



The Economics of the UK Casino Industry

A report commissioned by the National Casino
Industry Forum

July 2010

Ernst & Young LLP

Contents

Executive summary	1
1. Introduction.....	3
1.1 Scope of this report	3
1.2 The UK betting and gaming sector in 2000/09	3
1.3 2008 to 2009 - challenging times	4
1.4 Content of this report	6
2. Economic Impact Assessment.....	7
2.1 Performance of the UK Casino Industry over time	7
2.1.1 Scope of the analysis	7
2.1.2 Data sampled and groupings	7
2.1.3 Analytics	8
2.2 Summary of main findings	8
2.3 Analysis of key indicators by sub-grouping	11
2.4 Conclusions from economic impact assessment	12
2.5 Which policy changes could make a difference?	13
2.6 The likely impact of a 'do nothing' approach	14
3. Policy modelling scenarios.....	15
3.1 Three key policy proposals.....	15
3.1.1 Interaction with other policy discussions.....	15
3.2 The Gaming Machines Proposal.....	16
3.2.1 Policy background	16
3.2.2 Policy proposal	17
3.2.3 Modelling rationale	18
3.2.4 Modelling results.....	18
3.2.5 Modelling conclusion.....	20
3.3 The Casino Location Proposal	21
3.3.1 Policy background	21
3.3.2 Policy proposal	21
3.3.3 Modelling rationale	22
3.3.4 Modelling results.....	23
3.3.5 Modelling conclusion.....	24
3.4 The Modernisation Proposal.....	25
3.4.1 Policy background	25
3.4.2 Policy proposal	25
3.4.3 Modelling rationale	25
3.4.4 Modelling results.....	27
3.4.5 Modelling conclusion.....	27
3.4.6 Further product offering	28
4. Conclusions from policy modelling	29
A. Economic Impact Assessment.....	31
A.1 The econometrics	31
A.2 Sub-groupings	32
A.3 Key findings	32
A.4 Detailed findings.....	33
A.4.1 Admissions	33
A.4.2 Gaming revenues per admission	34
A.4.3 Total revenues per admission	35
A.4.4 Machines win	36
A.4.5 Tables drop	37
A.4.6 Gaming duty	38
A.4.7 EBITDAR	39
A.4.8 Remote gambling.....	40
B. Analysis from modelling of policy proposals.....	41
B.1 Gaming Machine Proposal	41
B.2 The Modernisation Proposal.....	42

Table of figures

Figure 1 - UK expenditure on games of chance.....	5
Figure 2 - UK tax receipts from betting and gaming.....	5
Figure 3 - Number of opened and closed casinos.....	9
Figure 4 - Capital expenditure on casinos.....	10
Figure 5 - Employment in casinos.....	10
Figure 6 - Deployment of machines (2009).....	16
Figure 7 - Admissions and machine win (2000 - 2009)	19

Table of tables

Table 1 - Summary of impact of 2007 Package	13
Table 2 - Correlation between machine win and table drop	18
Table 3 - Illustrative impact of new opening.....	23
Table 4 - Estimate of reduction in measurement with growth in remote gaming.....	26
Table 5 - Elasticity of key performance indicators with admissions	27
Table 6 - Impact of 15% increase in admissions, per casino sub-group.....	27

Executive summary

This report examines the performance of the casino industry in the UK over the period 2000 to 2009, in light of fundamental change to its regulatory, fiscal and competitive environment, and considers the impact of a range of policy proposals designed to help UK casinos to invest, grow and further contribute to the success of the UK economy.

Economic impact assessment

An economic impact assessment undertaken by Ernst & Young shows that British Casinos suffered a significant decline following tax and regulatory changes introduced by the Government in 2007. Most notably, casinos' revenue generation saw large and significant reductions, by as much as 20%.

The report finds that regulatory changes introduced through the Gambling Act 2005 limited the capacity for existing casinos to innovate through their product offering, whilst a fixed stakes and prizes regime for gaming machines left them unable to absorb cost increases by passing on any of it through the 'price' of the product. The replacement of the casino duty 2.5% rate with a starting rate of 15% (a 500% increase in tax) and an increase in the top rate to 50% led to an overall increase in the tax burden on their activities. In addition, the emergence of tax-favoured remote gaming as a significant recipient of betting and gaming custom (approximately £1.45bn per annum), has been a significant market development.

The need to control costs in the face of constraints in the ability to generate revenues has led to an under investment in product offering, exacerbated by disparities in the types of product that can be offered in "bricks and mortar" casinos compared to those online. This has impaired the competitiveness of the product offering for physical British casinos in comparison to the remote sector and overseas competitors.

Ultimately the impact assessment shows that measures introduced in 2007 (specifically the Gambling Act 2005 changes, smoking ban (albeit not uniquely impacting the casino industry) and changes in gaming duty rates) have contributed significantly to fostering an environment which acts as a barrier to growth for casino operators.

Policy proposals for change

The analysis in this report reveals that this situation does not need to continue and examines three proposals that are consistent with government policy and that could drive investment, growth and jobs; alongside consequential benefits to the Exchequer in terms of tax receipts. These are set out below:

- Extending the uniform 5:1 machines:tables ratio to all casinos can be expected to raise additional AMLD of £12.5m per annum.

- Each casino licence that is currently inactive could be generating £600,000 per annum in gaming duties, simply by permitting 1968 Act licences to be moved from an existing Permitted Area to a Local Authority that wishes to have a casino. On this basis activating between 10 and 20 dormant casino licenses would generate £6m to £12m per annum in additional gaming duties.
- Enabling modernisation of the casino industry by allowing a greater range of electronic gaming inside casinos can be expected to increase investment in casinos, admissions and growth. An increase of 15% in admissions could generate in excess of £20m of additional gaming duties.

These measures, focused around bringing fairness by levelling the playing field and modernising the permitted casino offering, could reinvigorate the industry and provide additional annual revenues of at least £45m per annum to the Exchequer. Given the one-off nature of cost-saving measures and the constraints on revenue generation, the decline described in this report can be expected to continue if nothing is done to arrest it, with resulting lower investment, employment and tax revenues.

1. Introduction

1.1 Scope of this report

Ernst & Young LLP was commissioned by the National Casino Industry Forum (“NCiF”) to undertake an economic assessment of the impact on British casinos of significant taxation and regulatory changes in recent years, as well as of the economic conditions and rapid evolution of the remote gaming sector and the potential positive impacts of a number of policy proposals. The work consisted of:

- an economic assessment of the impact of these recent changes on the industry; and
- the analysis and modelling of policy changes proposed by the NCiF, to improve casinos’ ability to innovate, invest and achieve growth.

The output of that work is set out in this report.

1.2 The UK betting and gaming sector in 2000 to 2009

In order to fully appreciate the business environment in which casinos operate, it is necessary to understand the broader set of businesses with which casinos are inextricably linked. The UK betting and gaming sector consists of betting, lotteries, gaming machines, casinos and bingo and generated combined revenues of £9.9 billion in 2007¹. This does not include betting and gaming activity undertaken remotely and online (see below). Some operators of casinos have varied interests across a number of these areas. The different betting and gaming activities can, to a varying extent, also be seen as substitutes for each other and so the tax treatment and regulatory regime governing them will be a core driver of the performance of that sector.

The majority of the industry is legislated by the Gambling Act 2005, which was fully implemented in September 2007, and is regulated by the UK Gambling Commission. Fundamental changes to the tax system for casinos were also introduced in 2007, including changes to gaming duty bands that moved the starting rate from 2.5% to 15% and increased the top rate from 40% to 50%.

The rise of remote gaming

The remote sector is now a significant and still growing area of the industry. The development of remote gaming has taken place mostly outside UK regulation and UK taxation, due to operations being sited outside the UK (even though their customers may be in the UK). The remote sector offers all of the products available in the “bricks and mortar” casinos, but operates substantially outside the framework of UK regulatory constraints; and also without regulatory limits on stakes and prizes (effectively the “price” of the product). The evolution of this sector in 2009 saw approximately 2.8m people spend £1.45bn (approximately £10 per head, per week), in online gambling². In addition, the increase in the

¹ All statistics in this section are taken from UK Gambling Commission Industry Statistics, October 2009, unless otherwise stated.

² Online and interactive gambling, special report; Mintel, July 2009

diversity and accessibility of digital platforms (including internet, telephones and digital television) has had a marked impact on the level of unfettered competition for the regulated casino market. In practice casinos face an uneven playing field when competing with the remote sector.

The advent of the Fixed Odds Betting Terminal

Further competition to casinos has been created by allowing Licensed Betting Offices (LBOs) to deploy Fixed Odds Betting Terminals (FOBTs). FOBTs are now categorised as 'B2' machines under the Gambling Act 2005 and there are now more than 30,000 of these machines in operation in over 8,800 LBOs. This compares with 2,300 B1 machines in 141 casinos. This relationship of approximately 10:1 is reflected in revenues generated, with machine win from FOBTs being £1,138m against £120.5m for the win from machines in casinos.³ FOBT machines offer many of the gaming products that were previously confined to casino premises, like roulette and card games, but without the regulatory safeguards present in casinos.

The review of stakes and prizes

Prior to the passage of the 2005 Act, the government reviewed the stake and prize limits for all regulated slot machines triennially. Although there was no legal framework for this process, this had been the regulatory custom and practice for many years. When the Act was in the drafting process, the government understandably suspended this process. However, no mechanism was established to replace it and there has been no increase in stakes and prizes for category B1 machines for five years, whereas some other machine categories have seen significant increases.

The previous administration launched and completed a formal review of stakes and prizes prior to the 2010 General Election. The industry submitted a detailed response to government but to date no action has been taken. This means that the "price" of the Category B1 machines has been frozen since 2005, whilst costs have increased over time through increases in general taxation and AMLD.

1.3 2008 to 2009 - challenging times

As the UK economy shrank in 2009, unemployment grew and earnings growth stagnated or fell back. The impact of reduced disposable incomes was reflected across the UK economy in low levels of aggregate demand, leading to negative RPI inflation for the year to September 2009. This resulted in a challenging year for operators in the betting and gaming industries, as shown in the chart below.

³ Figures are for March 2009, from the Gambling Commission's Industry Statistics 2008-2009

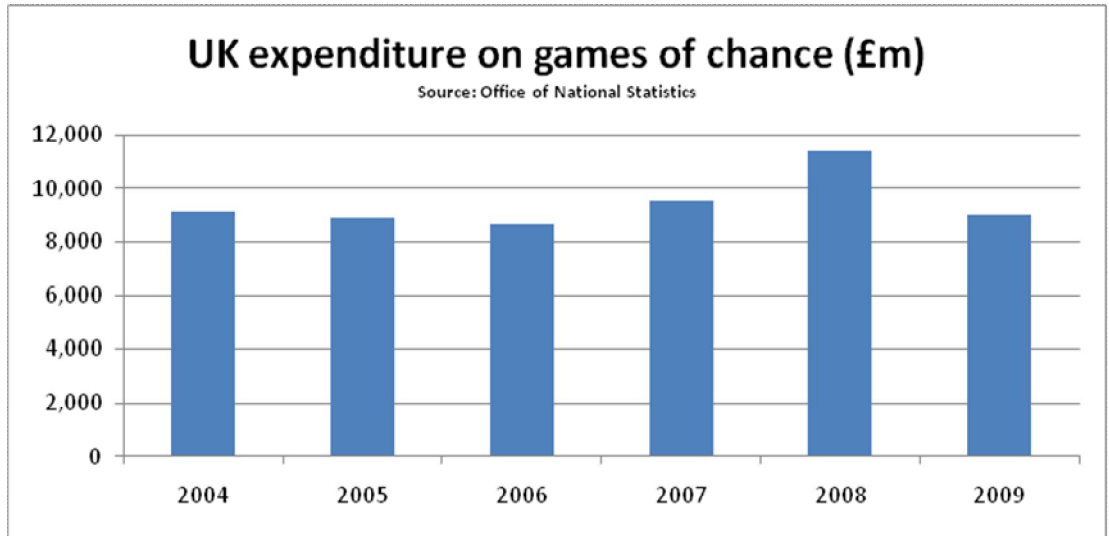


Figure 1 - UK expenditure on games of chance

Figure 1, shows total expenditure on games of chance in the UK.

