract fifteen million visitors a year, but they only stay an average of one point eight days, and that isn't long enough. So that is our challenge: not more, but longer. And better. Our aim is to increase the average length of stay to three days and to attract visitors with a promising spending pattern. Because if we attract *more* crowds of people, we will be putting too much pressure on our compact city and its infrastructure, and its attractiveness and quality will ultimately decline as a result.

We also need to distribute the hustle and bustle more evenly between the different seasons. Maastricht still suffers from low-season blues, when things grow "quiet", particularly when no major events have been scheduled, or when everyone has flown to the sunny shores of the Mediterranean. Those are precisely the periods in which we stand to make gains. Well, to put our economic plan of attack into action, we need a new set of drivers, like the university and the MECC conference centre back in the nineteen seventies and eighties. And I can assure you: we have them waiting in the wings. You will be hearing about the first in about ten days time. But if you promise to keep it to yourself, I can give you a hint now already.

Maastricht will be the first Dutch city to be linked to the international high-speed railway network. The new train service will take passengers from Maastricht to Brussels in an hour, to Paris in a little more than two and a half, and to London in three hours and forty minutes. Trains will depart every hour, and tickets will cost no more than Belgian railway tickets, which are very inexpensive.

The second driver, ladies and gentlemen, is the Harrah's Plan, as we now refer to it. We also call it the Casino Plan. Our American friends have envisaged a prestigious entertainment centre, the casino being just one part of an entire complex. According to the plan, the casino will have seven hundred and fifty-five slot machines and sixty gaming tables. The casino will comprise fifteen percent of the total complex.

What else will Caesar's Holland Maastricht offer? Well, there's a theatre that will seat fourteen hundred, specially designed for Broadway-style musicals. And a twenty-four hundred square metre conference centre. There will be a top hotel with four hundred and seventy beds. A night club and a spa. Restaurants and bars that can seat eight hundred and ninety-five guests. And nine thousand

square metres of shop floor space. There will also be package deals with golf clubs and wellness facilities in the local surroundings.

Ladies and gentlemen, Harrah's is prepared to invest five hundred and fifty million euros in the Monte Carlo on the Meuse. Because that is precisely what Caesar's Holland Maastricht must become: a prestigious entertainment centre with a magnificence that matches the city's image. An image formed by our three core concepts: quality, charm and European. Forget the carnival atmosphere with flashy neon lights. Caesar's Holland Maastricht will have a distinguished ambience, combining big city excitement, hipness and chic.

Ladies and gentlemen, the media uproar about this plan in the past year cannot have escaped the attention of the Dutch people among you. Because the state monopolist Holland Casino holds the licence, the idea was that Harrah's and Holland Casino would collaborate. Holland Casino's management was willing to do so, all the more so because it had been thinking of moving its casino in Valkenburg, our neighbouring municipality, to Maastricht. But initially, Valkenburg objected vigorously. And I can understand that: they were about to lose an employer in Holland Casino that provided three hundred and fifty jobs.

However, we managed to convince our neighbours that by bringing in Harrah's, we would be gaining thousands of jobs for the entire region. I will return to this topic later.

Finally, we set up a task force in the region and analysed just how we would all benefit from the arrival of Harrah's. I can assure you that we are all singing from the same song sheet now. The governments of Maastricht, Valkenburg and the Province of Limburg have formed an alliance. We are now working as a team to turn this dream into reality.

One of our first action points was to have Buck Consultants International analyse our economy. They came to the following conclusion: the casino project is NOT a long shot, and it is certainly no game of bluff poker. If Holland Casino moves to Maastricht in order to smooth the way for Harrah's, Valkenburg will gain the space to create a health complex with various wellness facilities. This is an entirely suitable development, as Valkenburg already has a long tradition as a spa, and because the wellness sector offers major growth opportunities. According to Buck Consultants, the synergies are ideal and give both projects a very good chance of succeeding.

They produced the following figures, should the complex take on the dimensions that I cited earlier. By way of comparison, the dimensions are comparable to those of the casino in Amsterdam. In that event, implementing both parts of the plan would produce a guaranteed twenty-two hundred jobs, net. The job losses entailed by the departure of the casino from Valkenburg, for example, have already been set off in this figure. The construction of the complex may also generate a few thousand temporary jobs in the regional building sector.

