Assessment of the effects of competition on the National Lottery

Technical Paper No 6
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EXECUTIVE SUMMARY

In the aftermath of the granting of the second National Lottery licence in 2001, widespread concern was expressed about the prospects for competition for the third licence to run the UK National Lottery. Specifically, the National Audit Office[1] and the Committee of Public Accounts[2] drew attention to the risk that further competition of the kind used for the award of the first and second licences might fail to attract a serious challenge to the incumbent operator in the future.

Following consultation by DCMS ("Review of Lottery licensing and regulation"), in July 2003, the department published the "National Lottery Licensing and Regulation Decision Document". This aimed at ensuring that the National Lottery raises as much money as possible for good causes without weakening necessary protections; ensuring effective competition for its operation and maintaining public confidence in, and support for, the National Lottery. It proposed ending the requirement that the National Lottery Commission (NLC) may only issue just one operator licence. Instead, it proposed that the NLC should be empowered-after consulting on its licensing plans- to offer a number of new-style operating licences covering different aspects of the delivery and marketing of the Lottery. The NLC would have the ability to offer licences of different lengths.

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It is usual to presume that there are efficiency advantages from competition. This presumption may be suspended ii the presence of "natural monopoly" which leads to the conclusion that monopoly may, in those specific circumstances, be likely to be more efficient. Analyses of a number of lotteries in various parts of the world have found that there are specific characteristics of the demand for participation in lotteries with large jackpot prizes, which point to that conclusion. The specific characteristics are: the attraction for many purchasers of a small chance of a large, life-changing, prize, offered by a lottery with mass participation and the commitment of a large proportion of the prize fund to the jackpot.

Some analysts have gone further and compared this situation with that of natural monopolies in the supply of utilities. The transmission infrastructure for gas or for electricity is seen as a natural monopoly in this sense. However, in recent years innovative ways have been found to introduce competition into the supply of domestic gas and electricity. Access to the use of transmission infrastructure has been made available to competing suppliers at rates of charge determined by the respective industry regulator. However, such arrangements reflect the fact that the basis of natural monopolies in utilities lies in their supply characteristics, whereas that which has been ascribed to the lottery jackpot derives more from demand characteristics.

Nonetheless, the case for competition in some aspects of the National Lottery appears valid to some degree: the association with "good causes" and the National Lottery brand could be used with a variety of products, grouped in "clusters". The

[1] "Awarding the new licence to run the National Lottery" Report by the Comptroller and Auditor General (HC Session 2001-2002; 10 May 2002.
[2] "Awarding the new licence to run the National Lottery" Committee of Public Accounts December 2002 HC 881 Sixty-fifth Report of Session 2001-2002

clusters could be selected for licensing by the NLC on the basis that levels of substitutability between them are relatively low, and that the risks of "cannibalistic"[3] competition are small. Competition for the individual licence clusters would be central to the new arrangements. It is further envisaged that proposals to launch new products during the currency of the third licence period after 2009 would be considered by the NLC.

Analysis of the effects of the proposals for this prospective increase in competition has been couched to a considerable extent in terms of the balance of risks.

Several of the sources for this paper call into question whether the proposal for multiple licences will stimulate competition for licences or, for this and other reasons, deliver as much funding for "good causes" as the previous single licence arrangements. They suggest that the uncertainty inherent in the new multiple licence model, the risks that this gives rise to, and the increased costs of bidding that may result could imply little or no competition for the third round licences.

However, the bigger potential risk is still that highlighted above: namely, that the single licence model has delivered and, had it been persisted with, would have delivered little or no competition to maximise returns for "good causes". This risk weighs very heavily in the reports cited above and in the Government's thinking.

The conclusions reached, given these considerations are as follows. It is important to try to preserve the benefits presumed to result from the natural monopoly deriving from the demand characteristics of the lottery jackpot. This is especially true in the UK, where they may be an, albeit slight, enhancement of the effect from its association with "good causes". It is important to try at the same time to deliver the benefits from competition where these do not endanger the natural monopoly effects described. The multiple licence model could generate competition in the form of bids to supply differentiated "clusters", each comprising closely related products. The NLC could ensure, through its choice of which clusters to license, that there was little danger of cannibalisation, but could, at the same time, allow the potential for innovative products to meet more completely the diverse tastes of consumers, and so maximise returns to "good causes".