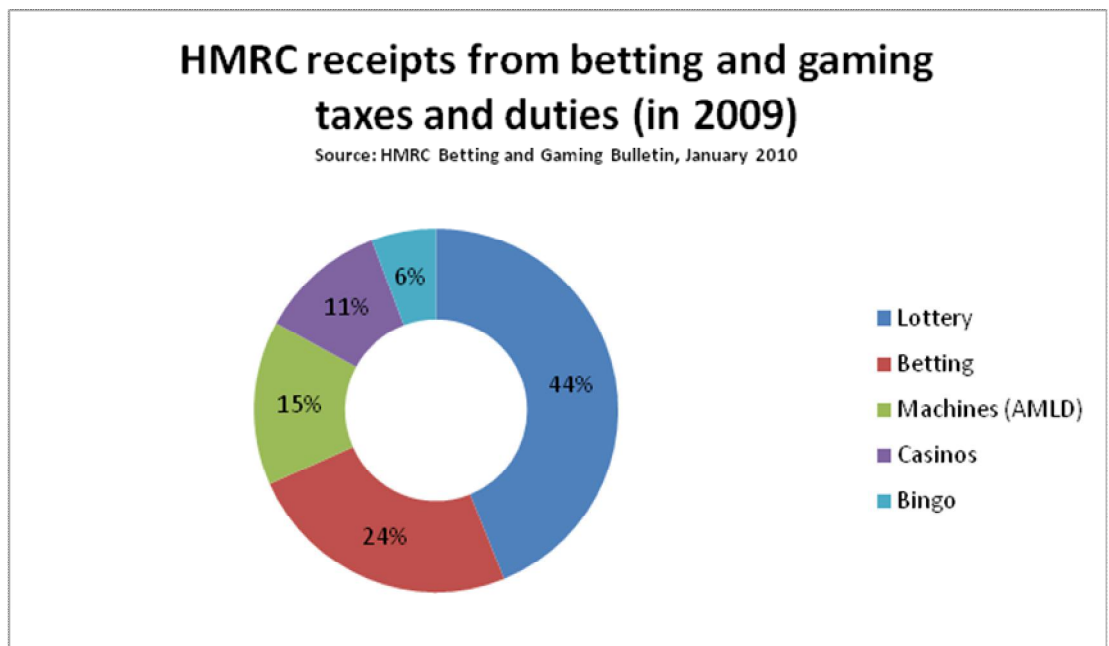


Figure 2 - UK tax receipts from betting and gaming

There were 141 casinos operating in the UK in 2009 and, as can be seen from the chart above, casinos contributed 11% of the total tax receipts from betting and gaming (an estimated £1.45bn).⁴ Additionally, a proportion of the 15% AMLD revenues shown above is derived from machines in casinos.

In addition to the 141 casino licenses in use in the UK, there were 46 unused licenses, of which around half represent casinos that have closed.

⁴ Source: Office for National Statistics: www.statistics.gov.uk

1.4 Content of this report

Given this background, this report considers the economic impact of the tax and regulatory changes on the industry and comments on three proposals for changes in the regulatory environment that could allow the casino industry to play a fuller part in the revival of the UK.

- Section 2 of this report considers the economic performance of the industry over time and the impact that these key fiscal and regulatory changes have had on the industry, as well other changes such as the introduction of the smoking ban and changes in the broader macro-economic environment.
- Section 3 examines three policy proposals that could be adopted that would more opportunities for casinos to contribute to the economic revival of the UK.
- Section 4 provides key recommendations, based on the findings of Section 2 and the analysis of the proposals in Section 3.

Further details of the economic impact assessment and the modelling of policy options are set out in Appendices A and B.

2. Economic Impact Assessment

2.1 Performance of the UK Casino Industry over time

2.1.1 Scope of the analysis

The purpose of this economic impact assessment is to examine the effect on the performance of British Casinos of significant legislative and fiscal changes, in recent years. The key changes (hereafter referred to together as the “2007 Package”) are:

- The development of a new regulatory regime under the Gambling Act 2005, whose effects included:
 - the loss of unlimited numbers of Section 21 prize gaming equipment devices (sometimes referred to as Section 21 machines) from casinos and
 - the categorisation of FOBT machines as “B2” and an increase in the permitted number, to 4 per licensed betting office.
- Changes to gaming duty bands in April 2007, that moved the starting rate from 2.5% to 15% and increased the top rate from 40% to 50%.
- The introduction of the smoking ban from 1 July 2007, which was in no sense unique to the casino industry.

The analysis undertaken also considers the following economic factors, which could have impacted the performance of the casino industry:

- macro-economic growth / recession; and
- the development of remote gambling services.

2.1.2 Data sampled and groupings

The analysis is based on data submitted by the operators of 124 casinos in the UK (being almost 90% of the total number of casinos in the UK). The analysis shows the impact of the 2007 Package across a set of performance indicators:

- casino admissions;
- gaming revenues per admission;
- total revenues per admission;
- machines win per admission;
- tables drop per admission;
- gaming duties (the amount payable per admission); and
- Earnings before interest, taxation (other than gaming taxation), depreciation, amortisation and rent (“EBITDAR”).

The casino sample has been segmented into three groups:

- High-end London casinos;
- Other London casinos; and
- Non-London casinos.

The rationale for this segmentation is that High-end London casinos have a very different customer profile to the others, and that Non-London casinos are subject to different economic and market forces than those in London. The assumption is that the demographics of the customer base could lead to different reactions to changes in the tax, regulatory or macro-economic environment. This was borne out in the results of the analysis, supporting the approach adopted.

2.1.3 Analytics

Data were collected on activity, employment, revenues, gaming duty, EBITDAR and capital expenditure. While not all operators were able to provide a full set of data for each casino for the full assessment period (2000-2009), sufficient data were received to be able to draw robust conclusions on the drivers of performance in the industry.

Detailed econometric analysis was conducted for casinos that were in continuous operation during the period 2003-2009 (78 casinos). The performance of opening, closing and moving casinos was separately analysed to identify further trends in the industry.

Regression analysis was used to identify correlations between the key industry metrics at the individual casino level and the external drivers relating to the economy, the market and the timing of legislative changes. The results have generally been expressed in terms of the percentage change in the performance metric that could be explained by the change in the driver. These percentages should be interpreted as changes in one of the drivers while keeping the remaining ones unchanged. The percentages therefore should not be added together. It is a common approach to express the impact of economic variables in terms of elasticities. Further details on the approach to the econometric analysis are set out in Appendix A.

2.2 Summary of main findings

The analysis of the data overall reveals a story of an industry dominated by regulation, with optimism and growth surrounding the deregulation debate followed by a marked decline in the years following the 2007 Package. The key findings from this analysis are summarised in this section and set out in greater detail in Appendix A.

The overall decline in the industry across this period is illustrated by the number of casinos in operation during this period, which grew until 2007 but has declined since then. The impact of the package of changes can be seen more starkly when examining the data for new casino openings and casino closures. Figure 3 below shows that the period in the run up to the 2007 Package saw 28 new casino openings (85% of the total across the entire period) and only 5 from Q3 2007 onwards. The Q3 developments probably still flatter the investment profile, many of which were likely to be legacy developments that had to be contractually honoured. Moreover, the net impact of the changes, which saw 8 casino closures, was actually to reduce the total number of casinos in operation from 2007.

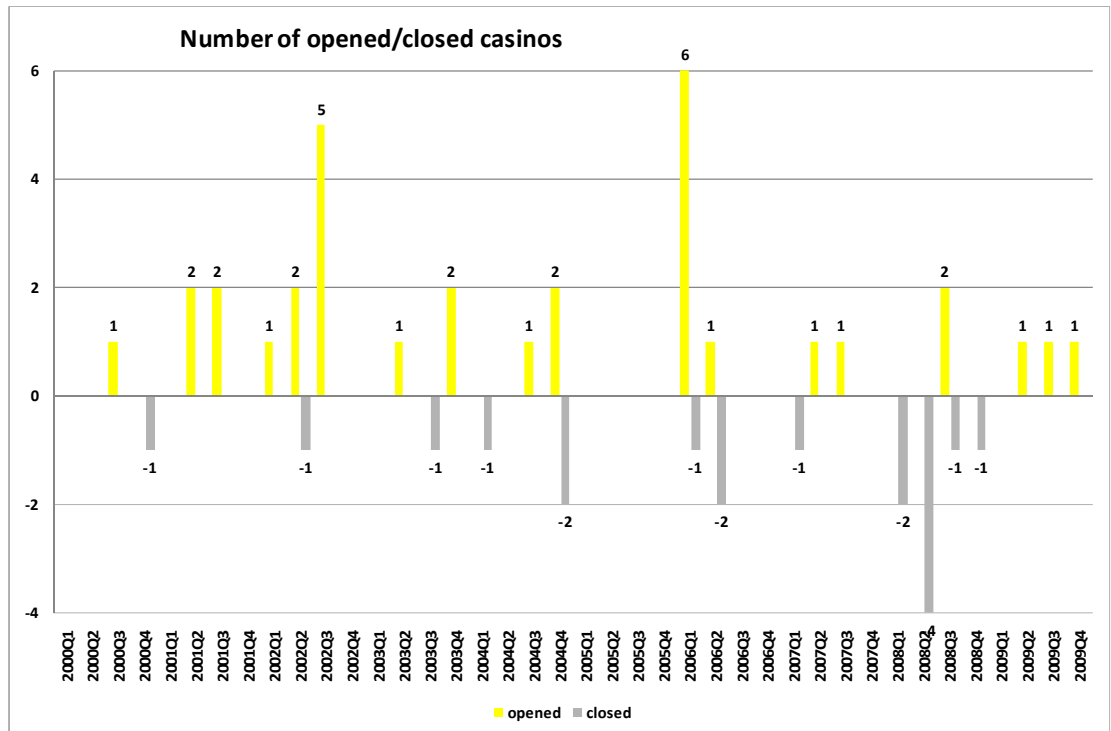


Figure 3 - Number of opened and closed casinos

Faced with the negative impact of the 2007 Package, the industry has sought to maintain profitability by reducing the costs under their control, such as by reducing staffing numbers, eliminating discretionary spending and abandoning capital development programmes. These measures may have slowed the rate of decline, but such cost reductions tend not to be repeatable year on year. Over time, they would tend to lower the standard of the product and therefore lead to a less competitive offering for consumers, both for High-end London Casinos - who compete with other international locations such as Monte Carlo, Macau and Las Vegas - and for the remaining casinos, who are facing ever increasing competition from remote gaming. The likely consequence of this over time would be reduced profitability for UK Casinos, with consequential impacts on jobs and taxable revenues.

