

英國憲政改革對公債次級市場的影響
1672-1705

The secondary market for English sovereign
debt before and after the constitutional
change, 1672-1705

Abstract

This project, by employing the information extracted from the assignment books, intends to examine the London credit market and the secondary market of annuity in the last quarter of the seventeenth century. The analysis of the secondary market for annuity sheds some new light on the question of what those participating in the secondary market perceived in terms of the government's credibility and investment opportunity, and to what extent the change in the constitution of 1688 influenced the government's credibility in the financial market.

The preliminary results reveal several characteristics of financial investment in late seventeenth-century London. First, the credit resources of London goldsmiths were drawn from small areas: London, Middlesex and Surrey. At the time, London, as a financial centre, was poorly integrated with other counties. The landed gentry represented the major clients of goldsmiths, followed by men involved in trade. Assignees of the re-assignment of annuity were further concentrated in London, indicating the limited extent of the secondary market of annuity. Meanwhile, the share of female investors declined, in relation to original depositors, which might reflect that women, as investors, were more risk-averse, and thus less likely to participate in the secondary market. According to the available prices of annuity traded on the secondary market, we can observe that the yield became more volatile during the period when the repayment was uncertain, but stabilised after the government announced the resumption of payment of interest. The yield of 1701-5 was about half that of 1678-84 suggesting that the constitutional change in 1688-9 did improve the government's credibility as perceived by investors.

Keyword: Institution, government debt, the Stop of Exchequer

I. Introduction

Since North and Weingast published their article arguing a dramatic development of capital markets within a decade after the Glorious Revolution, scholars have fiercely debated the relationship between the institutional change and the development of the capital market; and the institutional change and later British hegemony. This project based on information extracted from the Assignment Books is able to shed some new light on this subject. In 1672, Charles II defaulted on loans borrowed against Treasury orders, which was the Stop of Exchequer. The crown's later repayment of interest in the period 1678-1705 was recorded and documented in the Assignment Books. Against this historical backdrop, this research project examines the effect of the constitutional changes of 1689 on the secondary market of government debt. Moreover, the role of London as a financial centre is analysed in terms of the London goldsmiths' deposit-banking activities. Due to the constraints of the data, the current literature is based on price data derived from the private market to study the relationship between the consequences of the constitutional changes of 1689 and financial market performance in London. This approach implies strong integration between public and private credit markets, evidence of which has not yet emerged in late seventeenth-century England. Hence, the results may be misleading and ill-interpreted. By employing the price data directly linked to government bonds, this project can adequately explore whether the political system after 1689 indeed improved the government's credibility in the financial market. At the turn of the eighteenth century, England began to experience financial innovations in both private and public sectors, such as the establishment of the Bank of England, the stock market, and long-term government borrowing. London was at the centre of these developments. The participation in these financial innovations outside London can be studied by examining the geographic distribution of transactors in the secondary market of government debt.

This report is organised as follow. The following section reviews the literature on the relationship between institutional changes and the capital market. The method and approaches employed by this project are elaborated upon in section 3. Some preliminary results are presented in section 4 and section 5 concludes.

II. Literature review

North and Weingast (1989) argue that the English political institution switched from monarchic government to parliamentary government and thus strengthened the protection of property rights. The success in upholding property rights, following this institutional change, was manifest in growing government debt and a substantial fall

in the cost of capital to the English government. This decline prompted the development of the financial market and lowered the cost of capital to private entrepreneurs. As a result, economic development in England far outpaced other European countries in the eighteenth century. Ever since, scholars have fiercely debated the relationship between the institutional change and the development of capital market, between the institutional change and economic growth; and the consequences of the institutional change on public and private borrowing.¹

North and Weingast's argument implies that if property rights are not upheld, the incentive to invest will be deferred, resulting in an increase in the rate of return on capital. Data on financial markets before the eighteenth century is sparse, however, by employing the Charity Commission reports, a series of the rate of return on land, 1540-1800, can be constructed. As evidence, Clark (1996) claims that property rights had been secured as far back as the late Tudor dynasty, and the development of the private capital market was largely unaffected by the institutional change of 1688-9. The rate of return on land remained stable in the period 1540-1730, and political events within this period seem to have had no effect on the capital market. If the rate of return on capital markets can be used to measure to what extent property rights are protected, Clark presents a different picture to North and Weingast: property rights were well secured long before the institutional change of 1688-9. Perhaps the consequences of the Glorious revolution were likely to have left traces on the public finance sector rather than private capital markets.

