#### Lotteries in the 1690s: Investment or Gamble?<sup>1</sup>

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Between 1693 and 1699 lotteries captivated all section of English society. Dozens of schemes appeared throughout the country offering prizes in the form of consumer goods, property, land, shares and, of course, cash. It may be conservatively estimated that as many as 3.5 million lottery tickets were sold during this period and, with the cost of some tickets as low as one penny, lotteries provided all but the most destitute with the chance to indulge in dreams of wealth. Yet, in spite of the inventive nature of such schemes and their adoption by the state for the purpose of raising public funds, lotteries have frequently been regarded not as part of a diverse and innovative financial market, but merely as a manifestation of the contemporary love of gambling and games of chance.<sup>2</sup> Furthermore, P. G. M. Dickson went so far as to assert that the early modern addiction to gambling was a phenomenon that stood in direct contradiction to the progress that was being made in other areas of public and private finance in England in the late seventeenth and eighteenth centuries.<sup>3</sup> Yet, this was not a distinction that would have been made by contemporaries. Risk was ever-present in the early modern period and methods of utilising and controlling it were varied and often involved actions that would today be

<sup>&</sup>lt;sup>1</sup> The research for this article was carried out as part of my doctoral dissertation and was financed by an ESRC studentship. I am grateful to Huw Bowen, Phil Cottrell, and the participants at the 2003 Venice International University Summer school, who commented on earlier drafts, and to the anonymous referee for his very helpful suggestions.

<sup>&</sup>lt;sup>2</sup> Modern financial historians have often relegated the lottery schemes of this period to a footnote in history. However, a number of more dated examinations do exist. Notably, the importance of lottery schemes to government finance has been dealt with by Cohen J., 'The Element of Lottery in British Government Bonds, 1694-1919', *Economica*, Volume XX (1953), pp. 237-246 and Richards R. D., 'The Lottery in the History of English Government Finance', *Economic History*, Volume III (1933-7), pp. 57-76. The most comprehensive work on the subject remains Ewen C. L., *Lotteries and Sweepstakes: An Historical, Legal and Ethical Survey of their Introduction*, *Suppression and Re-establishment in the British Isles* (London, 1932).

<sup>&</sup>lt;sup>3</sup> Dickson, P. G. M., *The Financial Revolution in England: A Study in the Development of Public Credit 1688-1756* (London, 1967), p. 45. For a further discussion of the contradictions inherent in Dickson's argument and the connections between gambling and investment see E. Chancellor, *Devil Take the Hindmost: a history of financial speculation* (London, 1999), pp. 41-4.

classified as gambling. During wartime, for example, wagers on the progress of the conflict were frequently used to hedge the risks of overseas trade.<sup>4</sup> Thus, the boundaries between gambling and investment remained indistinct in the late seventeenth century.

Hence, this article will argue that the lottery schemes of the 1690s should be accorded a much closer connection to the Financial Revolution. The first section will trace the origins of the lotteries and outline the contribution that such schemes made to the development of state finance. Section II will examine the many private lottery schemes that sprang up in the wake of the Million Adventure, noting the remarkable degree of innovation and the complex organisational structure that supported these projects. Sections III and IV will focus on those who played the lotteries and their motives for doing so and will highlight not only the public's receptiveness to such financial innovations, but also a degree of social diversity that is at odds with representations of the Financial Revolution as being dominated by '…substantial bankers, merchants and landowners'.<sup>5</sup> The final section of this article will suggest that study of the lottery schemes of this period can offer an insight into important aspects of the early modern investor's attempts to control and quantify risk.

I

Although the casting of lots was used to determine the will of the gods in the earliest societies, lotteries in their modern and secular form seem to have emerged in the mid-fifteenth century. The earliest schemes were used to attract money for the purposes of funding public works. In 1444, for example, the town of L'Ecluse in Flanders sought to raise 10,000 *saluts d'or* by lottery to fund the building of walls and fortifications. The

<sup>&</sup>lt;sup>4</sup> Scott W. R., *The Constitution and Finance of English, Scottish and Irish Joint-Stock Companies* to 1720 (3 vols., Cambridge, 1912), vol. I, p. 383.

<sup>&</sup>lt;sup>5</sup> Cain P. J. and Hopkins A. G., *British Imperialism, 1688-2000*, 2<sup>nd</sup> edition (London and New York, 2002), p. 73.

presence of English names on lists of the prize-winners of other continental lotteries of this period confirms that such schemes were not unknown in England but it was not until 1567 that the first English lottery was projected.<sup>6</sup> This state-sponsored scheme was floated to raise money for the improvement of the Cinque Ports but, in spite of the many generous prizes on offer, including a first prize of £5,000 in cash, plate, tapestries and linen, it did not prove popular. Tickets sold so slowly that the draw did not take place until 1568 and, although lotteries continued to appear sporadically in subsequent years, it was not until after the Restoration that they were promoted on a regular basis. Indeed, a pamphlet written in 1699 dates their emergence into England from the Restoration when lotteries, still being written of in the 1690s as a foreign device, were used to raise money for the relief of 'many poor Cavaliers'.<sup>7</sup>

Charles II granted a number of patents for lotteries during the early years of his reign and the business proved sufficiently lucrative to encourage an application to be made for the grant of the monopoly on the Royal Oak lottery and all other such schemes. By 1688 that monopoly was being rented at a cost of £4,200 each year indicating that lotteries were by that time both popular and profitable.<sup>8</sup> There is, however, little to suggest that the patentees of the Royal Oak lottery recognised or exploited the public enthusiasm for money-making schemes that emerged during the stock market boom of the early 1690s. Thus, the emergence of rival projects was inevitable.

The most prominent of the Royal Oak's rivals was Thomas Neale, Groom Porter to their Majesties. The Groom Porter's position gave Neale responsibility for providing cards and dice to the royal households and for deciding any dispute that arose at the royal gaming tables<sup>9</sup> and it is clear that he had also been interested for some time in the potential offered by the promotion of lotteries. As early as 1683, Neale had presented a

<sup>&</sup>lt;sup>6</sup> Ewen, *Lotteries and Sweepstakes*, p. 25.

<sup>&</sup>lt;sup>7</sup> Anon., *The Arraignment, Trial, and Condemnation of Squire Lottery, Alias Royal-Oak Lottery* (London, 1699), p. 10.

<sup>&</sup>lt;sup>8</sup> Ewen, Lotteries and Sweepstakes, p. 123.