Capital expenditure (“capex”), shown below, is chiefly made up of the investment by operators in improving the customer environment and entertainment offer. Figure 4 depicts an upward trend prior to the 2007 Package, which was quickly followed by a sharp decline. This could suggest that optimism ahead of expected deregulation was replaced by concerns once the details of the package emerged. Such concerns may have included inconsistencies in treatment between the different types of casino, the perception of uncontrolled and unregulated growth in the remote gaming sector, and the proliferation of alternative opportunities for gaming through betting shops and smart phones.

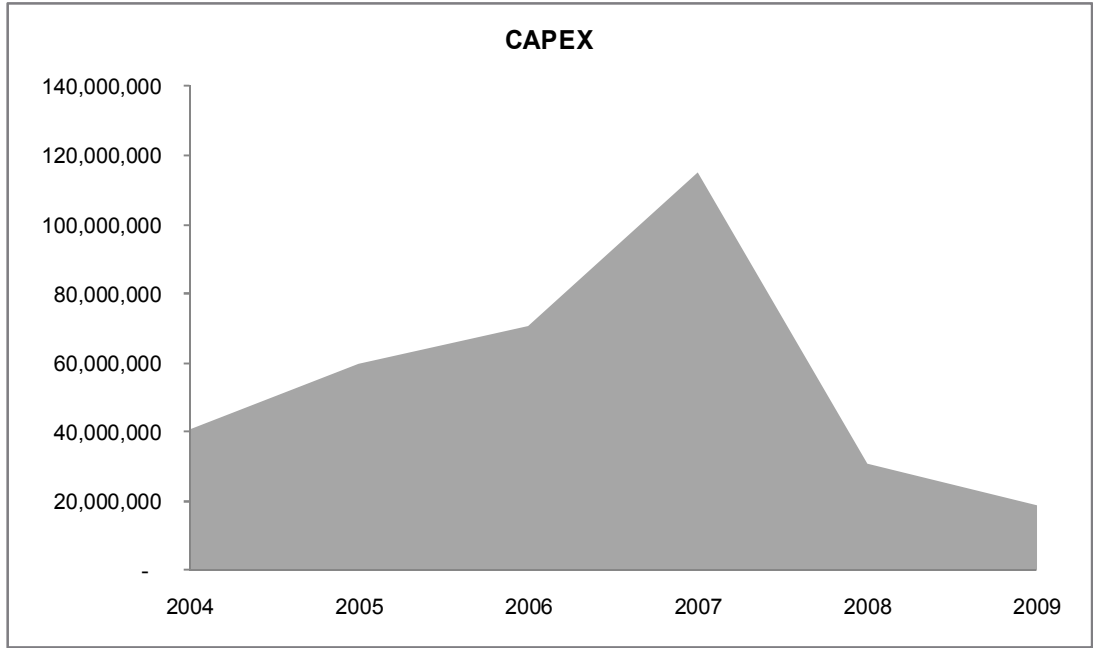


Figure 4 - Capital expenditure on casinos

The large fall in capital expenditure from 2007 was followed by a steadier decrease in 2008. By 2009, capital expenditure was less than half of the level it was in 2004. Such a profile in capital expenditure is indicative of a lack of confidence among operators as to the competitiveness and stability of their operating environment and the reduced return on investment that resulted from the 2007 Package. This reduction in capex is consistent with other cost-cutting measures (such as reductions in staff) that have been taken to preserve profitability in light of falling revenues and higher taxation.

As might be expected in a period of declining casino numbers, the picture for employment in casinos, post-implementation of the 2007 Package, has also shown a steady decline, as shown below.

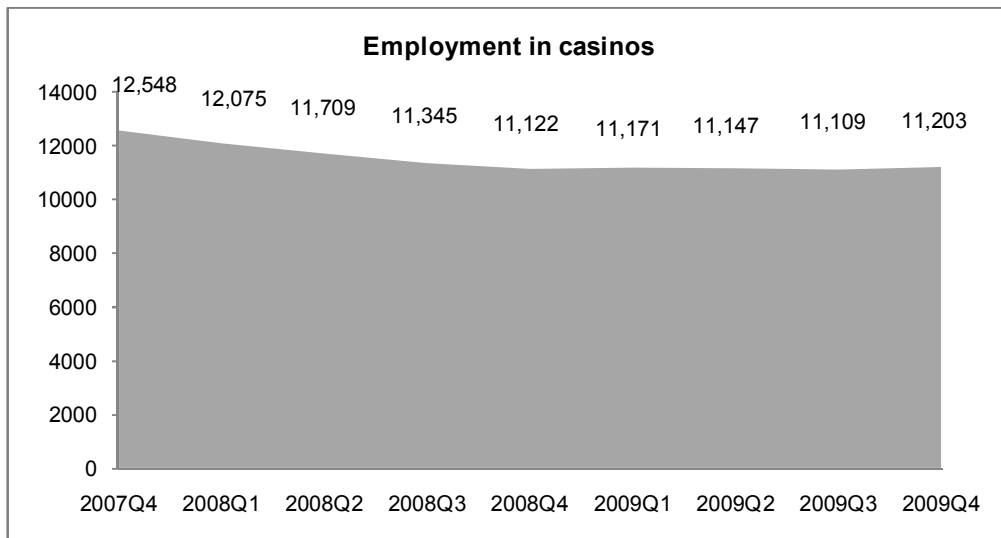


Figure 5 - Employment in casinos

The number of employees in casinos and related functions in the UK, as reported by operators in their returns to the survey, declined by approximately 11% in the period from Q4 2007 to Q4 2009. This should be seen in the context of an overall decline in employment in the labour market as a whole, of around 3%, in the same period.⁵

The reduced staff numbers could also be expected to impact the quality of the customer experience and result in lower activity, less revenue and lower tax receipts for the Exchequer.

2.3 Analysis of key indicators by sub-grouping

For those casinos in continuous operation throughout the 2003-2009 period, admissions peaked in 2006 before declining thereafter. In addition, with revenue per admission also being in steady decline, the impact on profitability has been an accelerating reduction across the period of study.

The econometric analysis undertaken implied that the legislative changes had a statistically significant impact on the performance of the industry over and above any impact of the economic downturn. There were, however, significant differences between the casino sub-groupings:

➤ High-end London Casinos

For High-end London casinos, the analysis supported the hypothesis that the changes in 2007 had reduced both admissions (by approximately 10%) and revenue per admission (both gaming revenue per admission and total revenue per admission fell by approximately 20% as a result of the changes).

EBITDAR per admission appeared not to have been affected by the 2007 changes. This suggests that whilst the 2007 Package had a negative impact on casinos' ability for revenue generation, the industry's focus on cost reduction had offset that impact to an extent. The broader economic factors (GDP growth etc), by contrast, only appeared to have affected revenue per admission.

Cost reduction in High-end London casinos that have been achieved by reduced service levels could threaten their international competitiveness with other international gaming destinations like Monte Carlo, Las Vegas and Macau.

➤ Other London

For Other London casinos, admissions do not appear to have been affected by the 2007 changes, although there was a statistical link to GDP growth (unlike High-end London Casinos). This is consistent with expectations for the client group for these casinos, who could be more acutely affected by changes to economic growth, than High-end London casino customers.

⁵ Source: www.statistics.gov.uk

The data also show that revenue per admission has fallen following the 2007 changes (by approximately 17%). This metric also appears to have been significantly adversely affected by the economic factors and the increase in remote gaming.

As with the High-end London casinos, it appears that aggressive cost reduction has offset the revenue effects of the 2007 changes, so that there is no apparent impact on EBITDAR per admission. However these reductions are generally one-off in nature and further opportunities for cost-reductions may be unlikely.

➤ **Non-London casinos**

The Non-London casinos appear to have been adversely affected, both in terms of admissions (down 10%), gaming revenue per admission (down 8%) and total revenue per admission (down 10%), by the 2007 Package, the economic factors and the growth in remote gaming. Unsurprisingly, the combination of these factors also appears to have adversely affected EBITDAR per admission (suggesting that cost cutting has been less effective in offsetting overall decline). Prior to the 2007 Package, this sector was on average subject to a Gaming Duty rate of 2.5% of gross gaming yield, given the average turnover of the casinos. Consequently the 500% increase in the starting rate of 2.5% to 15% significantly impacted the EBITDAR and overall profitability of these clubs.

These findings suggest that overall the 2007 Package and other macro-economic drivers have limited casinos' ability to generate revenues over the period.

The analysis of gaming duty indicated that, for Non-London casinos only, there was an increase in duty as a percentage of revenue and a corresponding increase in duty per admission in 2007. The econometrics show that for this group the 2007 Package increased gaming duty per admission by between 4% and 16%. As noted above, there was no statistically significant impact on gaming duties per admission in the other sub-groupings.

2.4 Conclusions from economic impact assessment

As noted above, and set out in detail in Appendix A, the analysis of performance of British Casinos over the time period shows an overall decline, with a statistically significant impact of tax and regulatory changes made in 2007 on some of the key performance indicators. Most notably, casinos' revenue generation (both gaming revenues per admission and total revenues per admission), saw large and significant reductions overall and in each sub-grouping, by as much as 20% for High-end London casinos.

Measure	High-end London	Other London	Non-London
Admissions	Decrease by 10%		Decrease by 10%
Gaming revenue per admission	Decrease by 20%	Decrease by 17%	Decrease by 8%
Total Revenue per admission	Decrease by 20%	Decrease by 17%	Decrease by 10%
Machine win per admission	*	*	Increase by 15%
Table drop per admission	*	Decrease by 10%	Decrease by 5%
Gaming duty per admission	*	*	Increase by 4-16%
EBITDAR per admission	*	*	Decrease by 30%

Table 1 - Summary of impact of 2007 Package

* Denotes no statistically significant relationship supported by the data.

Casino operators have seen overall profitability (using EBITDAR as a proxy) stagnate for High-end London and Other London casinos. For Non-London casinos the 2007 Package reduced EBITDAR by 30% (and by up to 46% in the worst case). The impacts could have been much worse without cost cutting and revenue controls having been implemented.

The emergence of remote gaming as a significant recipient of betting and gaming custom (approximately £1.45bn per annum)⁶, and the impact of the global economic downturn in part explain this trend in recent years, but this study shows that the measures introduced in 2007 (specifically the Gambling Act 2005 changes, smoking ban - which was in no sense unique to the casino industry - and changes in gaming duty rates) have contributed significantly to fostering an environment which acts as a barrier to growth. As shown above, this is borne out by the high-level data on casino openings and closures, trends in employment in casinos and overall capital expenditure.

2.5 Which policy changes could make a difference?

It is clear from the analysis that there are potential changes that could be expected to improve the industry's economic performance. The period in the run-up to implementation of the Gambling Act 2005 could be characterised as optimistic. Operators were opening new casinos and redeveloping existing ones, and the data show that admissions and overall revenues significantly increased in the case of the latter.

⁶ Online and interactive gambling, special report; Mintel, July 2009

The economic impact assessment that has been undertaken has provided the basis for a set of policy changes that could improve the environment for operators and encourage investment in the future. The policy scenarios identified and the results of this modelling are set out in section 3, which follows.

2.6 The likely impact of a 'do nothing' approach

The assessment above demonstrates the decline that the industry has experienced since the 2007 package of changes was introduced. Given the one-off nature of cost-saving measures and the constraints on revenue generation, this decline can be expected to continue if nothing is done to arrest it. Such decline would have implications for industry investment, jobs and in due course Treasury receipts, as the ability of the industry to modernise and play its part in the broader leisure industry is constrained.