[3] "Cannibalism" in this context means the direct capture of sales from a close competitor.

BACKGROUND

In 1994, there were 8 bidders for the first licence to run the National Lottery. Only two bidders contested the second licence in 2001. Camelot plc has won both licences. It holds a licence to operate the National Lottery until January 2009.

In 2003, following an investigation of the circumstances surrounding the granting of the second licence, the government made a number of proposals designed to increase competition for future licences. These would allow the NLC to issue more than one operator licence and to make available new style operator licences of varying lengths (DCMS, 2003, p4).

The House of Commons Select Committee on Culture, Media and Sport issued a report on Reform of the National Lottery on 25th March (HC196-1). That report argued, largely on the basis of submissions received, that DCMS should clarify the effect of multiple licences on competition and the adverse consequences that competition could have for 'good causes' income. The Report of the Joint Committee on the Gambling Bill on 7th April 2004 (HL Paper 63-1, HC 139-1) also made similar points.

In its response[4], the Government agreed with the Select Committee that there is a need to consider how to ensure an effective competition for the third licence, particularly how more potential bidders may be attracted, in order to maximise funds for "good causes". As part of this, the Government agreed to undertake additional research on the options. This paper forms part of that work.

This is an analysis of those issues, undertaken within Economics Branch of DCMS and subject to external peer review by Dr Lisa Farrell of the University of Melbourne, who has published very extensively in the economics of gambling and, specifically, of lotteries.

[4] "Government Response to the Culture, Media and Sport Select Committee Report on the National Lottery Session 2003-2004" Cm 6232: May 2004

EFFICIENCY, COMPETITION AND MARKETS

Economic analysis traditionally asserts the merits of competition as an efficient means of organizing activity, in that it leads to the offer of maximum output at minimum cost. This occurs because, on certain assumptions,

i. It makes for an efficient allocation of resources between activities, thus maximising welfare;
ii. It provides pressure for internal efficiency within activities.

By the same logic, a single producer monopoly is seen as inefficient because

i. It misallocates resources between activities, curtailing output in the monopolised activity and "wasting" them elsewhere in low-yielding activities or idleness; and/or
ii. It allows inefficiency within the monopolised activity ("The greatest of monopoly profits is a quiet life" (Hicks, 1935))

Despite this, economists have recognised that in some situations, monopoly may be the most efficient solution for the organisation of a particular activity.

Traditionally, this type of situation has been characterised as "natural monopoly" and been represented as deriving solely or largely from supply conditions. Where there are (unexhausted) economies of scale[5] associated with high initial infrastructure cost, the incumbent operator will most efficiently supply the whole market. A would-be new entrant would face high start up costs, low initial output and be unable to compete on price. If forced to relinquish output to the new entrant, the incumbent will face increased costs, and both will operate at a sub-efficient output level.

In practice, many of these so-called "natural monopolies", particularly in the utility sector, have been shown to be susceptible to forms of intervention to generate competition. Thus, the physical pipeline transporting gas around Great Britain can be made available to several competing users at a (regulated) price. Similarly, in theory, many competing train operating companies can use the same tracks. However, in the latter case, difficulties in allocating priorities and responsibilities have emerged in practice.

However, as Forrest (2004) points out, "there is no exactly equivalent economies of scale situation in the organization of a game such as lotto"(p1). Cook and Clotfelter (1993) developed the notion of "the peculiar scale economies of Lotto" linked not to technological supply (cost) conditions but rather to consumer preferences. Buyers of Lotto tickets have a small chance of winning a genuinely life-changing prize, given sufficiently large numbers of players, and may be thought of as "buying a dream" (Forrest, Simmons and Chesters, 2002).

Forrest adduces evidence from his previous analysis of the history of both football pools and municipal lotteries in the UK, as well as from overseas experience, to offer initial support for the "natural monopoly" case as best for Lotto operation. (Forrest, 2003 p197)

[5] Economies of scale are those reductions in cost associated with adopting a larger size of (fixed) plant, often described as "spreading the overhead" costs of that plant over more units of output.