Considering that the Glorious revolution changed the relationship between the crown and parliament, resulting in binding the crown's behaviours within a set of rules and making the crown more accountable, the new political institution would have reduced the risk premium on public borrowing. North and Weingast believe that sovereign credibility and strengthened property rights would have increased the overall supply of loanable funds, hence, the rate of return on private loans would have fallen as would that on sovereign debt. However, soon after William III ascended to the throne, England became engaged in war with France. The size of the public debt increased to over one-third of national income;² consequently, private loans would likely have been crowded out by military finance. Quinn (2001) employed rates of return on loans held by Sir Francis Child, a London goldsmith-banker, to examine how the change in the political settlement affected private capital markets in 1680-1705. His analyses show that during the period of war (1688-1697) public borrowing actually crowded out private loans, and after the restoration of peace the

¹ Flandreau, M. and Flores, J. H., 'Bonds and brands: foundations of sovereign debt markets, 1820-1830', *Journal of Economic History*, 69 (2009), pp. 646-84

² D. W. Jones, *War and Economy in the Age of William III and Marlborough* (1988), p. 70.

rate of return on private loans remained higher than it had been before 1688. Instead of increasing the supply of loanable funds, the Glorious revolution stimulated demand for private borrowing and thus led to a rising rate of return on private loans. For public borrowing, Child's account suggests a fall in the public interest rate and that the spread between public and private rates declined after the war.

As Quinn (2001) argues, the rate of return on real property, used by Clark (1996) as evidence, is not an adequate index for measuring the effects of the new political settlement on capital markets. In contrast, Sussman and Yafeh (2006) rely on evidence drawn from the financial markets, which closely reflected changes in the cost of government debt, to revise North and Weingast's argument. Their empirical analyses suggest that the political reform of 1688-9 did not immediately affect financial markets, and the costs of sovereign borrowing remained high in relation to those in the Netherlands until the 1730s. Two possible explanations for the delayed response are that (1) the credibility of the new institutions was only established over time and (2) the new political settlement remained under threat until the ascension of George I to the throne. The former explanation is further elaborated upon by Murphy (2013), the latter by Wells and Wills (2000).

Based on micro-level evidence, Temin and Voth (2008) discuss the impact of the Glorious revolution on private borrowing by drawing inferences from the accounts of another London banker, Richard Hoare. The simple OLS analysis shows that there is no clear correlation between private and public sector lending rates. This calls into question the widespread practice of using real property or private capital market as a proxy for the public credit market.

So far, none of the discussion of the effect of the Glorious Revolution on the financial market is based on direct evidence related to public borrowing. If in early eighteenth-century England the public and private credit markets were under some degree of segregation, existing studies have not yet offered satisfactory answers as to how the change in the political settlement in the late seventeenth century affected the government's ability to borrow and the private credit market. The main contribution of this research project is to shed some new light on the first question by using the yields calculated from secondary transactions of government bonds during 1678-1705. Therefore, this project can directly assess whether and to what extent the level of government credibility perceived by investors changed before and after the Glorious Revolution.

III. Methodology

Owing to data constraints, most quantitative studies examine the effect of the constitutional change of 1688-9 on English economic development in the eighteenth

century. This approach can only accentuate the long-term effect of institutional changes on financial markets but sheds little light on the immediate impact on how the public perceived the credibility of a government whose fiscal policies parliament now supervised. Of course, the effect of institutional changes took time to be realised, but how long and in what forms? As is known, institutional frameworks exert significant influence on how people behave. To further understand the relationship between institutional changes and economic development, this project analyses movement in the yield of government debt before and after the Glorious Revolution. The yield of government debt responded to how the public perceived the credibility of government. The more confident investors felt that the government would honour the debt for a given interest return, the higher the numbers of people willing to pay more for a bond, but the lower the yield. If the government's credibility was significantly improved under parliamentary supremacy, as North and Weingast argued, the yield of government debt should have been falling after the Glorious Revolution to reflect this enhancement.