<sup>&</sup>lt;sup>9</sup> Ibid., p. 124.

petition to Charles II that asserted that the Royal Oak's control was damaging to the Groom Porter's office, and asked that the King should either suppress their lotteries, or bring them under the Groom Porter's purview.<sup>10</sup> Nothing was achieved by this petition but by 1693 a changing economic climate meant that the Royal Oak's monopoly could no longer be enforced, opening the way for others to promote such schemes.<sup>11</sup>

Neale's first offering was a private lottery based on a Venetian project held the previous year. The Venetian scheme offered 150,000 tickets for sale at two ducats each and there were 410 prize-winning tickets, the highest of which was 25,000 ducats. Neale's scheme offered more favourable terms since he retained only ten per cent of the money subscribed, rather than the 33 per cent rebated by the Venetian promoters. But, in other respects Neale's scheme followed closely the Venetian pattern. It offered 50,000 tickets for sale at ten shillings each and there were to be 150 winning tickets guaranteeing prizes ranging from £20 to  $\pm 3,000$ .<sup>12</sup> The lottery proved a significant success, so much so that within the year the Million Adventure, another lottery organized by Neale, was used to raise £1,000,000 in public funds.

The government's need for such a scheme was the direct result of the Nine Years' War (1689-1697), the costs of which continually threatened to overwhelm the state. As public spending rose from under £2 million a year in 1688 to between £5 and £6 million per annum between 1689 and 1702,<sup>13</sup> fiscal revenues failed to keep pace with spending requirements and the state was forced to employ increasingly innovative tactics in order to attract funds. These experiments in long-term borrowing were marked by

<sup>&</sup>lt;sup>10</sup> Thomas J. H., 'Thomas Neale, a Seventeenth-Century Projector', unpublished Ph.D. thesis (University of Southampton, 1979), p. 271.

<sup>&</sup>lt;sup>11</sup> The farmers of the Royal Oak lotteries seem to have made several attempts to preserve their monopoly in the following years and in October 1694 an advertisement was taken in the *London Gazette* to 'desire all Civil Magestrates, and others whom it may concern, that in pursuance of said Letters Patent they forthwith effectually suppress, and punish according to law all such as shall so presume to Erect Use or Exercise any such Lotteries and Inventions without the License of the said Farmers first duly had and obtained'. *London Gazette*, 18 Oct. – 22 Oct. 1694.

<sup>&</sup>lt;sup>12</sup> London Gazette, 31 Aug. – 4 Sep. 1693.

<sup>&</sup>lt;sup>13</sup> Dickson, Financial Revolution, p. 46.

'haste, carelessness, and episodic failure',<sup>14</sup> nevertheless, they represented the beginning of a permanent funded debt. The two state lottery schemes, the Million Adventure in 1694 and the Malt Lottery in 1697, were part of that process, which, with the sale of annuities in 1693 and 1694 and the foundation of the Bank of England and the New East India Company in 1694 and 1698 respectively, contributed a total of £6,900,000 to the public purse.<sup>15</sup>

Neale's involvement in state lotteries should not be seen as surprising. The experimental nature of the government's early financial activities encouraged the involvement of private individuals. Nor should Neale's promotion of his own lottery necessarily be seen as incompatible with the needs of the state. The passage through Parliament in early 1693 of legislation to ban public lotteries indicated that the government was minded to eliminate competition prior to launching its own scheme. However, the legislation failed in the Lords in March 1693.<sup>16</sup> The cause is not known, but Neale's assertion in the advertisement for his second private lottery in 1694 that his scheme carried the official sanction of the king may indicate that influential friends had been acting on his behalf.<sup>17</sup> In any case, Neale's projects were small scale in comparison with the capital requirements of the state. Furthermore, it is clear that the supply of funds was not then a cause for concern. The war that had placed such a great financial burden on the state had also restricted overseas trade and so redirected large amounts of capital to domestic use. As a result, an active stock market had grown up as domestic industry expanded to fill the gaps left by restricted imports and merchants sought alternative

<sup>&</sup>lt;sup>14</sup> Ibid., p. 57.

<sup>&</sup>lt;sup>15</sup> The two lotteries together raised £2,400,000, £1,000,000 from the Million Adventure and £1,400,000 when the unsold Malt Lottery tickets were issued as cash. Of the remaining £4.5m., £1.2m. was lent by the Bank of England, and £2 m. by the New East India Company, while £1.3m. came from the sale of annuities and the floating of a tontine loan.

<sup>&</sup>lt;sup>16</sup> Hoppit J. ed., *Failed Legislation*, 1660-1800 extracted from the Commons and Lords Journals (London, 1997), 28.044.

<sup>&</sup>lt;sup>17</sup> Neale T., *The Profitable Adventure to the Fortunate: lately begun by Thomas Neale, Esq...* (London, 1694).

avenues of investment.<sup>18</sup> The problem for the state, therefore, was diverting this money away from private ventures and into its own coffers, and for this purpose Neale's flair and expertise were invaluable.

The Million Adventure was designed to appeal to a wide range of investors. It offered 100,000 tickets for sale at the relatively small cost of £10 each. It also offered 2,500 generous prizes, the highest being worth  $\pounds$ 1,000 per year for 16 years; the lowest yielded £10 per year. Moreover, unlike other lotteries, the non-prize-winning, or blank, tickets also entitled the holder to a modest but reasonable return on their investment of £1 per year until 1710. Those very many who could not afford the cost of a £10 ticket could combine their resources with other adventurers. Indeed, the purchasing of lottery tickets through syndicates was very common not only because it allowed those who could not afford a whole ticket to become involved in the lotteries, but also because it allowed groups of individuals to spread their risk over a range of numbers. For these reasons many official ticket sellers and other moneyed men also purchased large numbers of tickets in order to split them and sell off portions.<sup>19</sup> Thus, it is clear that Neale's stated aim of allowing those 'many Thousands who only have small sums, and cannot now bring them into the Publick, to engage themselves in this Fund' was fulfilled.<sup>20</sup> Indeed, even allowing for multiple purchase of tickets, it is likely that the Million Lottery attracted tens of thousands of adventurers; a stark contrast with the other elements of the public debt, which according to Dickson's estimates was held in fewer that 5,000 hands during the 1690s.<sup>21</sup> The Million Adventure, therefore, established an important connection between the investor of limited means and financial knowledge and the state.

<sup>&</sup>lt;sup>18</sup> J. Houghton, A Collection for Improvement of Husbandry and Trade (London, 1692-1703), 15 June 1694. D. W. Jones has also argued that the difficulties of pursuing overseas trade during wartime led many merchants to seek alternative outlets for their capital. D. W. Jones, *War and Economy in the Age of William III and Marlborough* (Oxford, 1988).

<sup>&</sup>lt;sup>19</sup> Dickson, *Financial Revolution*, p. 497.

<sup>&</sup>lt;sup>20</sup> Neale T., *The Profitable Adventure to the Fortunate Erected by Thomas Neale Esq....* (London, 1694).

<sup>&</sup>lt;sup>21</sup> Dickson, Financial Revolution, p. 254.