However, he argues that once attention is focused on dynamic aspects of competition and the heterogeneity of preferences, there is a case for more competition. Specifically through the use of a more interventionist role for the NLC, it would be possible to retain the "peculiar scale economies" for the jackpot while introducing competition into the other aspects of the prize structure. (Forrest, 2003, p198) New games and marketing could allow "greater scope to deliver exciting new ideas to attract players" (DCMS, 2003, p4).

It should be noted that the above arguments are couched in terms on one product, Lotto. However, in the case of the UK National Lottery, Camelot now offers a range of games[6]. This range of different products in part competes with lotto but is also designed to appeal to segmented customer base. Camelot announced its annual results on 28th April 2004, and the press release said that "Sales of non-Lotto games rose by 17% across the year and now account for 30% of the portfolio of National Lottery games, with Lotto moving closer to the proportion in mature lotteries around the world-and in line with Camelot's long-term diversification strategy." All this suggests that economic theory on its own can never finally answer the question of whether or not a monopoly is likely to produce the best outcome for "good causes" income. It all depends on the circumstances.

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6 The range of games currently comprising the UK National Lottery is as follows:

- Lotto-the main Wednesday and Saturday jackpot draw (tickets can also be bought on the Internet and through interactive TV). £1 per ticket.
- Lotto Extra- a jackpot only game, linked to Lotto. £1 per ticket
- Lotto Hotpicks-Pick 2, 3 or 4 numbers from the main Lotto draw. £1
- Thunderball- A game with more chances of winning than Lotto. £1
- Special Event Draws-these have included premium-priced Christmas and Millennium games.
- Daily Play Game-Tickets can also be bought on the Internet. £1 per ticket
- Scratchcards- There is a constantly changing suite of 12 games. Tickets can also be bought on the Internet, where there are further games to be played which cost from 25p-£1. Most physical scratchcards are £1 per ticket, but some premium games are £3 or £5.
- Euromillions- a large jackpot game (like Lotto) being run in association with French and Spanish operators. £1.50 per ticket.

ANALYSIS OF CONTENTIONS FROM INTERESTED PARTIES

A number of ways of classifying the issues and contentions from interested parties about them could be suggested. What follows is in terns of a number of economic concepts. There is, necessarily, some overlap of discussion.

Scale of Market

Essentially the differences between viewpoints are in terms of the potential scale of the market, and the approach to licensing that is most likely to achieve the largest market, and/or the largest sums for good causes.

Frontier Economics (hereafter FE) (2004a), in their review for Camelot plc, separated competition "for the market" and competition "within the market" whilst recognizing tensions between them. FE claim different incentive structures would face a single operator as compared with those facing multiple operators.

For FE, the key advantage of a single licence model is that the lottery operator "has both the incentive and the ability to increase the economic value of the lottery for example by managing and developing the entire portfolio of Lottery products to maximise net sales revenue and by seeking cost efficiencies." (FE, 2003, para 141).

The strength of bidding competition (for a single licence) in turn will depend on the expected value of the licence and on the number of strong bidders. (FE, 2003, para 46) They admit competition in future bidding contests could be weak, and so advocate the detailed assessment by NLC of incumbency advantage before structure and process of the competition is decided. (FE, 2003, para 144)

The key issue concerns the distinction between static and dynamic aspects of knowledge. The "auction" of a monopoly position, properly done, will maximise "good causes" revenue in the light of knowledge at the time of the auction. However, on-going competition takes advantage of the future development of knowledge in the period subsequent to the auction.

By contrast, FE contend, with multiple competing operators the economic value of the Lottery is like to be smaller since there is a danger of cannibalisation; of uncoordinated and therefore unsuccessful product development; "free-rider"[7] approaches to investment in advertising (for example); and the potential loss of economies of scale and scope[8]. (FE, 2003, para 145)

NERA, in a report commissioned by NLC (NERA, 2004, p 2), claim that the FE analysis ignores the benefits of dynamic competition, but do not suggest directly that this would increase the total size of the market. In their commentary, NLC note that FE could not rule out multiple licences as a viable option in a future competition. (NLC letter to Camelot, 25 March 2004, p 2). NERA go still further, arguing that, on this point, FE's analysis relies on a version of Hotelling's (1929) model of ice-cream seller location. In Hotelling's analysis, a single seller of ice cream

[7] The free rider problem derives from the incentive to any individual (enterprise) to give a false signal about the level of desire for any (collectively provided) consumption good, so as to incur a lower (in the limit, zero) share of the costs of provision.