3. Policy modelling scenarios

3.1 Three key policy proposals

The following three policy scenarios have been identified as consistent with the direction and aims of government policy and likely to improve the competitive environment for casino operators:

- Providing a consistent regime that determines the number of machines across all casinos, following the approach set out in the Gambling Act 2005;
- Modernising the approach to the location of Casinos licensed under the Gaming Act 1968 through offering local authorities greater powers to decide their location; and
- Modernising the rules determining the use of electronic gaming devices and allowing product that is legal outside a casino to be legal inside a casino.

These proposals are described in detail below and the impacts are described in section 4.

3.1.1 Interaction with other policy discussions

In addition to the above proposals, the industry has already opened discussions regarding changes in the regulatory regime governing the restrictions on stakes and prizes. Given the nature of the industry, the relationship between stakes and prizes and the quantum of each are core elements to the overall 'price' of the product that the casino offers. Since such elements are regulated, the casino operator has no ability to respond to an increase in its operating cost through an increase in the price of its product⁷.

Prior to 2005, the government conducted 'triennial reviews' of stakes and prizes and increased the 'price' of the products the industry was able to offer. However, since 2005 there has been no such review and no increases in stakes or prizes, even though the government has increased the industry's cost base through repeated rises in taxation. This remains important and a high priority for the casino industry but is not the focus of this report. This should not be interpreted as a reduction in importance to NCiF of the re-establishment of a robust and routine review of stakes and prizes.

⁷ Other than food and beverages

3.2 The Gaming Machines Proposal

3.2.1 Policy background

As discussed in Section 2.5, a key constituent of the gambling offering is the provision of "machines". The capabilities of machines have evolved over time and now reflect a complex combination of options and functions. The Gambling Act 2005 revised the definition of machines and provided a more modern categorisation. Under these regulatory provisions, the number and type of machines that can be provided in casinos is carefully controlled.

Prior to the Gambling Act 2005, the number of machines in a casino was controlled by an absolute limit of 20 gaming machines per casino. The actual number of machines deployed per casino varies across the categories of casino, with the largest take up being in the Non-London casinos. The chart below shows the number and proportion of machines operated per casino for each sub-category.

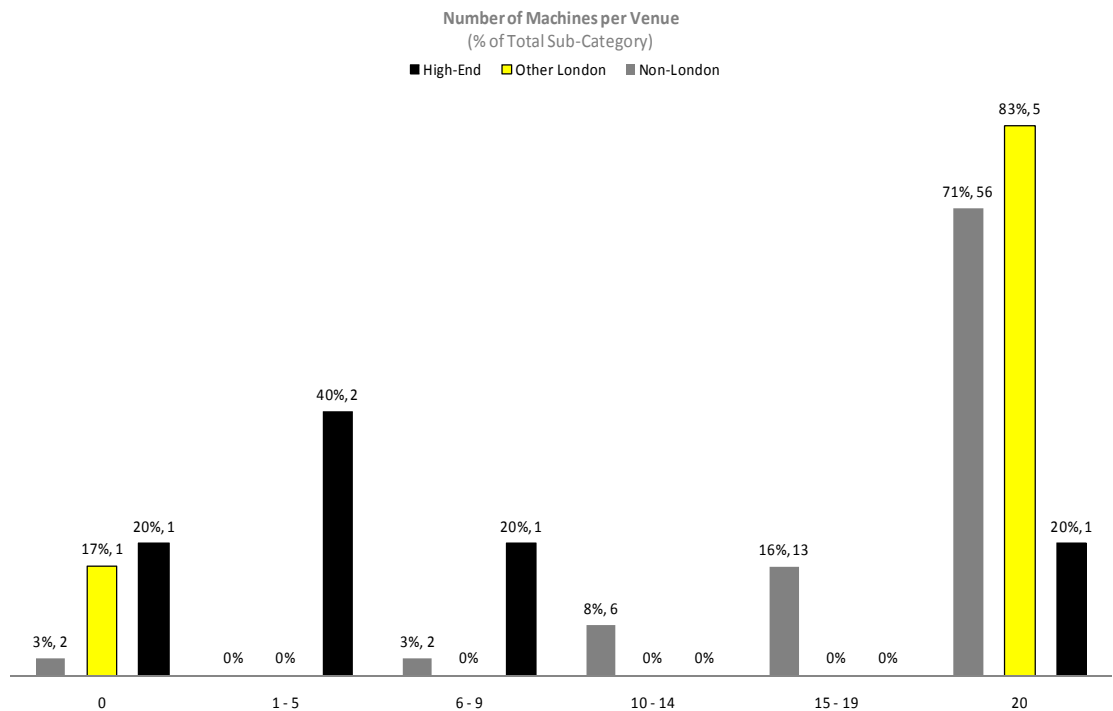


Figure 6 - Deployment of machines (2009)

Source: NCiF members⁸

The Gambling Act 2005 did not address the number of B1 machines (previously Section 31 machines) in 1968 Act casinos, that remained at 20 regardless of table numbers. At the same time the 2005 Act reclassified the Prize Gaming Equipment (Section 21 devices) as gaming machines. This removed the ability for a casino to have an unlimited number of these devices in addition to its other gaming machines (requiring the casino to count any such devices as part of its maximum complement of 20 gaming machines).

⁸ Sample size equals 90 out of 141 Casinos or 64%, for whom data was available, per casino i.e. disaggregated by casino sub-group.

The Act established the number of machines permissible in 2005 Act casinos. It did so by establishing machine to table ratios. It set a ratio of machines:tables of 5:1 for a “Large” casino and a ratio of 2:1 for a “Small” casino. The Act also placed an upper limit for “Small” casinos of 80 machines and 150 for Large casinos

When considering the suitable ratio of machines, it is understood that the intent of the ratio is to avoid a change in the character of a casino and the creation of the so-called “machine shed”. This character and approach should be consistent across all types of casino and there appears to be no principled rationale why the ratio should be restricted for smaller casinos. If a ratio of 5:1 (provided for in the 2005 Act for a Large casino) is consistent with maintaining such character, this should be available across the whole population. The current approach actually gives rise to a distortion, where a Small casino would need to operate a larger table gaming floor than a Large casino, in order to be able to offer any given number of machines.

As can be seen from the chart, 20% of the High-end London casinos currently deploy no machines. This is due to the lack of machines at the appropriate “price point” for the customer of the High-end London casino. The current limit of £2 stake and £4,000 prize is well below the amounts that can be wagered on tables within the casino, meaning they are unlikely to be an attractive substitute.

Given this environment, growth from this option would be limited in the High-end London casino segment, but this could be addressed separately through the reform of stakes and prizes. The growth following this reform would occur in the Other casino and the Non-London casino segments.

In contrast to the UK rules, international competitors to the UK High-end London casinos offer machine stake and prizes that are commensurate with the amounts that can be wagered on tables and a stake of \$100 for a potential prize of \$1,000,000 is not uncommon. Appendix B sets out in more detail the limits in machine numbers and stakes/prizes in other jurisdictions.

As seen in the above chart, a far higher percentage, (71%), of Non London and (83%) Other London Casinos are operating with their current full deployment of machines. Those that have less than full deployment tend to be constrained by size of the premises and local demand. The response to this proposal would therefore be expected to come from the fully deployed casinos.

In general, the current machines: tables ratio for casinos⁹ that are currently operating at their full capacity of machines is 1.6:1. This shows that there is a considerable gap between the current deployment of 20 machines and the amount that would be available under a consistent cap of 5:1.

3.2.2 Policy proposal

The NCiF believes that there should be consistency amongst the different types of casino and, based on the above, the policy change proposed would be to increase the machines: tables ratio for all casinos, to 5 to 1. This would leave the number of tables as the key determinant of the size of the casino and prevent the evolution of

⁹ Excluding ‘High-End London’ casinos

so called machine sheds. It would encourage investment and provide consumers with consistency of offer. It would also adjust the national machine profile which currently indicates that less than 1% of all machines are found in licensed casino premises.

3.2.3 Modelling rationale

The information obtained from the casino operators across the period included the number of machines that were deployed in each casino for each time period. Such data allow an examination of the impact of the measurable outputs to distinct changes in the number of machines. In addition, the change in the regulatory environment provides an opportunity to examine the response to a change in policy.

As noted above, the number of machines that may be operated in a casino governed by the Gaming Act 1968 is currently limited to 20 machines. This limit was increased from 10 machines to 20 machines in Q3 2005. Given that this date is within the sample period, it has been possible to identify the response to the increase in the limit.

3.2.4 Modelling results

The changes in Q3 2005 to the number of slot machines permitted in 1968 Act casinos (from a maximum of 10 to a maximum of 20) led to an increase in numbers and demonstrated the industry's willingness to invest. The analysis and chart below show the extent to which casinos were able to fully deploy their 'allowance' of 20 machines and what the impact was on other parts of the casino, specifically on gaming tables. The data from operators showed that fully deployed casinos typically achieved full deployment within 12 to 24 months of the Q3 2005 change.

	Correlation
12 months after change	-0.20
24 months after change	0.69
36 months after change	0.57
4 years after change	0.49

Table 2 – Correlation between machine win and table drop

The correlation coefficient between machine win and table win for the first 12 months (see Table 2, above) showed an inverse correlation between machine win and table drop - indicating that an increase in machine win led to a reduced table drop in the immediate term.

After a year, this relationship dissipates suggesting that, other than in the first year, the machines activity is additional to the total casino activity and any cannibalisation of tables business from increased machines numbers has ceased. A further explanation for the negative correlation in the first year following the change in the regulation could be the lag in rolling out new machines to meet the new cap.

In the medium term, increased machine win seems to also lead to increased admissions. This clearly supports a view that further increasing gaming machine numbers in casinos could satisfy latent demand rather than detract from other areas of gambling. This can also be seen in the chart below.

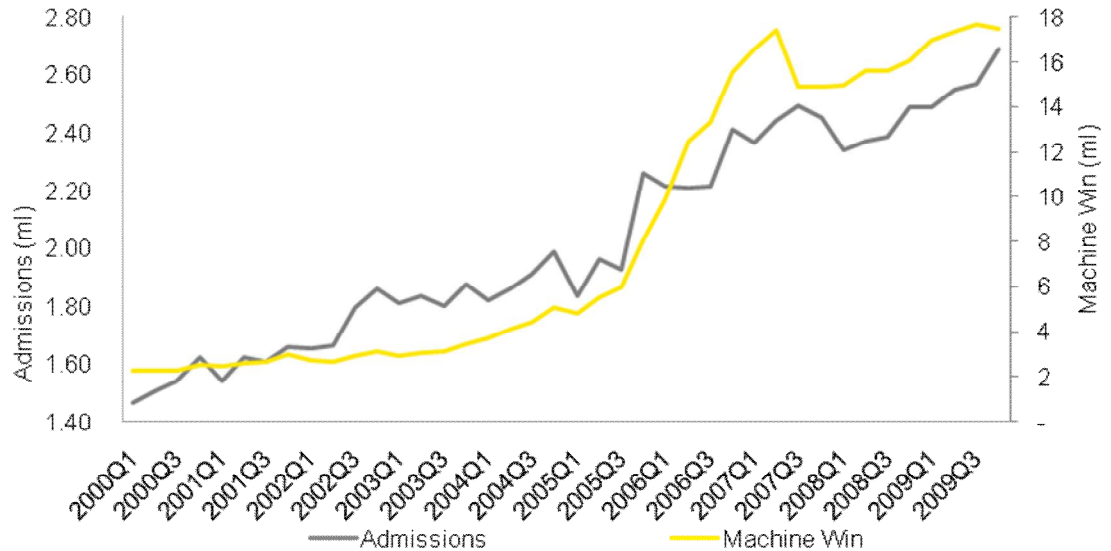


Figure 7 – Admissions and machine win (2000 - 2009)

Consequently the increase in machines is additional to the overall gross win of the casino and a commensurate increase in tax revenues can be expected. Given this additive nature, it can be deduced that the total benefit to the Exchequer of the increase in machine numbers from 10 to 20 has been approximately £2m per annum directly from AMLD¹⁰, even without considering the increase in corporation tax and duties on table win.