The association between state and investor created by this project was, however, never an entirely comfortable one. The interest cost of the government's long-term funding expedients was high – 14 per cent in the case of the Million Adventure – and, in the midst of an expensive war, it became impossible to maintain payments.<sup>22</sup> As early as 1695 there were shortfalls in benefit payments and by 1697 a deficit of £240,000 in the Million Adventure fund was recorded by one group of anxious adventurers. Petitions were made for the resumption of payments but not even the assertion that 'the Credit and Honour of the Nation, and of Parliamentary Funds [were] concerned in the due Payment of these Lottery Tickets' could wrest money from a government over-burdened by the exigencies of war.<sup>23</sup>

The return of peace in 1697 eventually facilitated the renewal of benefit payments.<sup>24</sup> However, despite some assertions to the contrary,<sup>25</sup> there was also an active secondary market in Million Adventure tickets that served to provide adventurers with an alternative means of liquidating their assets. This market seems to have originated in the months before the draw, which was held in November 1694. Houghton's *Collection for the Improvement of Husbandry and Trade* began to quote prices for blank tickets from mid-May 1694. Blank tickets remained a tradable commodity after the draw because, despite the fact that no prize had been won, they still yielded £1 a year for sixteen years. Interestingly, although the face value of the tickets was £10, between May and

<sup>&</sup>lt;sup>22</sup> The Million Adventure was among the more expensive of the government's long-term funding measures. Interest payments on annuities ranged between 10% and 14%. The state paid 8% to the Bank of England and the New East India Company. The Malt Lottery of 1697 was less expensive. Had it been successful, it would have necessitated interest payments of just 6.3% but, as will be noted below, it failed to attract investors. For full details of the structure and costs of the government's long-term borrowing during the 1690s see Dickson, *Financial Revolution*, pp. 48-9.

 <sup>&</sup>lt;sup>23</sup> Anon., The Case of the Adventurers in the Million Lottery, Humbly Offered to the Consideration of the Honourable House of Commons (London, 1697).

<sup>&</sup>lt;sup>24</sup> Payments seem to have recommenced in 1698 after a further petition to Parliament gave rise to 'An Act for the better and more Orderly Payment of the Lottery Tickets'. Ewen, *Lotteries and Sweepstakes*, p. 130.

<sup>&</sup>lt;sup>25</sup> Carruthers B. G., *City of Capital: Politics and Markets in the English Financial Revolution* (Princeton, N.J., 1996), p. 82.

November, blanks were being quoted at  $\pounds 7$ ,<sup>26</sup> and thus it seems likely that some, more pragmatic, investors resolved to wait until after the draw before purchasing blanks as an investment that, for this reduced cost, represented a good return. Samuel Jeake cited this as a possible course of action when he was considering further investment opportunities.<sup>27</sup>

Further evidence of an active market in blank tickets is offered by an advertisement that appeared consistently in Houghton's *Collection for Improvement* and in other papers. It stated that those wishing to buy or sell tickets could do so 'at the Mercury Office at the Trinity House...every Day from One a Clock to Four in the Afternoon'.<sup>28</sup> Houghton continued to publish prices until early 1702 and, as the following graph illustrates, the market in blank tickets was quite active suggesting that the Million Adventure had a second incarnation as an investment product long after the excitement of the draw had passed.

# FIGURE 1 HERE

While the Million Adventure remained interesting to investors, for the government the scheme proved more trouble than it was worth. The very elements that made it popular with the public – the minimal cost of tickets and potentially large guaranteed returns – made the Million Adventure both costly and unwieldy in terms of administration. Furthermore, when a restructuring of the terms of payment became necessary, as it inevitably did during these uncertain times, the holders of lottery tickets were too large and too diverse a group to facilitate easy renegotiation. Hence, although the government received a series of proposals for further lotteries throughout the mid-1690s, when the state next attempted to raise money through a lottery it was a result of desperation.

<sup>&</sup>lt;sup>26</sup> Houghton, Collection for Improvement, 18 May - 26 Oct. 1694.

<sup>&</sup>lt;sup>27</sup> Hunter M. and Gregory A. eds., An Astrological Diary of the Seventeenth Century: Samuel Jeake of Rye 1652-1699 (Oxford, 1988), p. 233.

<sup>&</sup>lt;sup>28</sup> Houghton, *Collection for Improvement*, passim.

When the Malt Lottery, so called because the benefits were to be paid out of excise duties on malt, was floated in April 1697 the war was progressing badly, coin was scarce and economic crisis loomed. The state was failing to keep up the payments due on the Million Adventure and its perceived credit-worthiness was at a low ebb. It came as no surprise to some, therefore, when the Malt Lottery failed to attract investors. As Charles Montagu, the Chancellor of the Exchequer wrote to William Blathwayt, 'I was always fearfull of the success of a new Lottery when the old Tickets were not pay'd but wee must make the best wee can of it'.<sup>29</sup> Even the fact that the tickets doubled as bills of exchange and accumulated interest at a rate of one farthing a day could not stimulate interest; indeed, as Montagu recognized, '[t]he truth is that nobody do[e]s, or will understand the Lottery Tickets, and the Merchants will not meddle with them for Exchanges'.<sup>30</sup> Ultimately, only 1,763 tickets were sold, and the Exchequer was forced to issue those remaining as cash in order to raise the anticipated £1,400,000.<sup>31</sup>

## II

The state floated no further lotteries until 1710<sup>32</sup> but the legislative gap opened up by Thomas Neale's circumvention of the Royal Oak's monopoly encouraged their use by a wide range of private entrepreneurs. Between 1694 and 1699, when they were eventually prohibited, a variety of innovative schemes appeared. More than 30 cash lotteries have been identified from newspaper advertisements (a selection of these can be seen in table 1), and it is probable that there were many more. Most of the earlier projects operated along the same lines as Neale's first private lottery, offering a series of cash prizes against

<sup>&</sup>lt;sup>29</sup> British Library, MSS 34,355, Earl of Halifax's Letters on the Land Banks and Finance, 1696-1697, fo.27.

<sup>&</sup>lt;sup>30</sup> Ibid., f.39.

<sup>&</sup>lt;sup>31</sup> Dickson, *Financial Revolution*, p. 49.

<sup>&</sup>lt;sup>32</sup> Lotteries were regularly used by the state throughout the eighteenth century and were not abolished until 1826. Raven J., 'The Abolition of the English State Lotteries', *The Historical Journal*, 34 (1991), pp. 371-89.

tickets usually costing between five shillings and one guinea. However, in the later 1690s lottery promoters sought to widen their appeal to even the lowest echelons of society by offering the chance of a life-changing prize for a price that all but the most destitute were willing and able to pay.

## TABLE 1 HERE

Complementing the cash lotteries and clearly taking advantage of the mania of the period were lotteries that offered goods as prizes. These much smaller projects are more difficult to trace but they do seem to have been abundant, particularly in 1694 and 1695.<sup>33</sup> In one instance, Mrs Mary Fawconer, in her position as executrix of the estate of Jonathan Fawconer, advertised a lottery to dispose of fine lace and flat point to the value of £900; 7,200 tickets were to be issued at a cost of 2*s*. 6*d*. each and the prizes were to be made into bundles worth anything from £2 to £40.<sup>34</sup> Although goods of this nature seem to have lent themselves most readily to sale by lottery, as may be seen in Table 2, lotteries quickly became so popular that they were adapted to the disposal of almost anything.