[8] Economies of scope are akin to economies of scale, but refer to the possibility of utilising fixed inputs like coordination, reputation (goodwill) or market intelligence over a range of related products, so reducing the costs of them per unit of output.

on a stretch of evenly populated beach will locate halfway along the beach; but a newly arrived competitor would maximize his sales and profits by locating at the same point. The Salop model (1979), used by FE, which is based on Hotelling, assumes that, *inter alia,* demand is fixed, operator's costs are symmetric and products are similar enough to allow cannibalisation; it is, above all, a static model. (NERA, 2004, p 3)

Creigh-Tyte and Farrell (2003) examined the dangers of "lottery fatigue" in the UK. Their conclusions are particularly significant for the issue of the prospective size of the lottery "market" in the UK and the role of competition. They contend that, even without the further liberalisation of gambling which is now in prospect, "the National Lottery exists within an increasingly competitive UK betting and gaming sector."(p 177). Creigh-Tyte and Lepper (2004, p 2) report a drop in participation in Lotto and scratchcards over the period 1999-2004. This type of pressure will constrain the lottery in a number of ways.

Whether Camelot is operating in a way that delivers maximum turnover and, hence, the most for good causes is also relevant. Creigh-Tyte and Farrell review some evidence on this, finding that there is no statistical support for a proposition that Camelot are operating at other than the revenue-maximizing (unit-elasticity)[9] price. (p 170).

Heterogeneity of the market and dynamism

Proponents of greater competition within the licence, such as Forrest, suggest this would provide better for the many different product characteristics consumers might demand. (Forrest, 2003, p198 and 2004, p 4) The implications include the possibility that Camelot's position as a single operator may lead it to adopt an over cautious approach to the development of new products: "its own willingness to experiment with new products will be constrained". (Forrest, 2004, p 5)

On the other hand, there is some theoretical and empirical support for the view that the existence of monopoly power may be likely to generate innovation, for two linked reasons. Large firms will tend to have (access to) the finance to fund the innovative process; and a firm with monopoly power has an incentive to innovate to sustain or enhance its dominant position, since it can secure all the revenues. Moreover, classical monopoly theory suggests that the monopolist in search of higher profits should seek to segment the market. By offering different groups of consumers products that are slightly differentiated at different prices, the monopolist may seek to extract consumer surplus (that is, willingness to pay amounts in excess of the (lower) competitive price), without sacrificing much by way of scale economies (Hirschleifer, 1976).

Again, there has been little empirical work on this in the UK, and, in any case, Camelot have launched a variety of new products, including a daily play game, Euromillions Draw on Fridays (in conjunction with Lottery operators in France and Spain); as well as extending its distribution channels.(See footnote 2 above). This no doubt reflects an awareness of not only the experience of more mature Lottery

[9] If a firm reduces price by a x% and this leads to an increase greater than x% in volume of demand, then revenues will increase and so will profits. If, on the other hand, a reduction of x% in price leads to a smaller than x% increase in demand, revenues will decline. Hence, revenues are maximised where the demand response to a change in price is exactly proportional to that change in price. .

operations in other countries, but also the encroachment of other competition for the potential player's gambling and leisure spending power. Creigh-Tyte and Farrell stress that such competition means "the lottery must learn to be adaptive and innovative". (2003 p 177)

Incentives

Competition is seen as the most pervasive and urgent pressure that firms may face in most market situations. In the hypothetical "perfectly competitive" world, firms are reduced to mere reactors to external stimuli, producing a homogeneous identical product, obliged to respond in exactly the same way as one another. However, even in generally "competitive" situations, economists expect pressures on firms to reach both resource allocation and resource use decisions which promote increased overall efficiency and utility. Whereas, it is argued, a monopolist may be under less, or in the limit no, pressure to reach such decisions.