And then there's another crucial point: the researchers assume that a minimum – I repeat, a minimum – of thirty percent of the visitors to the complex will be first-time visitors to the city of Maastricht. Based on that figure, the complex should generate an extra one hundred and sixty-seven million euros a year in consumer spending. In other words, the money spent in Caesar's itself, plus the money spent elsewhere in the city.

Ladies and gentlemen, I can imagine that by now you are dying to ask the following key question: Why would the world's largest gaming company, with an annual turnover of seven billion dollars and with one hundred thousand employees, want to build a complex in a little town like Maastricht?

To answer that, I would like to quote the Harrah's Vice-President, Richard Mirman. He said: "Limburg's capital is in an ideal location. It's centrally situated in Europe. Belgium, Germany and France are nearby. Four million people live within a fifty kilometre radius of Maastricht. Maastricht and environs can also offer variety, the kind that our customers seek when they go on short breaks. They can combine a city experience with the outdoors and entertainment."

Ladies and gentlemen, I am pleased to say that in the past few months, the Cabinet has shown itself prepared to work with us on finding ways to give this tremendous project a chance of succeeding. As you probably know, we had a general election in the Netherlands yesterday, and we now have an outgoing Cabinet. I have every confidence, however, that we will soon be rolling up our sleeves and getting down to work with The Hague, our partners in Limburg, Holland Casino and Harrah's. I do not doubt for even a second that we will shortly be signing the contract that will guarantee Limburg's future. Because this is one game in which everyone will win – and win big.

CLOSING REMARKS:
HOW SPECIFIC IS THE REGULATION OF GAMBLING?

Eric van Damme

1. Introduction

In some service industries, the European Commission has been following a vigorous policy of opening up the European markets to competition, a process that is also known as market liberalisation. This policy has been and is pursued especially in the so-called network industries (post, transport, energy and telecommunications), in which the services are delivered over networks that frequently have the character of a natural monopoly. Traditionally monopolistic suppliers, frequently operated by the state itself, offered these services but, over the last 25 years or so, a wave of structural reform has swept these industries. The industries were restructured, with the monopolistic bottlenecks separated from the competitive segments, and the resulting markets being opened for competition, also for competitors from abroad. In the process, state owned companies were frequently privatised. Along the way, public interest objectives were, and are still guaranteed by regulation rather than by means of government provision.

In other service sectors, the gambling industry being a prominent example, we have not (yet) seen such drastic structural changes. These industries (with the possible exception of lotteries, where network effects might be important) are not natural monopolies, but legal monopolies, with entry being prohibited by government regulation. For sure, the national monopolies have been challenged; sometimes by firms that are monopolies in other markets, but these attacks have not yet led to actual market entry, as most governments have been unwilling to give up the monopoly rights. In the gambling industry, the European Commission has been remarkably cautious. For example, in the Press Release IP/06/436, in which the Commission announced that it had taken the first step in an infringement procedure under Article 226 of the EC Treaty against seven Member States, the responsible Commissioner McCreevy states "I don't underestimate the sensitivities that exist in many Member States on the question of gambling. In sending these letters [officially requesting information

on restrictive national legislation regarding the supply of sport betting services, EvD], we are not seeking to liberalise the market in any way. Rather, we are seeking reassurance that whatever measures Member States have in place are fully compatible with existing EU Law, or have been brought fully into line."[1] Subsequent press releases on this topic, such as IP/06/1362 and IP/07/909 have used similarly cautious language.

In this brief contribution we describe the difference in treatment and ask what might explain the difference. While in network industries, the benefits of competition, subject to appropriate regulation, are being emphasized, it seems that in the discussion of the liberalisation of the gambling sector, the focus is on the cost associated with competition. One wonders about the asymmetric treatment and whether, from an economic point of view, such asymmetry is justified. As we will see, in both policy areas, a more balanced approach would be desirable.

2. Liberalisation: Network Industries

The Directorate-General Competition website of the European Commission contains a section "Liberalisation" that describes, in broad terms, the advantages of market liberalisation, the powers of the European Commission in this domain, the way network industries have been liberalised, and the side measures that have to been taken – the additional regulation required – in order to make market liberalisation a success.