## TABLE 2 HERE

The number and variety of lotteries that appeared during the 1690s suggests that this was a highly competitive market and, as such, promoters adopted a variety of innovative methods to attract customers. Advertising was a key feature of the promotion of lotteries. Handbills were posted in coffee houses and advertisements were placed in newspapers. The latter were brief and gave only general details, although they often

<sup>&</sup>lt;sup>33</sup> Samuel Jeake, in April 1694, wrote in his diary of 'all those Sales of goods by Lot and money Lotteries, which about this time swarmed at London'. Hunter and Gregory, *Astrological Diary*, p. 232.

 <sup>&</sup>lt;sup>34</sup> Advertisement for the Disposal of Fine Lace and Flat Point to the Value of 900 l. (London, 1700?).

directed interested parties to a specific coffee house where more information and tickets would be available. Lottery promoters gave careful consideration to ways of inspiring confidence and stimulating excitement in their projects. The titles of lotteries were chosen either to reflect the sincerity of the promoter's intentions, such as the Honest Proposal or the Honourable Undertaking, or to motivate the potential buyer, hence the Double Chance or the Unparallel'd Adventure. It is probable, however, that these enticements fooled only the gullible, since many must have recognised, as did Thomas Saunders, that such titles were 'only a fine gloss to put off a bad Commodity'.<sup>35</sup> Many promoters played upon such fears in their frequent attempts to discredit the competition. In one instance, Griffith Lloyd, promoter of the twelve penny lottery, took out an advertisement in the *Flying Post* to deny accusations made by Nicholas Dixon that the names of the trustees for his lottery had been printed without their permission, no money had been paid into the lottery and the patentees of the lottery would prevent it.<sup>36</sup>

In spite of the stress placed upon advertising, it was inevitable that in a society that had only limited levels of literacy much publicity would have been generated by word of mouth. Thus, tickets were offered for sale in a great number of places. The handbill advertising the Honourable Undertaking listed over 120 outlets in London where tickets could be purchased - from Jonathan's Coffee House in Exchange Alley to the Grey Hound Inn in Southwark. Nor were these tickets distributed solely through coffee houses and taverns. The list included a sadler, a harness maker, several book sellers, a tallow chandler and an apothecary.<sup>37</sup> Such a wide distribution not only created necessary publicity but, in a society where few ordinary people would have travelled far from home, was essential to ensure ticket sales. It was for the latter reason that many promoters widened their distribution network to include provincial towns. The organizers of the

<sup>&</sup>lt;sup>35</sup> Saunders T., *Fortunatus's Looking-Glass, or an Essay Upon Lotteries* (London, 1699), p. 7.

<sup>&</sup>lt;sup>36</sup> Flying Post, 29 Sep. – 1 Oct. 1698.

<sup>&</sup>lt;sup>37</sup> Anon., *The Honourable Undertaking, or Five Hundred Pounds for One Shilling* (London, 1698).

Fortunate Chance lottery placed books of tickets 'in most of the Noted Towns in England'.<sup>38</sup> Equally, Neale's second 'Profitable Adventure' listed, in addition to 22 London sellers, a total of ten provincial towns where tickets could be bought. They ranged from Newcastle in the north of England to Chester in the west and Exeter and Bristol in the south.<sup>39</sup>

Interest in lotteries was also promoted by variations in the method of drawing the prize-winning tickets. Most of the earlier draws closely resembled a modern raffle. In general there were two boxes of tickets, the first containing all the numbered tickets and the second containing the same number of tickets labelled either blank or benefit. A ticket would be drawn from the latter box and then a numbered ticket would be drawn and the two would be paired, purchaser and prize. However, because of the volume of tickets, the draws were time-consuming and the effect, despite the potential excitement of a large prize being drawn, was often a little dull.<sup>40</sup> Luttrell described the scene:

Yesterday the million lottery began to be drawn at Guildhall, the commissioners attending from 9 til 3 in the afternoon: there were drawn about 2000 tickets, 48 whereof were prizes, but none above 100l., except that first drawn, which was 150l. and fell to a cobler.<sup>41</sup>

The drawing of Neale's first lottery took twelve days and was acknowledged by him to have been tedious. Thus, subsequent lotteries were enlivened by quicker draws; fewer blanks were mixed with the prize tickets and only prize-winning numbers were drawn.

Promoters also invented novel machines to mix the tickets. The organizers of the Honourable Undertaking designed a glass cube suspended on two poles. The cube could be rotated to ensure that the tickets were properly mixed and was made of glass to guard

<sup>&</sup>lt;sup>38</sup> Post Boy, 18-21 Feb. 1699.

<sup>&</sup>lt;sup>39</sup> London Gazette, Jul. and Aug., 1694, passim.

<sup>&</sup>lt;sup>40</sup> For those who could not spare the time to attend the draws the winning tickets were generally published each day. In addition, some enterprising individuals provided a service that guaranteed to check ticket numbers at a cost of 2d. for every five tickets. *Athenian Mercury*, Nov. 1694, passim.

<sup>&</sup>lt;sup>41</sup> Luttrell N., A Brief Historical Relation of State Affairs from September 1678 to April 1714 (6 vols., Oxford, 1857), III, p. 380.

against fraud. Those interested could view models of the cubes at Mr Conly's, Queens Head Tavern, Temple Bar or at the Free School at St Mary Ax.<sup>42</sup> There were also systems that were, in effect, random number generators. The Ludus Mathematicus generated winning numbers by drawing five numbered wooden squares from a globe. The globe contained five of each number from 0 to 9, thus the highest number that could be generated was 99,999. The promoters claimed that their system meant that no 'Fallacy [could] be imposed on the Adventurers...'. However, as Thomas Saunders pointed out, very few people could grasp the concept well enough to understand it, while the printed numbers, being large enough to be seen by the audience when they were drawn, were also large enough to be seen, and selected, by the drawer.<sup>43</sup>

It is difficult to determine the effectiveness of such devices but some lotteries certainly seem to have been very popular. The Wheel of Fortune, with its offer of a £1,000 prize for a penny ticket and the promise that the draw would be accompanied by a lavish entertainment at the Theatre Royal, Dorset Garden, proved a great success.<sup>44</sup> Yet, other promoters evidently struggled to attract players. Frequently draws were postponed in order to allow more time for the sale of tickets. The goods lotteries seem to have fared worst; they often appealed to very few players which led to their abandonment. Modern analysis of lotteries would seem to indicate that the reason for this was that players were seeking big prizes when they played such games - people like to be winners, but they also like to win a lot of money.<sup>45</sup> Promoting a lottery in the 1690s was, therefore, not a simple affair. A successful lottery required reasonably priced tickets, the promise of a large cash prize, a diverse network of contacts to facilitate the distribution of tickets and the collection of monies, and some element of originality to attract the interest of the sceptical or the sensible. However, when a winning combination of these factors was

<sup>&</sup>lt;sup>42</sup> Anon., *The Honourable Undertaking*.