Nevertheless, if a monopolist firm is deemed to be motivated by profit, many decisions will tend to be the same as or similar to those taken by competitive firms. Incentives to a monopolist may be less strongly felt, but may not to give rise to decisions different in direction from those of competitive firms. Any differences in the decision variables and their consequences would need to be identified through careful empirical analysis. Such empirical analysis is effectively precluded, however, by the almost pervasive monopoly character of lottery franchises around the world; and by the usually "static" nature of the arrangements that govern the products on offer (Forrest, 2003, p 196).

Perhaps the most important single subject for analysis under the heading incentives is that of attracting bids for the third period of licence(s) for the UK National Lottery. The process for this competition can be expected to start towards the end of 2005.

Bids for licences

The fundamental concern is that there might be little or no competition for licence(s) to run the National Lottery in the UK at the time of the process to award them for and during the third round. This might impact significantly on the amounts for "good causes".

The NAO report of May 2002 on the award of the second seven-year licence concluded that the level of competition was comparable with that of other countries that run a national lottery on a similar basis. Despite this, the report and that of the Committee of Public Accounts drew attention to the risk that further competition of the same kind as the first two awards might fail to attract a serious challenge to the incumbent operator. There was perceived to be a real danger that there would be no effective competition for future licences (DCMS 2003 paras 2.9 and 2.11), with a consequent adverse effect on returns to "good causes".

If only a single (credible) bid were to be received for the third licence, the bidder would be in a potentially very powerful position, with possibly serious implications for the amounts available for "good causes".

FE question the concern over competition: "it is far from clear that there will be an absence of competition for the third licence [under a single licence model]" (2003 para 16) This assertion seems to leave open the distinct prospect of an absence of competition and does not dispute that it would be undesirable.

The key to any successful auction is to establish two conditions. (The competition for a licence is a particular type of auction, with "success" taken to mean securing the maximum amount for "good causes".) The two conditions are:

- There are multiple bidders; and
- There is no collusion between the bidders (Klemperer, 2004).

The suggestion of multiple licences makes the analysis more complex. Some of the individual components which, considered together, generate both complexity and greater uncertainty for would-be bidders include:

- Whether a single winner could win all licences (which would be allowed under the Government's proposals);
- Whether one or more licences will be awarded; and
- How much scope there might be for the award of additional in-period licences.

The reactions of potential bidders to this complexity and uncertainty cannot be predicted with any great confidence because the interdependence of bidders' actions turns the process into a game, but it is widely assumed in economics that greater uncertainty is a disincentive to participation and investment.

This problem is compounded by the likelihood that potential bidders may make statements which reflect the position they are in vis-à-vis the Government: that is also a negotiating/gaming situation. As an illustration of this, Mr Simon Burridge, representing The People's Lottery, told the Culture, Media and Sport Select Committee: "faced with a choice between Camelot in perpetuity and the government's new proposals, with the greatest reluctance I think I would volunteer for Camelot in perpetuity as the lesser of two evils." (Committee's report, 2004, para 88).

However, even in the face of these challenges, some general principles may be set out:

Bidders will be encouraged by the size of the economic value of the Lottery (defined as the net value of Lottery sales less costs). FE suggest that this economic value would be undermined in a number of specific ways by multiple competing operators:

- Licensees may cannibalise rather than expand the market;
- Uncoordinated product launches may be mutually harmful;
- There may be free-riding by some operators, particularly in marketing; and
- Economies of scale and scope may be lost. (FE, 2003, paras 12-13).

It is still possible for the multiple licence approach to generate more money for "good causes" than the single licence model, if the <u>share</u> of the economic value going to good causes <u>increases by enough to offset any fall</u> in the economic value of the Lottery. However, this would require the change to multiple licences to generate a significant increase in the degree of competition <u>for</u> the licences. (FE, 2003, para 15)

FE go on to contend that the move to multiple licences might not increase competition for the licences ("market") (FE, 2003, paras 16-19) Although small bidders for bite-sized chunks unwilling to bid for the single licence might be encouraged by the proposed change, bidders more generally would face increased uncertainty and bidding costs, including those from regulatory risk. They might still possess, or be believed to possess, significant bidding advantage so that small bidders would not be substantially encouraged. Attempts by NLC to overcome these problems by reserving some licences for small bidders or new entrants might seriously jeopardise overall efficiency. (FE, 2003, paras 17-18) There is, however, no suggestion in the Government's proposals that such a course of action is being contemplated- it has merely been raised as an issue by FE in their report for Camelot.