In describing the powers of the Commission in this domain, the web site links the term liberalisation to Article 3 of the EC Treaty, which states that the Commission shall ensure that competition in the internal market is not distorted. A link is also made to Article 86 (3) of the EC Treaty, which entrusts the Commission with a specific surveillance duty with respect to public undertakings and undertakings to which Member States grant special or exclusive rights. It is stated that "The Commission must where necessary, address appropriate directives or decisions to Member States which enact or maintain in force any measure contrary to the rules contained in the Treaty, in particular to these rules provided for in Article 12 and in Articles 81 to 89". There is also reference to the more limited powers in the context of services of general economic interest, that is economic (or market) activities that warrant special public intervention. For these services, Article 86 (2) of the Treaty is relevant: providers of services of general economic interest are subject to the rules contained in the Treaty, in particular to the rules on competition, in so far as the application of these rules does not obstruct the performance of the particular tasks assigned to them. In

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1   European Commission, 2006.

particular, "the development of trade must not be effected to such an extent as would be contrary to the interests of the Community".

With respect to liberalisation, the Commission stresses the advantages for consumers: "By opening up these markets to international competition, consumers can now choose from alternative service providers and products. Opening up these markets to competition has also allowed consumers to benefit from lower prices and new services, which are usually more efficient and consumer-friendly than before". There is also a link between liberalisation and the competitiveness of the European economy: not only final consumers, but also industry consumes the products of the network industries, so that lower priced, or higher quality services "helps to make our economy more competitive". In various progress reports, the Commission has indeed documented these gains, but it should be stated, and is also admitted by the Commission, that they are larger in some sectors than in others. Part of the explanation comes from the fact that there are considerable differences between the various network industries and that this was not adequately reflected in the recipe that was used for reforming them, but this is not the place to discuss these issues. In any case, the Commission rightly notes: "Opening up new markets requires additional regulation to ensure that public services continue to be provided and that the consumer is not adversely affected".

It is, hence, simple to summarize the policy: liberalisation brings consumer benefits; there are certain risks as well, but these can be handled by appropriate regulation. Competition is the rule, not the exception.

3. Lack of Liberalisation: The Gambling Industry

In most EU Member States, suppliers of gambling services, of whatever form, need to have a license. Frequently, only a limited number of licenses is given out and in several countries only one license is available for certain forms of gambling, such as operating a casino, or organizing a lottery. In addition, this exclusive license may be in the hands of a state-owned company. For a detailed overview of the legal regimes governing gambling and games of chance in the European Union, we refer to the extensive survey of the Swiss Institute of Comparative Law that is available on the web site of the Directorate-General Internal Market and Services of the European Commission.[2] Competition, therefore, is restricted, and in some cases, severely so, with trade being limited as a consequence. Even though the general arguments mentioned in the previous Section apply, as do the articles from the Treaty mentioned there, gambling services have not been subject to liberalisation policies and Directorate-General Competition has not played a very active role. The lead has been taken, not by the Commissioner for

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2   See <ec.europa.eu/internal_market/services/gambling_en.htm>.

Competition, but by Internal Market and Services Commissioner Charlie McCreevy, who, as shown in the Introduction, has acted in a very cautious way. There is no harmonisation of legislation and no market liberalisation. Competition is not the rule, but the exception.

In the several Member States that maintain a limited licensing regime, potential entrants have challenged the system. They have claimed that the system would violate in particular the Articles 43 and 49 of the EC Treaty that guarantee the freedom of establishment and the freedom to provide services. The case law of the European Court of Justice has clarified under what conditions a restrictive licensing regime for gambling would not violate these articles and what type of restrictions would be justified in this case. As these issues were extensively discussed during the previous Tilburg Symposium on Gambling,[3] there is no need to repeat that discussion here. For my purposes, it suffices to recall the main elements of the *Gambelli* judgment of the European Court of Justice (Case C-243/01):

> "in order to be justified, the restrictions on freedom of establishment and on freedom to provide services must ... be justified by imperative requirements in the general interest, be suitable for achieving the objective which they pursue and not go beyond what is necessary in order to attain it. They must in any event be applied without discrimination."[4]

The European Court of Justice has given guidance on what might qualify as "imperative requirements in the general interest". In particular, the Court has indicated that frequently invoked arguments, such as the preservation of public order, protection against gambling addiction, and the prevention of fraud and money laundering, might qualify. The European Court of Justice has made clear that national authorities have a margin of appreciation in determining what consumer protection and the preservation of public order require, but that the policy to achieve the goals, the restrictions imposed, must be "consistent and systematic": a Member State cannot ban certain private providers while at the same time strongly encouraging citizens to gamble in state casinos. Furthermore, the European Court of Justice has stated that it is for the natural authorities to decide whether the conditions listed in the above quotation (justifiability, suitability, proportionality and non-discrimination) are satisfied. In the more recent *Placanica* case (C-360/04), the European Court of Justice has further explained that, in order for a monopoly regime the be really effective in combating illegal gambling, it may be necessary for that monopoly to provide a sufficiently attractive service, and to advertise that service in an appropriate way.[5] Consequently,

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3   See Littler, 2007.