<sup>&</sup>lt;sup>43</sup> Saunders, *Fortunatus's Looking Glass*, p. 17.

<sup>&</sup>lt;sup>44</sup> Anon., *The Wheel of Fortune, or Nothing for a Penny* (London, 1698).

<sup>&</sup>lt;sup>45</sup> Brenner R. with Brenner G. A., *Gambling and Speculation: A Theory, a History and a Future of Some Human Decisions* (Cambridge, 1990), p. 23.

found, the expected gains could be large. In most cases, promoters seem to have taken ten per cent of the total monies collected, usually as a rebate on winning tickets.<sup>46</sup>

#### III

Unfortunately, there are few extant sources that can confirm the identity of those who purchased tickets. The privately run schemes merely paid out prizes on the production of a ticket and thus had little need to record the names of either purchasers or prize winners. A register of the winners of the Million Adventure was kept, but does not appear to have survived. Contemporary thought on the subject of lottery players was divided. Many critics believed that the players were servants, women and the poor - in other words, the weak-willed and the vulnerable. Neale, in his proposal for the Million Adventure, answered these strictures by asserting that, since all would gain a prize, the lottery should not be subject to the argument that such schemes 'tak[e] away Money, and los[e] it quite from Servants, and such as have but a little...'<sup>47</sup> Nevertheless, other schemes could not offer the same assurances and by 1699 it was considered prudent to pass legislation banning lotteries in order to protect the vulnerable.<sup>48</sup> Despite this, there is far more evidence to support the alternative opinion that players came from all walks of life and all social backgrounds.

Those who passed judgement in satirical verse commented consistently on the social mix of the crowds who watched the lottery draws, noting that they comprised the highest and the lowest, all with the same dream of winning the main prize. The

<sup>&</sup>lt;sup>46</sup> See, for example, the Unparallel'd Adventure, *Athenian Mercury*, 12 Feb. 1695; the Norwich Lottery, *Flying Post*, 26-29 Nov. 1698; the Orphans Adventure to the Fortunate took an 8% rebate, *Collection for Improvement*, 21 Dec. 1694 and the Honest Proposal was less generous claiming a 15% rebate, *Flying Post*, 22-24 Sep. 1698.

<sup>&</sup>lt;sup>47</sup> Neale, A Profitable Adventure to the Fortunate, (London, 1694).

<sup>&</sup>lt;sup>48</sup> It seems probable that the government was at this time responding to many calls for the suppression of the lotteries. Ewen, *Sweepstakes and Lotteries*, pp. 173-4.

anonymous author of one pamphlet wrote of 'Ermine and Vermine, Rags and Scarlets, / Promiscuous all, both Lords and Varlets'.<sup>49</sup> Other surviving sources confirm the diverse origins of the lottery players. The records of Hoare's Bank contain details of an account that Neale set up to receive money for his first lottery.<sup>50</sup> The ledger shows the sale of 3,966 tickets,<sup>51</sup> although the customer's name is only recorded against 1,307. The remaining entries only show the legend 'Severall Ticketts' or 'Severall Lotts'. However, 212 individuals can be identified: 79 women and 133 men.<sup>52</sup> Nineteen per cent of these purchased only one ticket; the others bought more, including Lady Gee who bought 50 tickets, the Honourable Lady Dalton who purchased 40 tickets, and William Hitchugh who bought 200 tickets.<sup>53</sup> Many others purchased tickets as part of a syndicate. The ledger, although presenting only a limited picture, does confirm that those who played the lottery came from all social orders. Out of the 212 individuals identified, fifteen were titled, ten were women and five were men, including the Earl of Derby and the Earl of Aylesbury. Of the remaining, there were two doctors, eleven men who called themselves esquire and three women who titled themselves madam. For the remainder, no status was given but it is probable they were of the middling sort.

Luttrell's reports of prize winners in the various lotteries also indicated a diverse social mix. With regard to Neale's first private lottery, Luttrell wrote that Sir Richard Haddock, comptroller of the navy, 'having ventured 10*l*. at Mr Neale's lottery, had yesterday the good fortune to draw the 3000*l*. lott'. A few days later he noted that Sir Basil Firebrace's maid had drawn the £1,500 prize.<sup>54</sup> Luttrell's record of the prize-winners in the Million Adventure is also revealing; he noted that the £1,000 main prize

<sup>&</sup>lt;sup>49</sup> Anon. *Diluvium Lachrymarum. A Review of the Fortunate and Unfortunate Adventurers* (London, 1694), p. 3.

<sup>&</sup>lt;sup>50</sup> Hoare's Bank Archive, London, Ledger D. 2, 1692-5 ff.257-260.

<sup>&</sup>lt;sup>51</sup> The total ticket sale for this lottery was 50,000, thus, Hoare's ledger contains a little under 8 per cent of the total. The remaining tickets were issued by other goldsmiths.

<sup>&</sup>lt;sup>52</sup> In cases where the gender of an individual cannot be positively identified it has been assumed that the person was male.

<sup>&</sup>lt;sup>53</sup> Hoare's Ledger D, 2, fos. 260, 259.

<sup>&</sup>lt;sup>54</sup> Luttrell, Brief Historical Relation, III, p. 222, p. 225.

went to four French Protestants, one £500 prize went to a silk throwster, another to Mr Gibbs, a stone cutter, with three partners, and another to a partnership of Mr Proctor, a stationer, and Mr Skinner, a hosier.<sup>55</sup> Finally, although one poet asserted that 'The fair Mrs Wise, Got the Fortunate Prize',<sup>56</sup> the winner of the £1,000 lot in the Wheel of Fortune of 1698 is reported in two different sources to have been Thomas Houghton, servant to Rev. Dan. Fuller of Hatfield, Hertfordshire.<sup>57</sup>

Despite reports that the fortunate Mr Houghton came from Hertfordshire, the place of residence of most of the afore-mentioned individuals is impossible to establish. It is, however, likely that many lottery players were from London and the surrounding areas. Examination of the records of the Million Bank shows that, where a place of residence was recorded, 80 per cent of those exchanging their tickets for shares in 1695 and over 90 per cent of those exchanging their tickets in 1700 gave addresses in London.<sup>58</sup> However, this concentration of players in the capital reflects the nature of the Million Adventure. Tickets were only available in London and the difficulties of arranging for the subsequent collection of benefits was likely to have ensured that many provincial players did not retain their tickets for long after the draw.

There is evidence to show that the lotteries were popular in the provinces. Samuel Jeake of Rye in Sussex learned of the opportunities presented by the Million Adventure while visiting London and went on to purchase 20 tickets for himself and more as part of a syndicate.<sup>59</sup> As noted above, the provincial lottery player also became a target for lottery promoters once London's capacity for purchasing tickets began to

<sup>&</sup>lt;sup>55</sup> Ibid., pp. 384-394.

<sup>&</sup>lt;sup>56</sup> Anon., Wheel of Fortune.