Based on statistical analysis, the above additional machine win can be seen to have supported £220m of additional table drop, providing approximately £4.4m additional duty on gross gaming yield. Hence the increase from 10 to 20 machines will have generated additional duties revenue of £6.5m per annum.

¹⁰ Calculated as the sum (for all casinos with > 10 machines) of (for each such casino: (number of machines - 10)) x AMLD charge for each machine

3.2.5 Modelling conclusion

It can be estimated from the above that a move to a machines:tables ratio of 5:1 would generate a maximum capacity of 4,300 additional machines across the casinos sampled that are fully deploying the current limit of 20 machines¹¹. Even with this increase, the total number of machines in UK casinos would represent just over 2.5% of total machines in the UK.¹² Should all these casinos deploy the new maximum of 5:1, the additional machines would generate additional AMLD of £12.5m and gaming yield of £8.6¹³.

This figure would clearly be the limiting case for this sample (as some casinos would not have the floor space or business case for deploying machines to the new absolute maximum). In order to assess the total increase in machine numbers for the parent population, it would be necessary to extrapolate from the sampling distribution and then offset for those casinos that would not fully deploy the new maximum number of machines. Given the above, estimates for benefits accruing to the Exchequer in section 4, are based on data from the sample only. This is equivalent to an additional £12.5m in AMLD.

The Exchequer could also expect to receive additional corporation tax on the profit from any increased activity and gaming duties from increased table win.

¹¹ Calculated as (for all casinos currently deploying 20 machines) the number of machines available under the 5:1 ratio less the number of machines currently deployed in those casinos (i.e. the number of such casinos multiplied by 20)

¹² Gambling Machine industry statistics 2008-2009 estimates total UK machines at 248,000. Report at: www.gamblingcommission.gov.uk

¹³ Calculated from the ratio of AMLD:GGY from previous changes.

3.3 The Casino Location Proposal

3.3.1 Policy background

Key contributors to the success of any business, casinos included, comprise its location, its product offering and its environment. Consequently it can be expected that the precise location of the casino is a critical choice for a casino operator.

A side-effect of the creation of 16 potential new 2005 Act licences has been the freezing of the regulatory regime applying to the casinos governed by the Gaming Act 1968. The rationale for the freezing of the licensing regime was that the eight, new "Large" and eight, "small" casinos were originally conceived, alongside eight, "Regional" or so-called 'super casinos' (each of which was intended to have 1,250 Category A, unlimited stake and prize machines), as 'an experiment'. The proposed eight Regional casinos were initially reduced to one through the political process in the first half of 2005. The one remaining Regional casino was also eventually shelved in the second half of 2005, thus the intended 'experiment' stalled at the conceptual stage.

The resulting regulatory environment is acting to frustrate the free choice of location, both for operators and consumers. Under the frozen 1968 regime these casinos may only be sited in the areas specified at the time of the 1968 Act (the so-called "Permitted Areas"), over 40 years ago. Relocation of a 1968 Act casino is therefore not possible outside the specific Permitted Area in which it was originally licensed, even if there is agreement between all the stakeholders (such as the local residents, the local councils and the operator), as to the benefits that a successful casino could bring to the area.

The precise positioning of any casino will necessarily depend on the environment and the demand from the local residents, both in terms of custom and acceptability and are also regulated by planning and gaming law. Controls on the establishment of casinos are therefore to be expected, but these should be for sound social and economic reasons.

The Gambling Act 2005 prevented the issue of any further casino licences (beyond the 16 new licences). There are 187 1968 Act licences in existence and this number cannot be increased so proliferation risk does not exist. This can be compared to Betting Shops of which there are more than 8,800 and to which no numeric constraint applies.

3.3.2 Policy proposal

Based on the above, the policy change proposed would be to permit the 1968 Act licences to be moved from an existing Permitted Area to any Local Authority that wishes to have a casino and is prepared to reflect that in its licensing policy. This would enable the commercialisation of licences that are currently inactive due to applying to areas where the demographics do not allow for the profitable utilisation of the license, as well as the porting of the casino from an area of low demand to an area of high demand.

In essence, the proposal would widen the possible sites for a casino. Given the expansion in choice, it is highly likely that there are profitable new sites to which the inactive licences could be applied and that there are some new sites that would be more profitable than the less profitable sites currently hosting casinos.

The relocation resulting from this policy change would increase the efficiency of the sector. This is particularly likely given that the choice of the Permitted Areas was determined over 40 years ago and the demographics of the areas will have changed significantly over this period. Furthermore, given that 10 of the new casinos under the Gambling Act 2005 are in existing Permitted Areas, this change would also avoid a level of cannibalisation from the new casinos.

This policy option is consistent with a general decentralisation policy that allows local authorities greater powers of self determination in these policy areas. It would also be helpful in meeting the demand from the more than 60 local authorities that applied for new licences and were disappointed not to be awarded one.¹⁴

The checks and balances on proliferation are clear:

- The overall number of casinos in the UK is now fixed - changes to primary legislation would be required for there to be an increase.
- Section 166 of the Gambling Act 2005 allows a local authority to pass a resolution not to have a casino within its local authority area. Licensing policy is subject to public consultation.
- Planning consent for casinos requires specific permission which involves public consultation.
- Although planning consent may be granted for a casino, the premises also require a Premises Licence to be granted by the local authority under the Gambling Act, which is also subject to public consultation.

3.3.3 Modelling rationale

A detailed analysis of the impact of opening a casino in a particular location would involve a study of all of the various input factors and would be site specific. Rather than seek to identify the particular upside for a suite of casinos, this paper seeks to demonstrate that there are clearly positive benefits by examining the result of previous openings.

It is necessary to consider the potential impact of cannibalisation on the business of competing casinos. By comparing to those casinos opening or moving within a Permitted Area, the cannibalisation could be expected to be over-estimated, as the likelihood of cannibalisation can be expected to reduce as the distance to competitors increases. Therefore the modelling should produce a worst case scenario and downplay the benefits.

¹⁴ Of 68 local authorities who originally expressed an interest in having a 2005 Act casino in their local authority area, 27 were for a Regional casino; 41 for a Large or Small casino.

3.3.4 Modelling results

The data provided included those casinos that were opened during the period, as well as other casinos that were active in the vicinity. By examining the impact of the opening of a rival casino on the existing stock, the benefits brought by the new casino and the cannibalisation can be evaluated.

The analysis suggests that a new opening causes a significant increase in the number of admissions and revenues. The table below shows changes in the average number of admissions, revenues and gaming duty paid in local markets in percent and in absolute values for the first and second years after the openings.

	Base case scenario	Change in % one year after opening	Change one year after opening	Change in % two years after opening	Change two years after opening
Admissions	95,355	+41%	134,829	+70%	161,983
Gaming revenue (£)	2,648,897	+49%	3,946,506	+68%	4,441,710
Total revenue (£)	2,850,726	+53%	4,373,959	+74%	4,947,913
Machines win (£)	433,960	+43%	619,162	+127%	984,723
Tables drop (£)	15,019,273	+20%	18,075,541	+35%	20,226,534
Tables win (£)	2,202,079	+51%	3,318,977	+64%	3,602,420
Total gaming duty (£)	298,991	+77%	527,726	+117%	648,462
EBITDAR (£)	351,316	+2%	359,217	+71%	600,990

Table 3 – Illustrative impact of new opening

The table shows the percentage increase in admissions in regions in which new casinos were opened. It can be seen that the admissions increased by 41% in the first 12 months; and were 70% greater two years after opening. This indicates that newly opened casinos were, in general, stimulating new demand, because overall admissions in a region were greater after opening. It was not the case that existing demand was “shared out” between the casinos. Furthermore new casinos will tend to be larger, employ more people and therefore return more to the Exchequer through taxation. Based on its experience of new casino openings, NCiF believes that this option could generate between 120 and 150 new jobs per casino opening.

The total number of possible casino openings under the current regulations is 46.¹⁵ If this policy were to result in 20 new casino openings, the total increase in gaming duties would be approximately £600,000 per casino, or £12m in total. On the above basis, NCiF believes 2,400 to 3,000 new jobs could be created.

3.3.5 Modelling conclusion

It is assumed that openings of casinos took place in permitted areas in which casino operators saw latent demand, as compared to other locations in which demand may be saturated. Since there are many areas without any casinos at all, this analysis suggests that a new opening would lead to an increase in admissions, revenues and gaming duty overall. This would not, however, lead to an explosion of casinos in any area. There has been no increase in the number of 1968 Act casino licenses - which is finite at 187. Moreover, there already exist safeguards for local authorities and local communities to prevent proliferation of casinos under the 2005 Act.

In conclusion:

- Abolition of Permitted Areas should result in a significant increase in the number of admissions, revenues and gaming duty paid.
- As new areas are identified, there is likely to be limited or no cannibalisation between existing and newly opened casinos.
- Some casinos will move from existing Permitted Areas, reducing oversupply in some areas.
- There will be additional jobs and increased profits generated by newly opened casinos, leading to higher tax receipts for the Exchequer.

¹⁵ There are a total of 187 1968 Act licenses available, with 141 currently used. There are 46 licenses which remain dormant (either unused or closed),

3.4 The Modernisation Proposal

3.4.1 Policy background

One of the intentions of the Gambling Act 2005 was to regulate the emerging remote gambling market. A by-product of the regime has restricted the use of electronic gaming equipment in “bricks and mortar” casinos. This issue is quite distinct from ‘on-line’ or ‘remote gaming’, but stifled the innovations that have been adopted elsewhere.

For example, the restriction on the use of some electronic virtual gaming equipment, including random number generators, has inhibited the use of new technology in game delivery. Operators of any “bricks and mortar” casino cannot use digital representations of casino equipment (such as cards and dice). This can result in a less attractive offering in UK casinos compared to overseas competitors. Furthermore, there are security issues in being compelled to only use “real” cards, dice and roulette wheels, as cards and dice need constant checking, monitoring and replacement to avoid customer marking and tampering.

As a second and quite separate issue, it is also not permissible to install dedicated internet terminals linked to remote gaming sites in the regulated environment of a casino. This results in a more restrictive environment within the ‘protection’ of a casino than is available without supervision in any broadband-connected home or internet cafe.

Some UK “bricks and mortar” operators have interests in remote gaming businesses. It seems anomalous that a customer could play on a remote site owned by that company immediately outside the company’s “bricks and mortar” premises, but that the operator cannot offer the identical facility within the casino on a dedicated terminal.

3.4.2 Policy proposal

The proposed policy change would remove the restriction to only use real gaming products in licensed casinos and allow casinos to offer a much wider product range and access to modern electronic gaming equipment.