4   *Gambelli*, paragraphs 64 and 65.

5   See *Placanica*, paragraph 55.

balancing is required: a modest amount of advertising by a monopoly state casino is allowed, but not too much.

The Netherlands is an example of a country with a restrictive licensing regime. For example, Holland Casino, a state owned company, has been given an exclusive license to operate casinos in the Netherlands. The monopoly has been challenged by a French company and on 14 March 2007 the Raad van State (the highest administrative court in the country) ruled on whether the monopoly provision in the Dutch Gambling Law was compatible with Article 49 of the EC Treaty.[6] The Court reached its decision by using the *Gambelli* criteria mentioned above, and by also taking into account the additional insights offered by *Placanica*. It came to the conclusion that the above-mentioned goals (which were also the ones invoked by the Dutch government and by Holland Casino) were of imperative public interest and that the monopoly was an effective and proportional measure. In the Council's view, the Gambelli criteria were satisfied.

Although the motivation of the Raad van State (Council of State) was brief, it touched on issues of competition. In the Council's view, competition between providers of gambling services would induce each of these to offer better deals to consumers, such in an attempt to attract as many costumers as possible, and this having the possible consequence of leading to more gambling addicts. As such, competition would be undesirable.[7] It should be remarked, however, that the Council did not really discuss the proportionality requirement, that is, the requirement that the monopoly does not go beyond what is necessary in order to attain the policy aims. It satisfied itself by remarking that a monopoly was effective and that the complainant had only argued that there are other effective instruments.

In this respect, the Council sides with the Dutch State, that had earlier made similar arguments in response to the official request for information that the European Commission had sent to the Netherlands on 4 April 2006.[8] In the letter of 12 July 2006, The Dutch Minister of Justice explains the Dutch policy with respect to gambling and its goals, and how these have evolved over time, and he argues that, in his view, the Dutch Gambling Law is in agreement with the criteria from *Gambelli* and, hence, does not violate any European Community Law. The Section of the letter that deals with the proportionality requirement (the first and third paragraph on page 11) is, however, very brief: there are only a few remarks, in essence stating only that this belongs to the margin of discretion of a Member State. Strictly speaking, proving that the restrictions do "not go beyond what is necessary in order to attain the goals" would seem to require a

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6   See Decision in Case LJN BA0670.

7   See the Decision in Case LJN BA0670 at paragraph 2.6.2.4.

8   Tweede Kamer, 2006.

comparison with other measures that would also attain the goals, but that would possibly be less intrusive. No comparisons are, however, made.

The latest development is quite recent. On 2 August 2007, the responsible minister of Justice sent a bill for a new Dutch Gambling Law to parliament, in which the restrictive licensing regime is maintained. In the explanatory memorandum to the Law,[9] it is remarked that the previous court decisions have shown that monopoly regime does not violate the EC Treaty; no new arguments are being offered. Again, there are very few remarks about proportionality. Strictly speaking, as far as the proportionality requirement is concerned, it has not been proved that the proportionality requirement is satisfied. It is just that plaintiffs have not been able to show that it is violated. From an economic point of view, there are the prior questions about how to make the proportionality requirement operational and how to translate it in economic language. As far as I have been able to verify, the case law does not provide any guidance on these issues. As I will argue below, if a translation is made in terms of Pareto improvements, or potential Pareto improvements, which appears natural, the proportionality requirement might very well not be satisfied. In short, it seems likely that alternative, less restrictive, measures exist, that are associated with higher economic welfare.

Of course, the reader will have noticed the asymmetry with respect to the arguments given in the previous section. There the discussion was dominated by the gains in consumer surplus that could be obtained and it was argued that the possible negative side effects should be dealt with by regulation. In the case of gambling, the negative side effects (which are only possible and not quantified) dominate the discussion; the possible gains in consumer surplus are only mentioned in passing, if at all, and they are not discussed. In effect, they are not taken into account.