By employing a unique archival document, a series of yields of government debt, covering the period 1678-1705, can be constructed. The information on yields is extracted from the assignment books, which recorded the original creditors affected by the Stop of Exchequer, 1672, and the later secondary transactions of government debt between the original creditors and third parties. The assignment books help us to tackle two issues related to public borrowing and financial market development in late seventeenth-century England: (1) whether the political institutional change in the late seventeenth-century did improve the government's credibility, and to what extent, and (2) the depth and sphere of the secondary market of public debt.

1. The Stop of Exchequer, 1672

In preparation for the second Anglo-Dutch War, the Exchequer devised a scheme to encourage loans made to the King. In 1665, Parliament passed an Act to raise £1.25 million, guaranteeing repayment with interest at 6 per cent per annum.³ The lenders advanced money to the King, and received receipts numbered in sequence and signed by the Lord Treasurer. These receipts (also called Treasury Orders), by notice to the Auditor of the Receipt, could be sold and assigned to a third party without charge. This scheme was successful. By this practice, Treasury Orders were issued in anticipation of future tax revenue to pay for the government's expenses and to borrow money. At first the revenue allocated to Treasury Orders was strictly controlled to make sure that repayment was guaranteed. These orders were numbered, registered

³ 17 C.II, c.1.

and assignable.⁴ This system was created to make royal borrowing more responsible and to encourage lenders. However soon, the problem of over-issue emerged when Treasury Orders were no longer issued against taxes earmarked to pay them, but against revenue in general. The combination of the second Anglo-Dutch War, the plague of 1665, and the fire of 1666 delivered a severe blow to royal revenue and impaired the government's financial situation in the late 1660s.⁵ A rumour – that Charles intended to stop payment for these orders – partially contributed to a run on the banks in 1667. A proclamation denying the stop of payment and reassuring the inviolability of the Treasury Orders was issued immediately to allay the panic.⁶ The difficult fiscal position failed to improve after the peace treaty of Breda of July 1667, since the government faced considerable arrears for debts incurred during the war.⁷ This became worse after Charles secretly committed himself to join Louis XIV in an attack on the Dutch.⁸ Under pressing demands for money to restore the Navy in anticipation of war, the issue of orders grew out of control and exceeded the revenue by which they could be honoured. The Stop of Exchequer was an unavoidable solution to Charles's embarrassing fiscal position, and an illustration that the monarch was able to arbitrarily default on his obligations.

On 2 January 1672, the government decided to suspend repayments and interest on registered Treasury Orders for a year, excepting those paying for public services and those secured against certain resources. The Stop was initially designed to be a temporary device to alleviate the fiscal shortfall and divert money for urgent military use. However, after two further extensions, as Charles II remained mired in financial difficulties, the Stop became permanent.⁹

After receiving the orders from the Treasury, departmental officials would quickly assign most of them to others in return for cash before the maturity. One example will suffice to illustrate the assignment process. In December 1665, Sir George Carteret, the Treasurer of the Navy, received 90 Treasury Orders with a total face value of £400,000. He assigned these orders to Denis Gawden (a victualler) and Captain Cock as imprest, and seven other assignees (the East India Company, four goldsmiths, a

⁴ J. K. Horsefield, 'The "Stop of the Exchequer" Revisited', *The Economic History Review*, 35 (1982), p. 511; B. G. Carruthers, *City of Capital: Politics and Markets in the English Financial Revolution*, (Princeton University Press, 1996), pp. 60-1; A. Feavearyear, *The Pound Sterling: A History of English Money*, (Oxford, 1963), pp. 111-3

⁵ C. D. Chandaman, *The English Public Revenue, 1660-1688*, (Oxford, 1975), pp. 210-3; W. R. Scott, *The Constitution and Finance of English, Scottish and Irish Joint-Stock Companies to 1720*, (Cambridge, 1921), Vol. 1, pp. 276-9

⁶ Feavearyear, *Pound Sterling*, p.112; D. C. Coleman, *Sir John Banks, Baronet and Businessman: A Study of Business, Politics and Society in Later Stuart England*, (Oxford, 1963), p. 31; A. Browning, and Douglas, D. C., *English Historical Documents, 1660-1714*, (London, 1953), pp. 350-1

⁷ Browning and Douglas, *Documents*, pp. 831-2

⁸ For the Treaty of Dover see Browning and Douglas, *Documents*.