A separate policy change would also allow remote gaming to take place under licence in the regulated environment of a casino.

3.4.3 Modelling rationale

Rather than seeking to model a response to the precise policy option, this section seeks to identify the benefits of the likely increases in admissions resulting from such policy proposals. This increase in admissions could arise for a number of reasons.

- Firstly, the deployment of new technologies and dedicated internet terminals will enhance the experience of customers and this can be expected to increase admissions.

- Secondly, removing the prohibition of remote gaming within a casino can be expected to allow “bricks and mortar” casinos to more readily compete with remote gaming on the same gaming experience. There is evidence from the data that the growth of remote gaming has in part been at the expense of admissions to, and activity within, “bricks and mortar” casinos

In order to place the level of additional admissions into context in relation to the removal of the prohibition of remote gaming, the data supplied by operators has been used to estimate the impact of the growth in remote gaming on UK casinos. As set out in A.4.8, the percentage of households with broadband access has been used as a proxy for the development of remote gaming.¹⁶

As seen in section 2, casinos have lost admissions as remote gaming has increased, with consequential impacts on revenue generation, duties paid and overall profitability. This is shown in the table below:

	High-end London	Other London	Non-London
Admissions	0%	7.5%	12.5%
Gaming revenue	0%	6.9%	12.8%
Total revenue	0%	7.1%	13.5%
Machines win	0%	21.7%	31.7%
Tables drop	0%	7.0%	11.5%
Gaming duty	0%	5.5%	19.0%
EBITDAR	0%	7.1%	11.0%

Table 4 - Estimate of reduction in measurement with growth in remote gaming¹⁷

Based on the table above, it could be expected that offering remote gaming in a casino could allow a proportion of the lost custom to return to the ‘Other London’ and ‘Non-London’ casinos.

In practice, this may be an underestimate of the potential benefit. In addition to the return of existing customers, the growth of remote gaming has introduced more of the population to the gaming product, and therefore a new cohort of participants could potentially be expected to undertake activity in a “bricks and mortar” casino. It is the combined effect of stemming the “bleed” from casinos into remote gaming, plus the exploitation of a share of the new market that has been modelled.

It follows that increased demand for gaming in casinos would lead to an increase in admissions. The relationship between admissions and the other indicators is shown in Table 5 below. There is a positive correlation between admission numbers and the various indicators as follows:

¹⁶ This relies on the demonstrable assumption that remote gambling is highly correlated with broadband penetration.

¹⁷ Note: Broadband penetration is used as a proxy for the increase in remote gaming. See Appendix B for details.

Impact - a 1 percentage point change in admissions leads to percentage point changes in the key performance indicators as shown below:

Change in Admissions for:	Gaming Revenues	Total Revenue	Machine Win	Tables drop	Gaming Duty	EBITDAR
High-end London	0.71%	0.73%	**	1.2%	0.85%	0.29%
Other London	0.92%	0.95%	2.9%	0.93%	0.73%	0.95%
Non-London	1.02%	1.08%	2.5%	0.93%	1.52%	0.88%

Table 5 - Elasticity of key performance indicators with admissions

3.4.4 Modelling results

Based on these relationships, the impact of various increases in admissions has been modelled using a set of stylised examples. The impact of these changes on the key performance indicators is shown in summary in the table below for a 15% increase in admissions. Appendix B contains the full set of stylised examples considered as well as detailed information on the modelling relationships assumed between admissions and the key performance indicators.

Scenario - change in admissions leads to consequential marginal increase in key performance indicators						
(Scenario: 15% increase in admissions)						
Values in £						
	Gaming Revenues	Total Revenue	Gaming Duty	EBITDAR	Machine Win	Tables Drop
London High-End	18,975,683	20,352,836	7,547,055	1,927,080	**	239,066,816
Other London	15,375,465	16,719,829	3,035,347	4,777,136	4,957,358	82,184,765
Non-London	42,706,867	52,067,269	9,847,723	11,097,875	27,834,405	203,432,976

Table 6 – Impact of 15% increase in admissions, per casino sub-group

3.4.5 Modelling conclusion

The analysis shows that allowing remote gaming inside casinos and allowing casinos to broaden their customer offer by taking advantage of new gaming technologies, could be expected to increase admissions to “bricks and mortar” casinos. Such increases in admissions are correlated with revenue raising activities within casinos and can therefore be expected to increase revenues, employment and the Exchequer take from casinos.

Taking the medium case example from above, an increase of 15% in admissions, can be expected to generate £20.4m of additional gaming duties, overall.

3.4.6 Further product offering

An anomalous situation exists under the current legislation, wherein betting is permitted in 'Small' 2005 Act casinos; and betting and bingo are permitted in 'Large' casinos, but neither are permitted in existing (1968 Act) casinos.

While modelling has not been undertaken, of the impacts of a change to facilitate this further product offering within 1968 Act casinos, it is argued that such a change could lead to an increase in admissions and would be within the spirit of the intentions of the 2005 legislation. This would allow operators to offer, within the regulated and controlled environment of a casino, the facility to watch sports and place a wager, or to play a game of bingo. This would enhance the customer experience, without providing additional 'risk'.

4. Conclusions from policy modelling

Based on the above analysis, it can be seen that the three policy proposals would provide a valuable opportunity for the casino industry to invest, grow and further contribute to the success of the UK. The key messages from the modelling are as set out below. The modelling does not seek to quantify other additional benefits from further investment including the creation of additional employment and spill-over and multiplier effects for the wider economy.

Policy change - Consistent machines:tables ratios

- Extending the uniform 5:1 machines:tables ratio to all casinos can be expected to raise additional AMLD of £12.5m per annum, from an additional 4,300 machines, predominantly in the Other casinos
- This additional revenue could be expected to drive additional gaming duties from additional gaming activities of £8.6m
- Full deployment of machines can be expected within 24 months

Policy change - Location of casinos

- Each casino licence that is currently inactive (due to being restricted to a Permitted Area) could be generating £600,000 per annum in gaming duties
- Permitting the 1968 Act licences to be moved (from an existing Permitted Area to any Local Authority that wishes to have a casino and is prepared to amend and reflect that in its licensing policy) would activate those licenses
- Such changes would also lead to casinos moving, which would generate additional revenue
- This would also maximise the benefit of the Small and Large casinos and avoid cannibalisation

Policy change - Modernisation of electronic gaming rules

- Allowing a greater range of electronic gaming inside casinos can be expected to increase admissions
- Such increases in admissions are correlated with growth and increase in gaming duties
- An increase of 15% in admissions, can be expected to generate £20.4m of additional gaming duties.

As a result of these changes, the annual benefit to the Exchequer (once full year impact has been achieved) could be estimated as follows:

<u>Policy proposal</u>	<u>Impact (£s)</u>
1. Consistent machines:tables ratios	12,500,000
2. Location of casinos (assuming 20 casinos)	12,000,000
3. Modernisation of the electronic gaming rules	20,400,000
Total Exchequer gain per annum	<u>£44,900,000</u>

In practice there is interaction between these policy proposals. For instance, if each were to be introduced, it could be expected that a greater impact could be seen on admissions and casino openings. Hence the example above using 20 new casinos as a base should be considered indicative.

A. Economic Impact Assessment

A.1 The econometrics

The key findings below and those discussed in section 2 and elsewhere in this report are based on econometric regression analysis. Regression analysis is a standard statistical method used to analyse dependencies between economic variables.

Regression analysis was used to analyse changes in the following industry indicators:

- Number of admissions
- Gambling and total revenues (£)
- Gaming duty paid (£)
- EBITDAR (£)
- Tables drop (£)
- Machines win (£)

The following set of economic variables was used to explain changes in the industry indicators:

- Changes in average income in London and in the UK.
The variable “changes in average income” is commonly used as a proxy for disposable income and in the regression analysis it was used to identify the extent to which admissions to casinos and spending on gambling are influenced by income. Such dependence, being the income elasticity of demand, identifies how much consumption changes in response to any given percentage change in average income.
- GDP growth rate and unemployment rate.
GDP growth rate and unemployment are correlated with each other and illustrate general macroeconomic conditions. These variables measure the impact of the country’s economic situation on the consumption of gambling.
- Percentage of households with broadband access.
The percentage of households with broadband access was used to measure the impact of remote gaming on casinos admissions and spending on gambling. This relies on the assumption that remote gambling is highly correlated with broadband penetration.

Data were aggregated across casinos within the same categories and annual data from 2000 to 2009 have been used to derive the results.¹⁸ Mostly, linear regression analysis was applied in order to derive the results (especially where the sample size resulted in low degrees of freedom). Therefore, in some cases it was not possible to clearly identify the joint interaction of independent variables on admissions and other key performance indicators.

¹⁸ All analytical results are expressed in real terms in 2009 prices.

A.2 Sub-groupings

The casinos were segmented into three groups:

- High-end London casinos;
- Other London casinos; and
- Non-London casinos.

The rationale for this split was that High-end London casinos have a very different customer profile and customer offer to the others, and that provincial casinos are subject to different economic and market forces than those in London. High-end London casinos also compete with different, international markets, as the wealth and mobility of its client base allows it to 'export' services to customers. Other London casinos similarly have a very different customer base as opposed to High-end London casinos and Non-London Casinos. The results of the analysis do show significantly different impacts between sub-groupings, supporting the approach adopted.

A.3 Key findings

The table below sets out the significant effects of the 2007 regulatory and tax changes on the performance indicators, between sub-groupings:

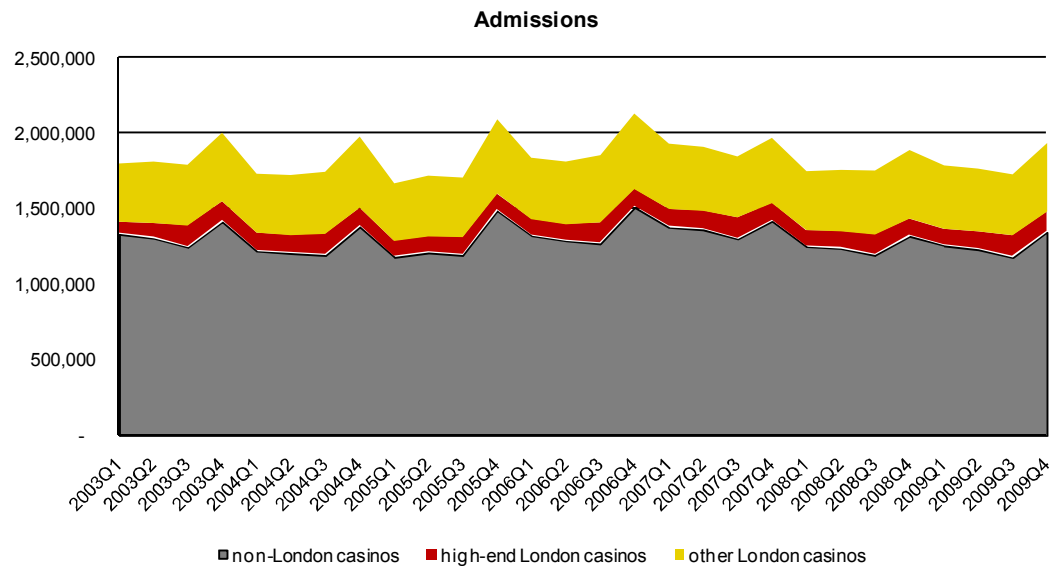
High-end London	Other London	Non-London
Admissions: decrease by 10%	Gaming revenue per admission: decrease by 17%	Admissions: decrease by 10%
Gaming revenue per admission: decrease by 20%	Total Revenue per admission: decrease by 17%	Gaming revenue per admission: decrease by 8%
Total Revenue per admission: decrease by 20%	Table drop per admission: decrease by 10%	Total Revenue per admission: decrease by 10%
		Gaming duty per admission: increased by 4-16%
		EBITDAR per admission: decrease by 30%
		Machine win per admission: increase by 15%
		Table drop per admission, decrease by 5%