4. Economic Aspects and Arguments

From a technical and economic perspective, the network industries, of course, are very different from the gambling industries. In the language of economics, there are different types of market failures that characterize these industries. In the former, there are segments that can be classified as natural monopolies, hence, costs are minimized whenever there is just one supplier. In addition, costs may be large and sunk, hence, even though competition may be feasible, there is the risk of cut-throat competition, hence, entering into such a segment is risky. In short, monopolies arise naturally. In this context, regulation also

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9   See <www.minjus.nl/images/Memorie%20van%20toelichting_tcm34-80692.pdf>.

arises naturally, to curb the market power associated with the monopoly and to protect the interests of the consumers.

In contrast, in the gambling industries, monopolies are not natural, but artificial. They arise as a result of regulation that limits competition. (It should be noted that an exception should, perhaps, be made for lotteries: if gamblers prefer, everything else being equal, larger main prizes, then a lottery with more participants will be able to offer a better deal, and a monopoly might arise endogenously. In short, there may be network effects, and a monopoly may have an advantage on the demand side, instead of lower cost.) Nevertheless, this is not to say that regulation is unnatural. The public interest concerns mentioned in the previous section are real and may very well give rise to regulation. In the language of economics: the gambling industry is associated with (negative) externalities, while, perhaps, also the usual assumption of full consumer rationality may be problematic. (The standard economic approach assumes that consumers act rationally, hence, they do what they most prefer. The act of gambling thus is evidence that the consumer prefers this activity to something else. Clearly, consumers may not always be as rational as the standard model assumes, but in this respect there may not be that much difference between gambling and the purchasing of electricity.)[10]

Large as the differences between these sectors may be, there are also similarities. In both, competition may have positive as well as negative aspects; in neither is the picture one-sided. Nevertheless, it seems that in each of them, only one side of the picture is stressed.

Within Europe, the liberalisation of the network industries plays a major role in the Lisbon strategy, which aims to make the European economy more competitive. Firms that have lower input cost, or that can use inputs of higher quality, will be more competitive, hence, here we see a difference between network services and gambling services; the latter are consumed almost exclusively by final consumers, the former also provide inputs to firms. Consequently, there will be more pressure on network firms to deliver value for money than there will be on gambling firms. Be that as it may, let us look at the arguments used by policy makers for why liberalisation would yield benefits. In European Commission (2005), a representative paper in this area, three general types of benefits are being mentioned: liberalisation will lead to lower cost (increased productive efficiency), lower prices (increased allocative efficiency) and more innovation (enhanced dynamic efficient efficiency). The arguments in that paper are rather general and, it has to be admitted, not always backed up by careful empirical studies, or convincing theoretical models. For sure, the intuition goes in the direction of enhanced efficiency, and there are studies that confirm this

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10   See Waddams and Wilson (2007).

intuition (and there are more and more of these), but scientific proof seems to follow policy, rather than the other way around.

There is no reason why the three types of beneficial effects of market liberalisation would also not be present in the gambling industry. Competition generally forces firms to pay more attention to cost and to offer customers a better deal. Indeed, the Dutch Council of State, in the decision referred to above, explicitly acknowledged the latter effect. Furthermore, the presentation of Professor Eadington at this conference illustrated that jurisdictions that treat gambling in a more liberal way do indeed see more innovation. Consequently, although liberalising the gambling markets may be associated with negative side effects, there are positive effects as well.

A problem is that, at the moment, such positive effects are not always recognized. The discussion in Europe is dominated by the legal criteria developed by the European Court of Justice and these do not explicitly refer to the joy (utility) of gambling experienced by the regular (non-problem) gamblers. At least in the Dutch case referred to above, when applying the criteria from *Gambelli*, neither the Dutch Council of State, nor the Dutch Government did take the interests of these gamblers into account. The same remark applies to the Decision of the Supreme Court of the Netherlands in Case C03/306HR (LJN: AR4841) concerning De Lotto and Ladbrokes. As also noted in the contribution of Professor Forrest to this symposium, existing research on the consumer surplus associated with gambling is scarce, but the results that do exist[11] clearly suggest that the effects may be rather large, and, hence, cannot be neglected. (The authors estimate the consumer surplus associated with the UK market for lottery tickets to be just below £1 billion per annum – the same order of magnitude as reducing the rate of income tax by 0.5%.) As non-problem gamblers benefit from increased competition in a variety of ways, as indicated above, the gains in consumer welfare associated with market liberalisation should also not be underestimated; at least they should be recognized.