One interpretation of a part of the case for multiple licences is that the distinction between competition in and for the licence is no longer so rigid or important. Certainly, in discussing the case for liberalisation, Forrest places considerable emphasis on the scope for firms to experiment with new products, so as better to elicit and more exactly meet the heterogeneous preferences of consumers, which "should lead to higher sales and higher revenue for general and "Good Cause" hypothecated taxation." (Forrest, 2004, pp4-5)

In terms of the licence- awarding processes, there is again a divergence of view. FE assert and reassert that "the multiple licence model would result in a significant increase in the scale and complexity of the NLC's remit. " (FE, 2003, paras 116-119 and FE, 2004, para 80). Forrest suggests that whatever challenges may be posed to the NLC by….. "the coordination of multi-operator lottery, they are unlikely to be as unsolvable as the *problem of devising a satisfactory process for awarding a single franchise*." (Forrest, 2004, p 5, italics in original)

Risk

Risk may be significant at a number of levels.

At the level of the individual bidder or licence-holder, there are a number of risks, including:

- The costs of bidding, with no prospective return to the "capital" created, unlike the situation of a PFI bidder. (NLC, 2004, para10) The Select Committee was told by The People's Lottery that its costs of bidding in the last round amounted to over £15 million (Select Committee, 2004, para 89);
- FE argued that the increased uncertainty and greater complexity from a change to multiple licences would lead to an increase in the cost of bidding, and therefore might not lead to an increase in competition for the market (FE, 2003, paras 101 and 124); and
- Risks from cannibalisation by competitors and, hence, reduced sales and profitability (FE, 2003, para 105).

There are also risks to the Government. These include:

- The risks that a move to multiple licences might not increase competition for the Lottery. See, particularly, the second point above. Some previous bidders have said that it would definitely stop them bidding (Select Committee, 2004, para 85) but the attitude of new potential bidders has yet to be tested;

- This risk is linked to another: that incumbency advantage (which includes such features as ownership of intellectual property rights, exclusive contracts and technology) is still perceived to be a disincentive to bidding, despite changes designed to reduce or eliminate it. The Select Committee, for example, felt the proposed reform " do not have the support of obvious potential bidders" (Select Committee, 2004, paras 70 and 85); and
- The consequent, and most serious, risk that the competition for the award of the third period licences attracts no, or only one, serious bidder. This concern is what prompted the Government's concern and the DCMS proposals (DCMS, 2003).

This risk is now assessed in more detail. A single bidder (or single credible bidder) would have very strong bargaining power; and, if it anticipated being the only serious bidder, significant scope to adjust dimensions of its bid. This might result in:

- Reduced amounts for "good causes", with potential for consequent loss of goodwill and turnover, in the longer term; and
- Reluctance to launch or promote appropriate new Lottery products, through an over cautious attitude: and hence a failure to meet fully the heterogeneous preferences of potential consumers (Forrest, 2003, p 198).

It may be argued that the NLC has power to manage these risks, reserving the right to withhold the award of any or all licences. This course of action would itself, however, have potentially disastrous consequences. After a lag, amounts available through the NLDF for "good causes" would dry up, with significant implications for the recipients of Lottery funding.

The other possibility is that the reforms designed to reduce or eliminate incumbency advantage are effective; and that the change to a system of multiple licences is successful in attracting a healthy number of credible bids, both for the third period licences to run from 2009, and for additional licences within the period 2009-15. There are, nonetheless, a number of risks associated with this scenario. These include:

- The possibility that the Lottery in the UK suffers, like all mature lotteries, from "fatigue". Evidence on this is not conclusive, but Creigh-Tyte and Farrell saw it as inevitable that the Lottery would face potential competition from other gambling and leisure spending opportunities (2003, p 177); and
- The more substantial and more complex role to be fulfilled by the NLC would require it to be expanded, with a consequential increase in costs, and a perception, at least, of increased bureaucracy. This fear is clearly set out in the FE evidence to the Select Committee (SC, 2004, Appendix 1 para 22).