A.4 Detailed findings

A.4.1 Admissions

The following conclusions can be drawn based on the analysis of admissions to casinos which were in continuous operation between 2003-2009:

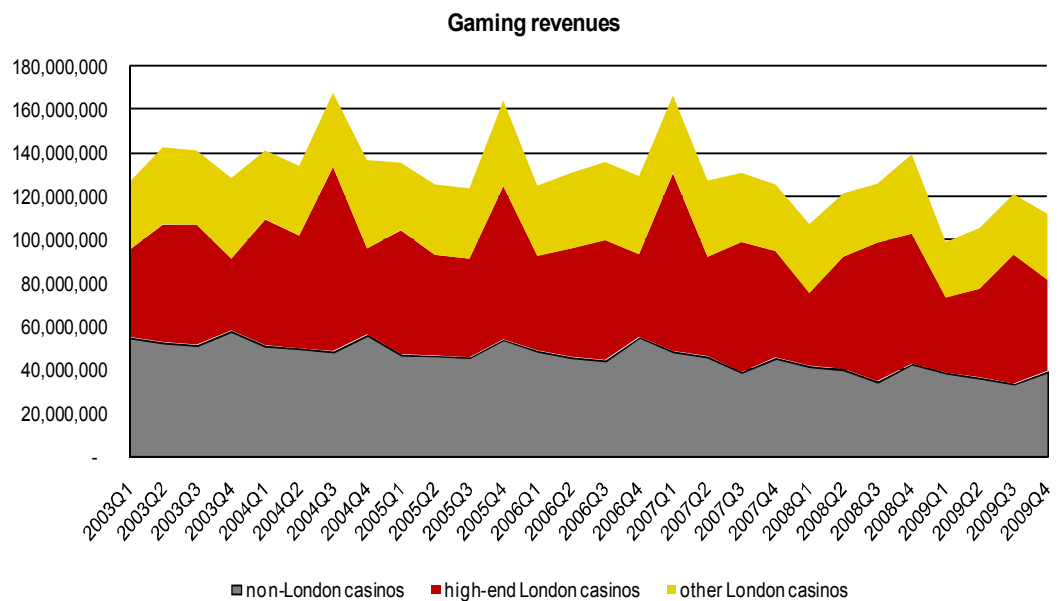
- Total number of admissions peaked in 2006 and decreased afterwards. This trend was driven by admissions to non-London casinos which represent the main share.
- There are strong seasonal patterns in admissions which peak in the fourth quarter each year.
- After 2007 package the number of admissions to High-end London and non-London casinos decreased by about 10%.
- In the case of non-London casinos, an increase in GDP growth rate has a positive effect on the number of admissions.
- In the case of High-end and Other London-based casinos the economic conditions such as economic growth rate, unemployment rate, average income do not impact the number of admissions.



A.4.2 Gaming revenues per admission

The following conclusions can be drawn based on the analysis of gaming revenues in casinos which were in continuous operation between 2003-2009:

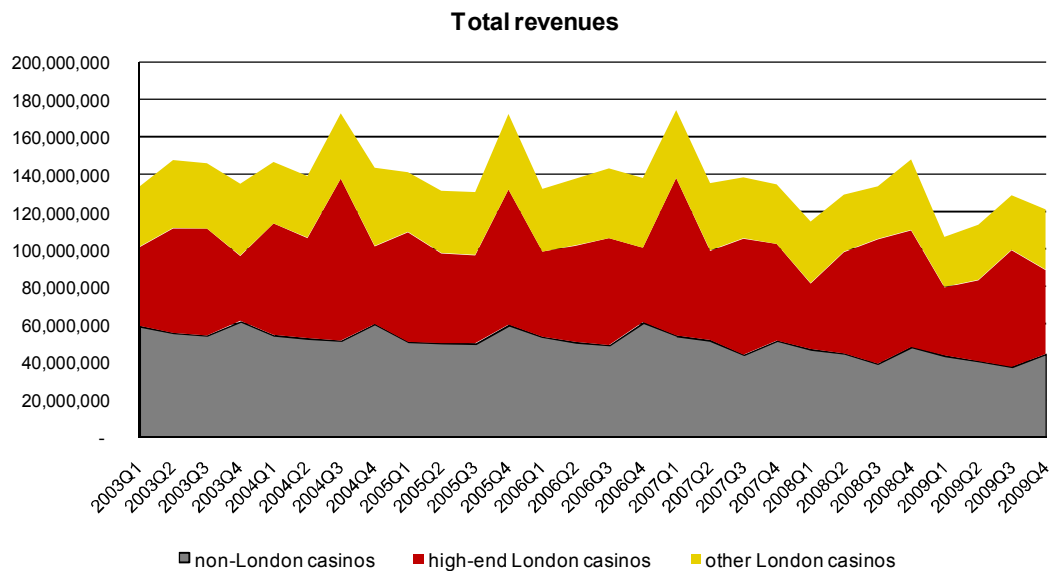
- Total gaming revenue decreased in the years 2003-2009 driven largely by a decrease in non-London casinos.
- There are no seasonal effects in gaming revenue per admission. The observed seasonality in total gaming revenues results from seasonal effects in the number of admissions.
- The 2007 package decreased gaming revenue per admission by about 20% in High-end London casinos, by about 17% in other London casinos and by about 8% in non-London casinos.
- In the case of High-end London and other London-based casinos, the economic conditions such as economic growth rate, unemployment rate and average income do impact gaming revenue per admission. In the case of non-London casinos, the economic factors have a significant impact.



A.4.3 Total revenues per admission

In High-end London and other-London casinos, gaming revenues represent between 97-98% of total revenues. Therefore, the effects described above for gaming revenues, broadly hold for the total. See section 2 for the headline impacts. In non-London casinos, the corresponding figure is 91%, so some differences can be seen compared to gaming revenues:

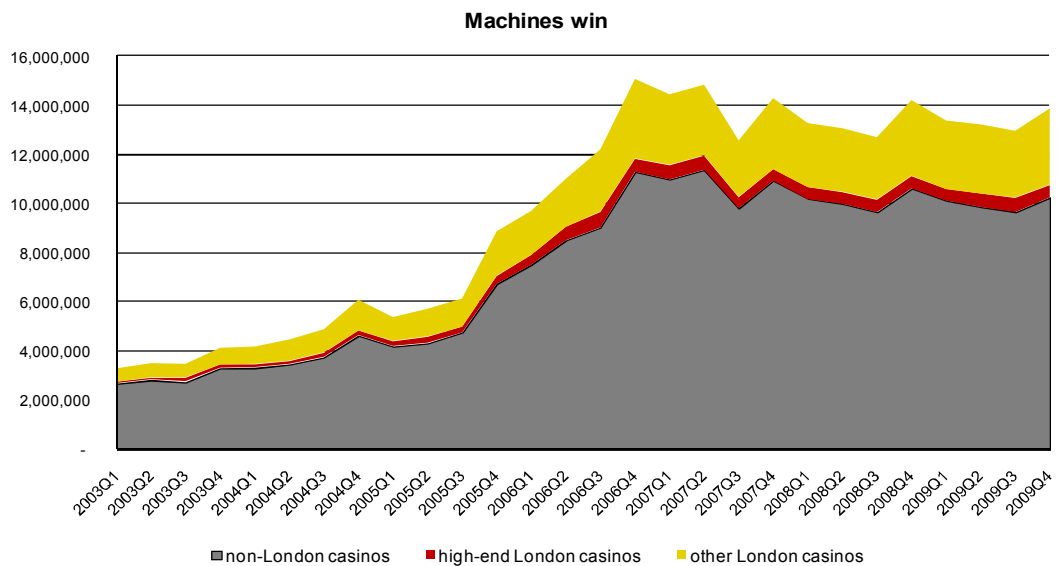
- The 2007 package decreased total revenue per admission in non-London casinos by about 10%.
- The total revenue per admission is positively influenced by changes in average income.



A.4.4 Machines win

The following conclusions can be drawn based on the analysis of machines win in casinos which were in continuous operation between 2003-2009:

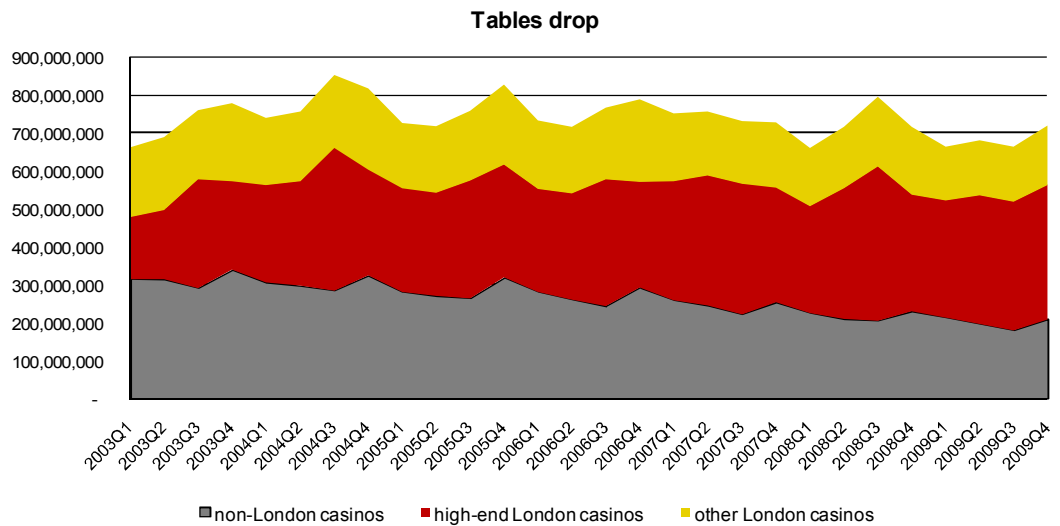
- There was a significant growth in machines win starting from Q3 2005.
- There are no seasonal effects in machines win per admission.
- The 2007 package had no impact on machines win in High-end London and other London-based casinos.
- In the case of non-London casinos, the 2007 Package, including the 2005 change in maximum machine numbers, positively influenced machines win with an increase by about 15%.
- Machines win is positively influenced by GDP growth rate and average income.