From an economic point of view, the interests of the "regular" gamblers should be taken into account in the proportionality test. If two measures would be equally effective in dealing with the imperative requirements of general interest, but measure A would be associated with lower costs (or higher utility) to regular gamblers than measure B, then measure A would be preferred. This corresponds to the usual criterion of Pareto efficiency from welfare economics. More generally, if A would be somewhat less effective, but the "regular" gamblers would gain so much that they could compensate those that lose as a result of A being adopted instead of B, measure A might still be the preferred one. Again, this is the standard approach in welfare economics.

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11 For example Farrell and Walker, 1999.

In cases where market liberalisation is associated with both gains and losses, cost benefit analysis (CBA) provides a structural framework to identify all gains and losses and to trade these off against each other. In his contribution to this Symposium, Professor Walker has indicated some of the fundamental problems involved in doing such analysis in the gambling sector. In his contribution, Tom Coryn has illustrated some of the difficulties, involved, as well as the possibility to abuse the method in practice. While the difficulties can be acknowledged, it should be noted that these also exist in other industries, such as network industries. In fact, the electricity industry may illustrate the usefulness of doing such a CBA. We have referred above to the general benefits that are expected to be associated with the liberalisation of network industries: consumers are expected to gain from lower prices, while the incumbent producer would be expected to lose. Experience however, show that who gains and who loses may depend on how the sector is liberalised and restructured. For the special case of the UK, it has been shown in Newbery and Pollit (1997) that in contrast to expectations, an its contrast to what the restructuring was supposed to achieve, the restructuring of Britain's Central Electricity Generation Board yielded producer gains and consumer losses. The authors performed the CBA *ex post*; had it been done *ex ante*, it could probably have discovered some flaws into the design, and, hence, could have led to higher welfare gains. Similarly, in the gambling industry, a CBA could lead to a more informal discussion and, hopefully, better decisions.

In order to motivate the regulation of gambling and games of chance, at least in the Netherlands, the government no longer invokes moral arguments; instead reference is made to the preservation of public order, protection against gambling addiction, and the prevention of fraud and money laundering. In effect, these are all negative externalities associated with gambling. During this Symposium, Professor Walker has argued that one of the major problems associated with doing a CBA related to gambling regulation revolves around the notion of social cost. In his path-breaking paper on social cost,[12] Ronald Coase has taught us that we should not look at externalities as being one-sided: if the regular gambler imposes a negative externality on the problem gambler, then, vice versa, the latter imposes a negative externality on the former. Without both types of gamblers being present, there would not be an externality. As the externalities are wide spread, contracting cannot be relied upon to provide an efficient solution, and there is a role for the government. That government, however, should not take a one-sided approach, it should trade-off the right of the problem gambler to be protected against the right of the regular consumer to enjoy gambling services. The proportionality requirement from *Gambelli* provides a way for doing this, but it has not yet been interpreted in this way. Doing so

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12 Coase, 1960.

would seem to be desirable and this might very well lead to conclusions different from the ones obtained thus far.

5. Conclusion

The gambling industries are very different from the network industries, but these two sectors seem to share the property that policy with respect to them is guided more by prior beliefs, or preconceptions, than by a careful balancing of the pros and cons associated with the various policy options. Interestingly, while the liberalisation of network industries is guided foremost by the consumer benefits that can be obtained, and seems to pay little attention to the risks involved and the costs associated with certain aspects of the proposals, the discussions in the gambling sector seem to be dominated by the possible negative side-effects associated with liberalisation. In both cases, a more balanced approach seems called for. In the context of gambling, this requires more attention to be paid to the consumer surplus of non-problem gamblers. This consumer surplus could, and should, be taken into account in the proportionality test that has been proposed by the ECJ in *Gambelli*: in order to see whether a measure does not go beyond what is necessary to achieve the specified policy aims, the external effects on consumers not explicitly mentioned in these policy aims should not be neglected. After all, the general interest is broader than the particular interests of those that could become addicted to gambling. There is thus a need to balance the costs and the benefits. Cost benefit analysis may provide a framework that helps in taking such a more balanced approach. A Coasean perspective suggests that, in the absence of transaction costs, consumers would negotiate a more liberal regime with respect to gambling, hence, that government policy should be less restrictive as well.

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