<sup>&</sup>lt;sup>57</sup> Post Boy 19-21 Jan., 1699; Saunders, Fortunatus's Looking-Glass, p. 2.

<sup>&</sup>lt;sup>58</sup> The Million Bank was established in 1695. Initial subscriptions could be made in the form of cash, or by exchanging tickets from the Million Adventure. There was a capital enlargement in 1700, at which time payments in cash, tickets or in the form of government annuities were accepted. In fact, only 37 people exchanged tickets in 1695, with these comprising only £4,750 out of the initial £200,000 subscription. However, in 1700 over 10,000 tickets were exchanged. Scott, *Constitution and Finance*, III, pp. 275-287; Public Records Office, C114/16, List of subscriptions to the Million Bank.

<sup>&</sup>lt;sup>59</sup> Hunter and Gregory, *Astrological Diary*, passim.

diminish. Provincial towns also organized their own lotteries. Epsom advertised a lottery in 1695 and placed 40,000 tickets on sale at a cost of five shillings each. The first prize was £200.<sup>60</sup> The 'City of Chichester' held a lottery in the same year, as did Colchester in 1699.<sup>61</sup> Many provincial areas offered prizes in lots of land with the York lottery in 1699 offering as its main prize the city's largest, best and most convenient inn.<sup>62</sup>

#### IV

It is clear from the preceding discussion that there was a high level of participation in the lottery schemes of the 1690s. This is usually associated with the contemporary addiction to gambling that had been in evidence since the Restoration. Without doubt, it is valid to suggest such an association. Interest in games of chance was high at this time. Wagers were made on anything from card and dice games and sporting events to all manner of public and private events and issues. Yet, while interest in the lotteries can be seen merely as a further manifestation of late seventeenth-century society's addiction to gambling, reasons for the purchase of a lottery ticket were, in reality, far more complex.

Indeed, in the first place, it must be recognised that many players were forced to address serious moral concerns before purchasing tickets. Aside from criticisms that the lotteries were exploiting the vulnerable and contributing to the corruption of society, much religious thought still maintained that God's will, rather than chance, dictated the outcome of all events and, therefore, the use of lots for such frivolous purposes was immoral.<sup>63</sup> A letter on this theme published in the *Athenian Mercury* on 16 December 1693 asked whether lotteries were, in good conscience, warrantable given that 'Divine Providence' controlled the disposal of lots. The reply offered was instructive. The

<sup>&</sup>lt;sup>60</sup> Post Boy, 4-6 Jul. 1695.

<sup>&</sup>lt;sup>61</sup> Post Boy, 3-5 Oct. 1695; Flying Post 30 Mar. - 1 Apr. 1699.

<sup>&</sup>lt;sup>62</sup> Flying Post, 26-28 Jan. 1699.

<sup>&</sup>lt;sup>63</sup> Clark G., *Betting on lives: the culture of life insurance in England*, 1695-1775 (Manchester, 1999), p. 35.

*Mercury* asserted that it believed 'the thing Wicked in itself' and went on to note that men must one day account for their stewardship of their time, money and reputation whereas speculation in a lottery could hardly be said to be an action for the glory of God.<sup>64</sup> Samuel Jeake also left a detailed account of his 'many deliberate Reflections' on this matter. Before purchasing tickets he consulted two prominent works concerning the use of lots: Thomas Gataker's *Of the Nature and Use of Lots*, published in 1619, which maintained that God's will was not meaningfully manifested in such trivial processes and, therefore, that recreational lotteries should be permitted; and Dr Ames' *Marrow of Divinity and Cases of Conscience*, a work which took the opposite view.<sup>65</sup> Jeake's ultimate conclusion was that he remained 'an utter Enemy to the practice of all Lusory Lots...'. Nevertheless, he felt able to justify the purchase of Million Adventure tickets because he could define it as a civil rather than a lusorious lottery, and it had become necessary 'for the support of the Government in the War against France'.<sup>66</sup>

Patriotism seems to have been a common justification for those who harboured doubts about investing in the Million Adventure. The *Athenian Mercury* was not a friend to lotteries, but still considered the Million Lottery to be acceptable because it was necessary for the defence of the nation.<sup>67</sup> Thomas Neale also justified this lottery by asserting that it offered an opportunity to support the war effort to those unable to invest in annuities or the Bank of England.<sup>68</sup>

Indulgence in the private lotteries could not be justified in this way but, even in those cases, motivation was not just a simple desire to gamble. Gamblers are driven by the thrill of the risk and the excitement of the game; enrichment is usually a secondary motive. Yet, the prospect of riches was powerful incentive for early modern lottery players. From the early 1690s England had witnessed the emergence of a financial market

<sup>&</sup>lt;sup>64</sup> Athenian Mercury, 16 Dec. 1693.

<sup>&</sup>lt;sup>65</sup> Hunter and Gregory, Astrological Diary, p. 232.

<sup>66</sup> Ibid.

<sup>&</sup>lt;sup>67</sup> Athenian Mercury, 16 Oct. 1694.

<sup>&</sup>lt;sup>68</sup> Neale, A Profitable Adventure.

that had conferred increasing affluence on a select section of society. The opportunities created by the advent of an active stock market had been available to only a very few, but had attracted the interest of many more. Indeed, the stock market had rapidly become the subject of popular interest. By 1693 the antics of stock-jobbers were being presented on the stage in Shadwell's *The Volunteers* and, although such individuals were the subject of much criticism, the desire to share in their good fortune was undoubtedly strong. Given that the only difference noted between gaming, gambling and stock-jobbing was that stock-jobbing was the least desirable activity,<sup>69</sup> lotteries seemingly provided the public at large with just such an opportunity. It may even be argued that since very few opportunities for enrichment existed in this period, lotteries provided 'a rational if desperate strategy for the ambitious'.<sup>70</sup>

Contemporary commentators also recognized that, in a society growing increasingly materialistic, avaricious and self-interested, it was the prospect of winning the main prize that drew most players into the lotteries. One natural focus was the opportunities for consumption that a prize could offer. Thus, one poet wrote of the player's desire to possess 'Powder'd Perukes and Gay Cloaths'.<sup>71</sup> Another subject of frequent interest was the motives of female players. They were often judged to be in search of a dowry when they bought a ticket, money being a perfect way to compensate for the lack of other charms. One poet suggested the fate of a penniless woman,

A Country Girl that stood below, To the same Tune her sighs let flow; Oh help me to a lumping Prize To shine in my dear Dicky's Eyes. Without the Pence, alas poor Nan, I fear thou'lt dye and ne're taste Man.<sup>72</sup>

<sup>&</sup>lt;sup>69</sup> Anon., *Plain Dealing: in a Dialogue between Mr. Johnson and Mr. Wary...* (London, 1691), p.
6.

<sup>&</sup>lt;sup>70</sup> Gigerenzer G. et al., *The Empire of Chance: How probability changed science and everyday life* (Cambridge, 1989), p. 20.