However, the current costs of the NLC remain modest: the planned resources to be expended in 2004-5 amount to less than £4 million (DCMS, 2003, Annex B, para 5). This compares with total Lottery sales in 2003-4 of £4.6 billion and returns to "good causes" of about £1.2 billion.

Overall, therefore there is a need to consider opposing risks. The risks associated with retaining a single licence model would include the possibility that there might be only, at best, one credible bid. This could pose very substantial risks to the basic benefit if the Lottery: significant sums for "good causes". It cannot be guaranteed that a change to a system of multiple licences will eliminate this risk. However, the other risks associated with the switch would seem to be of a lower order of magnitude. They would seem likely to be significantly outweighed by the risks which would attend retention of the single licence model, which attracted only two bids at the time of the last competition. There would be, at the least, clear evidence that the government was seeking to address the issue of incentives for potential suppliers of Lottery products, and hence of promoting a competitive approach to securing the maximum amount for “good causes”, while simultaneously addressing the need to try to satisfy the heterogeneous preferences of consumers.

CONCLUSIONS

The usual arguments for competition are well known:

It generates efficient allocation of resources between uses, moving them into the production of those goods and services most valued by consumers and least expensive to produce, and
Sustains pressure on producers to maximise efficiency of use of resources within activities.

Conversely, monopoly will tend to:

Misallocate (underallocate) resources to the activity in question, denying would-be purchasers of units of consumption the marginal costs of which are below their value, and overallocating resources to other activities, or leaving them idle and unproductive;
Whilst operating under reduced pressure to be internally efficient in the use of resources.

There are exceptions to this overall picture. Some activities, because of the nature of supply conditions, are classed as "natural monopolies". If there were multiple suppliers, they would operate capacity at below efficient levels, incurring costs significantly above those achievable by a single monopoly operator.

Similarly, where products are not perfect substitutes, suppliers may operate as "imperfect" or "monopolistic competitors". Each supplier will have a (small) degree of monopoly power because its product is slightly differentiated from that of others, but each will be forced by significant price competition to operate at below optimal level for its chosen capacity. Firms may well spend excessively on selling costs and may operate at less than optimal scale: other configurations of supply could offer the potential for economies of scale.

Competition within the licence

Forrest (2003, p197) has put forward a case for treating the National Lottery as a type of natural monopoly because of the demand characteristics of the main Lotto offering: a small chance of a large, life-changing payout. He goes further by proposing that it could be treated like other natural monopolies which have, in the UK, been opened up to competition in innovative ways. Specifically he argues for treating the jackpot in the main draw Lotto competition as a single source open to multiple access by suppliers who can compete in terms of the non-jackpot aspects of their prize structures. (They would be obliged, by the terms of their licences, to remit the same proportion as now of each £1 staked to the jackpot prize fund).(Forrest, 2003, p198)

Forrest concedes that this approach would require significant intervention by a privately or publicly run NLC. This would need to:

- Put in place arrangements to ensure the remittance of jackpot stakes; and
- Examine each new proposed game for propriety and in terms of possible cannibalisation of other games within or outside product "clusters". (Products with largely similar characteristics for would-be purchasers may be classed as

"product clusters", with high levels of substitutability in the eyes of consumers.)

The intention of this proposal is to introduce competition into the provision of non - jackpot dimensions of Lottery products, within the licence. One fear that has been expressed by some commentators is that of cannibalisation. The NLC "accepts that some games cannibalise others significantly" (NLC 2004, para15) One interpretation of this possible result is that the market is at risk of becoming monopolistically competitive, as described above. This in turn could entail not only non-optimal selling costs but also sub-optimal stakes overall, both with potentially deleterious effects on the amounts available for good causes.

Forrest is thus apparently advocating, for a natural monopoly based on demand characteristics, a solution which has its origins in applications to situations characterised by natural monopoly based on supply conditions. The consumer of gas, for example, is buying a homogeneous product, normally with only tariff features differentiating different suppliers. The origins of Forrest's proposal seem to be based on the potential for a hundred flowers to blossom in the shape of prize structures for the non-jackpot dimensions of the prize structure.