A.4.5 Tables drop

The following conclusions can be drawn based on the analysis of tables drop in casinos which were in continuous operation between 2003-2009:

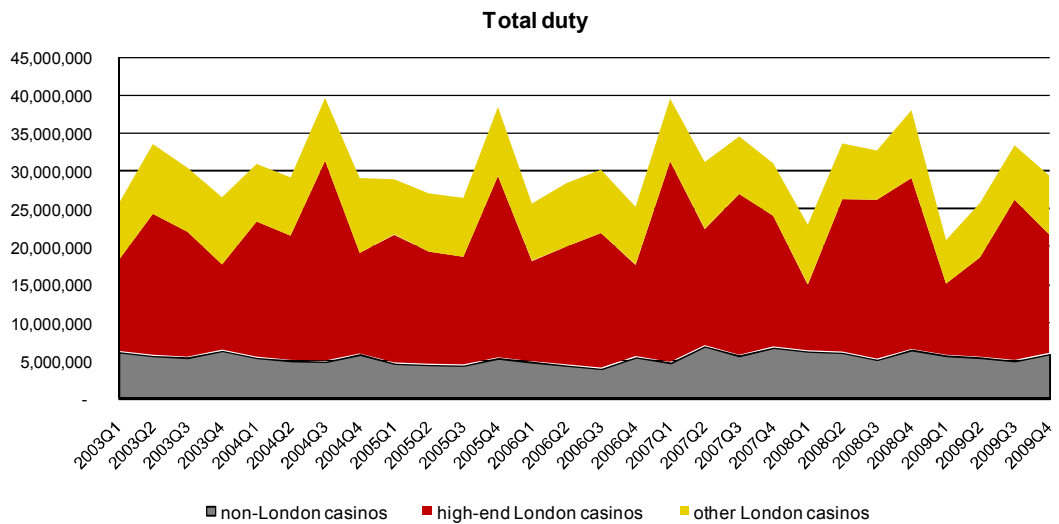
- Total tables drop increased in High-end London casinos. There was a decrease in tables drop in the other casinos in the years 2003-2009.
- There are no seasonal effects in tables drop per admission. Instead the seasonality in total tables drop arises due to seasonality in the number of admissions.
- The 2007 package had no impact on tables drop in High-end London casinos.
- In the case of other London casinos, the 2007 Package decreased tables drop by about 10% and in the case of non-London casinos by about 5%.
- Tables drop increases with an increase in average income.



A.4.6 Gaming duty

The following conclusions can be drawn based on the analysis of gaming duty paid by casinos which were in continuous operation between 2003-2009:

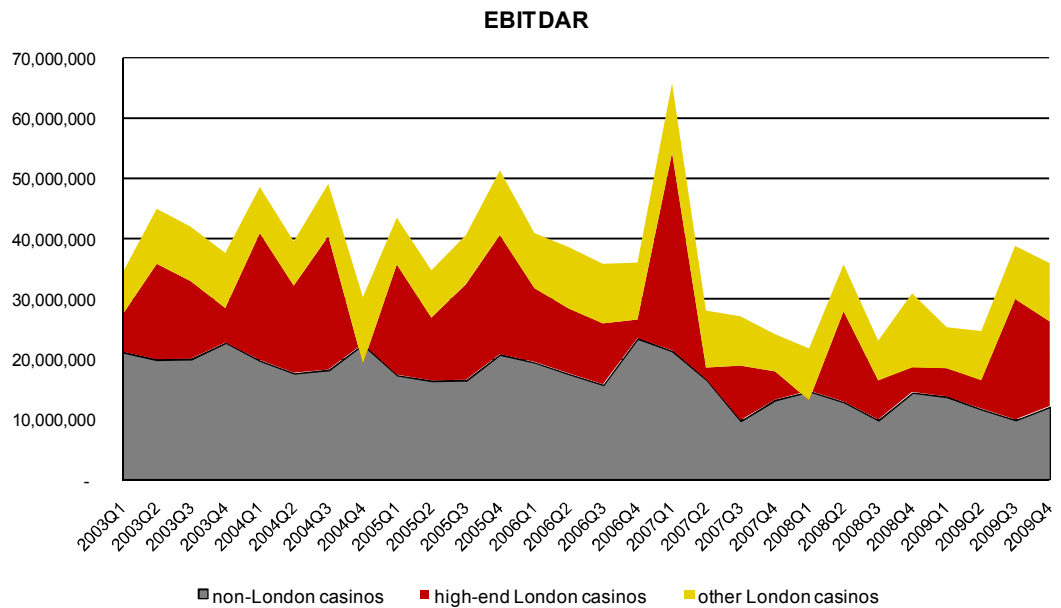
- The gaming duty paid decreased in the years 2003-2009.
- There are no seasonal effects in gaming duty per admission. However, there is seasonality in total gaming duty due to seasonality in the number of admissions.
- The 2007 package had no effect on the value of gaming duty per admission in High-end London and other London-based casinos.
- The 2007 package increased gaming duty per admission in non-London casinos by about 4-16%.
- There is a positive effect of economic conditions on gaming duty represented by average income.



A.4.7 EBITDAR

The following conclusions can be drawn based on the analysis of EBITDAR in casinos which were in continuous operation between 2003-2009:

- Total EBITDAR decreased significantly in the years 2003-2009.
- There are no seasonal effects in the EBITDAR per admission.
- The 2007 package had no net impact on the EBITDAR per admission in High-end London and other London-based casinos (presumably due to cost cutting as a result of lower earnings).
- The 2007 package decreased the EBITDAR per admission in non-London casinos by 30% (46% in the worst case).
- The EBITDAR per admission is not impacted by economic factors, such as economic growth rate, unemployment rate and average income.



A.4.8 Remote gambling

There is a general consensus that broadband diffusion has supported the growth of remote gambling, and there is strong positive correlation over time between remote gambling and broadband penetration. Broadband penetration and in particular the growth in the broadband market since 2004, have coincided with the proliferation of online and remote gaming activities. Therefore, broadband penetration has been used as a proxy for remote gambling growth.

The relationship between broadband penetration and admissions has been analysed for the core casino groupings.

Over the 2000 - 2009 period
Based on the regression
results:

High-end

London: No statistically significant results

Other London: 100% change in broadband penetration leads to a 0.3% change in admissions

Non London: 100% change in broadband penetration leads to a 0.5% change in admissions

Based on the econometric results and growth in broadband penetration over the observation period the growth in broadband penetration has led to circa a 7.5% and 12.5% reduction in admissions for Other London and Non London casinos respectively. Admissions in High-end London casinos have not seen any reduction alongside the growth of broadband.

B. Analysis from modelling of policy proposals

B.1 Gaming Machine Proposal

Comparison of casino gaming machine entitlements in selected jurisdictions:

Entitlement per casino	UK ¹⁹	US (New Jersey)	US (Las Vegas)	Australia	Spain	France
Number of machines	Maximum of 20 machines categories B to D or any number of C or D machines instead. No machine / table ratio.	The only limitation on numbers of slot machines is that of space, considering proper egress for casino square footage.	For unrestricted licences, there is no limit on the number of machines other than that of space.	Up to c3,500 depending on the state.	In general, there is no limit on the number of machines in casinos.	Per regulations passed in July 2009, 50 machines are allowed for the first table and then 25 machines per additional table. Machines authorised prior to the new regulation may continue to be operated.
Maximum machine stake	£2 (for B1 machines)	Casinos may offer payouts of cash or merchandise, with no limitations.	No limitations.	Depends on state and type of machine. \$10 is a typical maximum stake.	No limit.	No limit.
Maximum machine prize	£4,000 (for B1 machines)	Casinos may offer payouts of cash or merchandise, with no limitations.	No limitations.	Depends on state machine type. \$10,000 is a typical maximum prize.	No limit.	No limit.
Rate of duty for machine win	Annual AMLD duty of £2,905 per B1 machine and VAT at 17.5%	Duty/tax payable is 8% of the aggregate win on the casino, and \$500 per machine on the floor annually.	Duty/tax payable is up to 6.75% of gross revenue, plus a charge per machine.	Between 8% and 47% of gross gaming revenue depending on the state. Additionally community levies of between 1% and 10% of revenue.	Fixed rate of tax depending on the state.	Between 10% and 80% of gross gaming win depending on the gross amounts of gross gaming win generated.

¹⁹ For existing 1968 Act licences

B.2 The Modernisation Proposal

As set out in A.4.8, the impact of remote gaming on admissions has been assessed using broadband penetration as a proxy. On this basis, the relationship between admissions and the key indicators has been analysed for the three casino sub-groups. The correlation coefficients have been identified to estimate the impact of a 1 percentage point change in admissions on the other variables. This is shown below:

Impact - a 1 percentage point change in admissions leads to percentage point changes in the key performance indicators as shown below:

Change in Admissions for:	Gaming Revenues	Total Revenue	Machine win	Tables Drop	Gaming Duty	EBITDAR
High-end London	0.71%	0.73%	5.6%*	1.20%	0.85%	0.29%
Other London	0.92%	0.95%	2.9%	0.93%	0.73%	0.95%
Non-London	1.02%	1.08%	2.5%	0.92%	1.52%	0.88%

The analysis assumes that the Modernisation proposal (the extension of the use of electronic gaming devices; and allowing remote gaming to take place under licence in casinos) would allow casinos to compete on a more level playing field with the remote gaming sector.

It follows that increased demand for gaming in casinos would lead to an increase in admissions. Based on this and the relationships set out above, the impact of various increases in admissions has been modelled using a set of stylised examples, set out below.

High-end London:

% Change in admission leads to Y% change in:

Admission	Gaming Revenues	Total Revenue	Machine Win*	Tables Drop	Gaming Duty	EBITDAR
5%	3.6%	3.7%	28.1%	6.0%	4.3%	1.5%
10%	7.1%	7.3%	56.2%	12.0%	8.5%	2.9%
15%	10.7%	11.0%	84.3%	17.9%	12.8%	4.4%
20%	14.3%	14.7%	112.3%	23.9%	17.0%	5.9%
25%	17.8%	18.4%	140.4%	29.9%	21.3%	7.3%
30%	21.4%	22.0%	168.5%	35.9%	25.5%	8.8%
35%	25.0%	25.7%	196.6%	41.9%	29.8%	10.3%
40%	28.6%	29.4%	224.7%	47.9%	34.1%	11.7%

* There are few machines deployed in High-end London casinos as the price-point of the offering compares unfavourably with the tables. Given the scarcity of machines, this measurement should be treated with caution. For this reason, increases in revenue from machines in High-end London casinos have been treated as an outlier and have not therefore been included in overall revenue estimates.

Other London:

% Change in admission leads to Y% change in:						
Admission	Gaming Revenues	Total Revenue	Machine Win	Tables Drop	Gaming Duty	EBITDAR
5%	4.6%	4.8%	14.5%	4.6%	3.6%	4.8%
10%	9.2%	9.5%	28.9%	9.3%	7.3%	9.5%
15%	13.9%	14.3%	43.4%	13.9%	10.9%	14.3%
20%	18.5%	19.1%	57.9%	18.6%	14.6%	19.1%
25%	23.1%	23.8%	72.4%	23.2%	18.2%	23.8%
30%	27.7%	28.6%	86.8%	27.9%	21.8%	28.6%
35%	32.4%	33.4%	101.3%	32.5%	25.5%	33.3%
40%	37.0%	38.1%	115.8%	37.2%	29.1%	38.1%

Non- London:

% Change in admission leads to Y% change in:						
Admission	Gaming Revenues	Total Revenue	Machine Win	Tables Drop	Gaming Duty	EBITDAR
5%	5.1%	5.4%	12.7%	4.6%	7.6%	4.4%
10%	10.2%	10.8%	25.4%	9.2%	15.2%	8.8%
15%	15.4%	16.2%	38.1%	13.9%	22.8%	13.2%
20%	20.5%	21.6%	50.8%	18.5%	30.5%	17.6%
25%	25.6%	27.0%	63.5%	23.1%	38.1%	22.0%
30%	30.7%	32.3%	76.2%	27.7%	45.7%	26.4%
35%	35.8%	37.7%	88.9%	32.3%	53.3%	30.8%
40%	41.0%	43.1%	101.6%	37.0%	60.9%	35.3%