<sup>&</sup>lt;sup>71</sup> Anon., *Elegaick Essay upon the Decease of the Groom Porter and the Lotteries* (London, 1700).

<sup>&</sup>lt;sup>72</sup> Anon., *Diluvium Lachrymaram*, p. 6.

The disproportionate involvement of women in lotteries, compared to other investment opportunities, indicates that there may have been some justification for these satirical assertions. As previously noted, women comprised 37 per cent of the purchasers listed in Hoare's record of Neale's first lottery.<sup>73</sup> Although this may not necessarily be viewed as representative of lottery schemes as a whole, it does coincide with the 34.7 per cent of female investors in the 5 per cents of 1717, a stock that originated in the state lotteries of 1711-1712.<sup>74</sup> Furthermore, these figures present a rather different picture than is usually drawn by women's involvement in the other financial opportunities of the day. For example, Davies noted that in 1685 women held no more than two to four per cent of East India Company stock and around twenty per cent of the less risky fixed yield bonds.<sup>75</sup> Lotteries, therefore, provided many women with their only opportunity for engagement in the public funds and created an important additional customer base for the Financial Revolution.<sup>76</sup> They also offered women who had very few opportunities to enrich themselves a chance, however slim, of independent wealth, social power, and the upper hand in a society that looked upon marriage as more of a financial contract than a romantic one.

Indeed, for both sexes, at a time when opportunities for advancement by conventional means were restricted, schemes that offered a great deal of money for such limited outlay had undoubted attractions. Furthermore, in a society where conditions were harsh and life was often short, difficult, and fraught with dangers, what lotteries offered most of all was an element of hope. Writing in the 1930s, George Orwell described gambling as 'the cheapest of all luxuries'<sup>77</sup> and his analysis is also applicable to the

<sup>&</sup>lt;sup>73</sup> Hoare's Ledger D.2, ff. 257-260.

<sup>&</sup>lt;sup>74</sup> Dickson, *Financial Revolution*, p. 282.

<sup>&</sup>lt;sup>75</sup> Davies K. G., 'Joint-stock Investment in the Later Seventeenth Century', *Economic History Review*, Volume IV (1952), p. 300.

<sup>&</sup>lt;sup>76</sup> For a further discussion of the role women played in the Financial Revolution see A. M. Carlos and L. Neal, 'Women investors in early capital markets, 1720-1725', *Financial History Review*, 11 (2004).

<sup>&</sup>lt;sup>77</sup> Orwell G., *The Road to Wigan Pier* (London, 1962), p. 82.

1690s. For a minimal price even the unfortunate adventurer could, for a time at least, possess dreams of wealth. Thus, although, as mentioned above, Dickson referred to the contemporary addiction to gambling as a trend that ran contrary to the improvements occurring in other aspects of public and private finance, it is possible to see this type of gambling as a complementary, rather than a contradictory, trend providing, as it did, new resources for the Financial Revolution in the form of aspiration, ambition and dreams of wealth.

### V

Another factor that shows interest in lotteries to have been a complement to the Financial Revolution was that the lottery provided the ideal opportunity for the definition of risk by adventurers and promoters alike. The risks associated with investment in this period were many. Markets were volatile, and information was sometimes scarce and difficult to access. Fraud and dishonest practice were also constant concerns. Contemporary commentators viewed the newly established financial markets as hotbeds of 'Intriegue, Artifice and Trick'.<sup>78</sup> Without question, this was also a reasonable accusation to make against some of the lottery schemes of the 1690s. Sir Humphrey Mackworth's lottery for shares in the Company of Mine Adventurers, for example, contained more than an element of dishonesty. Devised by Mackworth to revive the fortunes of a potentially profitable but cash-starved lead mine, the lottery induced the shareholders to exchange their holdings for bonds, which would yield a guaranteed 6 per cent, and a chance of further shares to be determined by lottery.<sup>79</sup> However, Mackworth was diverting funds from the company into his own accounts and when the lottery was drawn, it was apparent

<sup>&</sup>lt;sup>78</sup> Defoe D., An Essay Upon Projects (London, 1697), p. 30.

<sup>&</sup>lt;sup>79</sup> Scott, *Constitution and Finance*, vol. II, pp. 445-6.

that he and his friends had received many of the prize shares.<sup>80</sup> It is likely, therefore, that the original shareholders made a poor exchange. In reality, many of them merely swapped the unlimited potential profit of their shares for bonds that would pay no more than a 6 per cent return.

Fear of a 'fixed' draw was common and those promoters who operated honest lotteries took pains to reassure adventurers that their investment was safe. The Treble Chance lottery allowed each individual player to draw a ticket but, more commonly, children were appointed to draw the lots. Neale's first lottery was drawn by 'two blew coat hospital boyes'.<sup>81</sup> Another problem noted was that of collecting the prize money. Lotteries were sometimes under-subscribed and thus prizes were only paid out in proportion or, some suggested, were not paid out at all. There do, however, seem to have been relatively few reports of prizes not being paid and, since some projectors promoted a series of lotteries it was not in their interest to defraud their players. Furthermore, many of the larger projects appointed prominent men as trustees to oversee the scheme, which seems to suggest that, while fraud was undoubtedly a concern for the adventurer, it may not have been rife.

Interestingly, beyond potential fraud the risk incurred in buying a lottery ticket was, unlike most other investment opportunities at this time, quantifiable. Once it was clear how many tickets had been issued and what prizes were available, it was a simple matter for some, although by no means all, players to discover the proportion of the take that was to go into the prize fund and the odds against winning a prize. Indeed, the odds associated with many schemes were cited as a selling point. The promoters of the Double Chance assured players that whoever put in £100 could be said to adventure only £80 because he had an equal chance to recover at least £20 in the second draw. Thomas Neale, struggling to maintain his market share by late 1695, was obliged to be far more

<sup>&</sup>lt;sup>80</sup> Ibid., p. 447.

<sup>&</sup>lt;sup>81</sup> Flying Post, 8-11 Oct. 1698; Luttrell, Brief Historical Relation, III, p. 219.

generous. His third 'Profitable Adventure' offered odds of 3 to 1, compared to other lotteries at the time, which could do no better than 39 to  $1.^{82}$ 

Certainly more traditional methods were used to determine the fate of an investment. Many offered up prayers and made bargains with God. 'One if to him the great Prize falls, / Will build a Pillar of St Paul's'.<sup>83</sup> Samuel Jeake cast his horoscope, not once, but three times, in an attempt to determine whether his tickets would be fortunate.<sup>84</sup> However, the odds of winning a lottery were generally listed in each advertisement and the Athenian Mercury, at least, defined the likelihood of receiving a prize in numeric rather than superstitious terms. In early 1695 the paper suggested that, the Million Adventure being finished, the best chance of winning a prize was offered by the Unparallel'd Adventure because 'you are sure for 211. to have Three Prizes, which is at least 15l'. Indeed the whole design of this lottery was a clever ploy to attract the mathematically-minded and to sell more tickets. The draw was designed so that out of the 21,000 tickets entered, only 3,000 would actually be drawn and each of them would win a prize of at least £5, but then the remaining tickets in that series of seven would be designated blank; thus if the number six was drawn, then numbers one to five and seven would automatically be removed from the draw. That way if an adventurer bought seven tickets in a numerical series, at a cost of  $\pounds 7$ , he would be guaranteed a minimum  $\pounds 5$ return.85

The application of sound mathematical principles to the organization of schemes and the purchase of lottery tickets was also noticed by Pepys, who wrote to Newton commenting that the lotteries had

almost extinguised for some time at all places of publick conversation in this towne, especially among men of numbers, every other talk but what relates to

<sup>&</sup>lt;sup>82</sup> Athenian Mercury, 13 Nov. 1694; Post Boy, 21-24 Dec. 1695.