Some economists might query this analysis. Specifically, are not the potentially differing non-jackpot prize structures effective variations in the price of a Lottery ticket? That is, are they not the equivalent of the tariff structures offered by, say, different suppliers of gas? In principle, the answer to this is yes. However there is only limited evidence about the responsiveness of consumers to changes in the price of Lottery tickets. Forrest is one of several analysts who admit that observations of Lottery price changes and their impact on consumer behaviour are very restricted. (2003 p196) Even the available evidence from the behaviour of consumers in the much more developed UK utility markets is less than conclusive.

The risks associated with attempts to introduce increased competition during the licence may be significant and could include:

(i) High costs of administration stemming from the enhanced and more technical role required of the NLC; and

(ii) A potential for the emergence of monopolistic competition with high cost, excessively advertised, products; the experience of which could ultimately reduce participation and the amounts available for good causes.

Competition for the licence

Competition for the licence has a number of aspects. A number of possibilities, some linked to competition within the licence, exist. They have been discussed by Frontier Economics (2004a) and NERA (2004). They include:

(i) The award of multiple licences covering non-jackpot products. The NLC could award, for example, licences for "clusters" of products sufficiently differentiated to ensure little risk of cannibalisation. This could make for greater efficiency overall, in that the existence of products with different supply characteristics could be reflected in the approach adopted to bidding and subsequently in the retention schedule. This approach could, in principle, encourage the more thorough exploitation of each separate market, generating more overall for "good causes".

This could encourage more bids, although this could not be guaranteed. It puts great emphasis on the ability of the NLC to identify or authorise distinctive "clusters" of products.

(ii) Greater efforts could be made to restrict the advantage of incumbency. This is also the subject of several commentators eg Camelot, FE and NLC. Some specific suggestions are:

- Allowing gambling operators to bid, though this has not been precluded in the past (NLC, 2004, para 24):
- Allowing the use of different suppliers to the licence-holder(s) during the period of the licence(s) (Camelot, 2004b, para 2); and
- Asking the incumbent to submit a final bid before others are asked to bid, though it is not clear how this would work or what benefits it would bring (NLC 2004, para 24)

Some commentators are particularly sceptical about the likelihood of these proposals to stimulate credible bids(eg NLC, 2004, para 24)

(iii) Subsidising bidding costs or restricting spending on bids. Superficially attractive, the idea of intervention in the bidding process sits uneasily in a number of ways with the idea of trying to introduce greater competition.

Moreover...."it is not considered sufficient to offset other disincentives to bid." (NLC, 2004, para 24) Such interventions would not necessarily stimulate more bids and carry significant risk, in terms of Exchequer cost, and hence Treasury approval, and public acceptability.

Competition and the Lottery- General Conclusions

The above discussion has not addressed expressly the (main) underlying concern about the National Lottery: there might be, at most, only one (credible) bidder in 2007, when the next competition for the award of the licence is expected to take place. The concern is that such a single bidder would be in a position effectively to dictate terms to the NLC and thus to secure more of the returns to the natural monopoly and other components of the Lottery. Thus if the case for treating any aspect of the Lottery during the award as a natural monopoly is valid, the case for ensuring robust competition for the licence is apparently overwhelming.

Several further observations are in order:

Many arguments in the overall debate take the form of assertions virtually or completely devoid of supporting evidence. This stems in part from the intrinsic nature of the Lottery, with limited scope for price variation and difficulties in using what evidence does exist for policy prescription purposes. (Forrest, 2003, p 196)

Many, if not all of the proposals for change or for no change entail significant risks, none of which can be effectively quantified.

On balance, the arguments for greater competition, probably in the form of allowing the NLC to award separate licences for substantially non-competing clusters of products, are difficult to overturn. Certainly, no compelling evidence has been adduced for rejecting this way of attempting to ensure the maximum amounts for “good causes” and the simultaneous meeting of more of the heterogeneous aspects of consumer demand.

However, one key feature of a successful approach to the third round licence will be close attention to optimal auction design, where several contributions to the literature have been made since the second round licence decision. (See, for example, Binmore and Klemperer, 2002; and Klemperer, 2004)

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