<sup>&</sup>lt;sup>83</sup> Anon., *Diluvium Lachrymarum*, p. 10.

<sup>&</sup>lt;sup>84</sup> Hunter and Gregory, Astrological Diary, p. 235.

<sup>&</sup>lt;sup>85</sup> Athenian Mercury, 23 Mar. 1695; 12 Feb. 1695.

the doctrine of determining between the true proportions of the hazards incident to this or that given chance or lot.  $^{86}$ 

The significance of this focus on probability lies not in the seldom generous odds offered by the lottery promoters, but in the fact that probability was a relatively new mathematical concept and one that had, up to this point, few practical applications. Even the infant insurance industry, while it was aware of the possibilities of using probability to calculate risk, singularly failed to do so.<sup>87</sup> The lottery schemes of the 1690s, however, demonstrate the practical application of these mathematical theories. For promoters, probability made it clear that the odds were against winning a prize. Thus, the informed player was making a judgement based on expected loss relative to potential gain and the cost of their investment. Of course, it is not likely that all early modern lottery players calculated and compared odds but the care taken by promoters to state the odds of their schemes must indicate a significant level of interest in this method of determining risk. The lottery schemes of the 1690s must, therefore, be considered a key part of the learning experience of the early modern investor, and an important step forward in the battle to understand and control financial risk.

VI

The gambling instinct was, and remains, a constant feature of financial markets; the desire to take risk drives investment and provides the economy with funds that might otherwise lie dormant. Equally, a gamble might be the most rational investment choice in some cases. Life in the late seventeenth century was difficult, uncertain and offered few

<sup>&</sup>lt;sup>86</sup> Pepys to Newton 22 Nov. 1693 quoted in Thomas, *Thomas Neale*, p. 272.

<sup>&</sup>lt;sup>87</sup> For a fuller discussion of this topic see Clark, *Betting on lives*.

<sup>&</sup>lt;sup>88</sup> Perhaps a contradiction of the assertion made by Gigerenzer et al that the lottery crazes that swept Europe 'provided the mathematicians with problems but very little employment'. Gigerenzer, *Empire of Chance*, p. 19.

chances for enrichment. Under these circumstances, it is not hard to understand the attraction of a means of purchasing an element of hope for the future. However, the lottery projects of this period represent far more than just a gamble on dreams of wealth. The Million Adventure was, in many respects, a solid form of investment and a method by which the investor of limited means could gain an entry into the public funds. Furthermore, the diverse social and geographical origins of those who played the lotteries indicate that the Financial Revolution was a phenomenon that had a wide and far reaching impact upon society.

The lottery schemes of the 1690s also reveal the application of pioneering and inventive techniques for tapping the capital reserves of the nation and demonstrate the 'restless spirit of economic innovation'<sup>89</sup> that was so essential to the success of England's financial markets. Finally, it is clear that the lotteries marked an important aspect of the desire to define chance as something controllable by man, rather than imposed by God or the fates. Thus, they must be seen as part of the process that led towards the quantification of financial risk.

<sup>&</sup>lt;sup>89</sup> Dickson, *Financial Revolution*, p. 46.

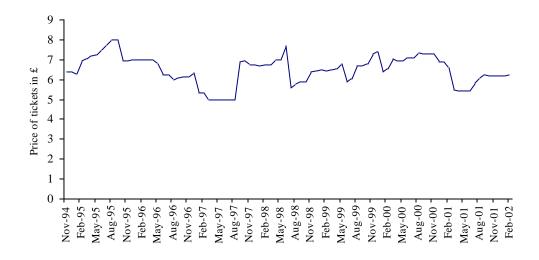


Figure 1: Price of blank tickets in the Million Adventure, 1694 – 1702.

Source: Houghton, *Collection for Improvement*. Observations taken from the first week of each month. During the recoinage crisis, in the period from January to September 1697, two prices were quoted, one for notes and one for cash. Recorded here is the price for notes, cash prices were consistently £1 lower.

Year	Lottery	Main prize	Price of tickets	No. of tickets offered for sale
1693	Undertaking profitable to the fortunate	£3,000	10 <i>s</i> .	50,000
1694	Profitable adventure to the fortunate	£4,000	20 s.	50,000
1694	Double chance lottery	£5,000	20 s.	50,000
1695	Good luck to the fortunate	£1,000	20 s.	40,000
1695	The unparallel'd adventure	£1,000	20 s.	21,000
1695/6	The golden chance	1500 guineas	¹∕₂ guinea	20,000
1698	The honourable undertaking	£500	12 <i>d</i> .	90,000
1698	The ladies invention	£1,000	6 <i>d</i> .	500,000
1698	The wheel of fortune	£1,000	1 <i>d</i> .	1,650,000
1698	The honest proposal	£1,000	2 s.	40,000
1699	The fortunate chance	£1,000	3 <i>d</i> .	800,000
1699	The new wheel of fortune	£2,000	2 <i>d</i> .	950,000

Table 1: Details of selected cash lotteries

Sources: London Gazette, 1693-4; Houghton, Collection for Improvement, 1693-1699; The Post Boy, 1695-1699; The Post Man, 1695-1699.

Year	Lottery	Main prize	Price of tickets	No. of tickets offered for sale
1694	Indian goods or ready money	Indian goods or cash to the value of £300	10 <i>s</i> .	5,200
1694	Plate and jewels	Plate to the value of £100	2 s. 6d.	20,000
1694	Sterling plate	Plate to the value of £300	5 s.	16,000
1695	Tobacco	150 lbs of tobacco, value £15	1 <i>s</i> .	16,000
1695	Japan'd goods	Japanned furniture to the value of £100	10 <i>s</i> .	6,000
1695	Royal academies	Four year course of lessons in a subject of the winner's choice	20 s.	40,000
1695	Livery gowns	Gown worth £8	8 <i>s</i> .	1,250
1698/9	The Mine Adventure	50 shares in the Company of Mine Adventurers	£5	25,000

# Table 2: Details of selected goods lotteries

Sources: Houghton, Collection for Improvement, 1694-1699; Scott, Constitution and Finance II, 443-447.