⁹ Horsefield, *op. cit.*, pp. 513-4

London Mayor, and John Brown). Only five unassigned orders were left on Sir Carteret's hands, with a value of £12,000 (three percent of the total original value). Later, Gawden and Captain Cock further re-assigned their orders to third parties, mainly goldsmith-bankers. At the close of the recorded transaction, the London goldsmith-bankers held 53 orders with a total value of £215,000.¹⁰ Thus, a large part of the government's credit operated through the assignment of Treasury Orders. Except for the six percent interest rate designated for the Treasury Orders, it was common to accept the orders below their face value as discount. For example, Samuel Pepys advanced to Sir William Warrant the sum of £1,900, and took assignment of orders for £2,602 2s 7d (amounting to a 27% discount).¹¹ It seems that it was a lucrative business to advance money to the crown by accepting Treasury Orders. Therefore, London goldsmith-bankers became the major creditors to the crown by holding Treasury Orders. As a result, when the crown ceased to make repayment, the goldsmith-bankers were the biggest victims of the Stop of the Exchequer. Among the total value of £1,211,065 debt affected, the goldsmith-bankers owned £1,173,352 (96.8%).¹²

Table 1 Capital sums and interest due to creditors, 1677

Creditors	Capital sum
Sir Robert Vyner	£416,724 13s 1 1/2d
Edward Backwell	£295,994 16s 6d
Gilbert Whitehall	£248,866 3s 5d
John Lindsay	£85,832 17s 2d
John Portman	£76,760 18s 2d
Jeremiah Snow	£59,780 18s 8d
8 other bankers	£98,183 1s 1/4d
11 non-bankers	£32,797 9s 8 1/2d
Total	£1,314,940 17s 9 1/4d

Source: J. K. Horsefield, 'The "Stop of the Exchequer" Revisited', *The Economic History Review*, 35 (1982), p. 516, Table 2.

However, the money lent to the crown did not belong to the goldsmiths, but represented deposits received from numerous clients. Probably from the mid-seventeenth century, merchants and landowners started to deposit money with goldsmiths who sometimes paid interest on the deposit.¹³ Those with money were

¹⁰ H. G. Roseveare, *The Advancement of the King's Credit, 1660-1672*, unpublished Cambridge University PhD thesis (1962).

¹¹ Coleman, *John Banks*, P.36.

¹² *Calendar of Treasury Books, 1676-9*, p. 544

¹³ Not all deposits were interest bearing.

reluctant to lend to the crown, but preferred to place money under the goldsmiths' safekeeping.¹⁴ The goldsmiths then lent out these deposits to the crown, which offered an interest rate higher than the legal limit at the time (6%). Therefore, when the crown ceased honouring its obligations, not only did the goldsmiths suffer, but also those depositing money with them. The Stop of Exchequer thus caused disruption to mercantile credit and an immediate liquidity crisis in London. After the Stop, several goldsmiths failed to meet the heavy demand for the withdrawal of deposits and slipped into insolvency: Backwell by 1682, Vyner by 1684, Colville by 1679, and Meynells in 1685.¹⁵

Not until 1674 when the conflict with the Dutch was ended was a solution worked out to settle these outstanding debts. The Treasury decided to pay interest at 6% on debts outstanding as of June 1674, though not repaying the principal. In February 1677, by Letters Patent, Charles II authorised payment of annual interest at 6% on the debt of £1.3 million owed to those affected by the Stop. As shown in table 1, most of the £1.3 million was due to London goldsmith-bankers. The repayment of interest faltered after the death of Charles. Following the succession of William and Mary, Parliament diverted the hereditary revenue of excise, which had been appointed to repay the debts affected by the Stop, to back a loan to finance the war. From 1691, creditors brought their cases to the courts to pursue repayment. The dispute between the Treasury and bankers over the settlement of the debts did not conclude until the Act passed in 1701: a provision for the discharge of interest on the debt was made; payment of interest at 3% annually to begin in December 1705.¹⁶

2. Data

In 1677, when the crown decided to solve the problem of the Stop of the exchequer, it was ordered that the interest on the debt was to be divided by the goldsmiths among their respective creditors, and the creditors had to enrol at the exchequer. As a result, the Exchequer kept records about the exact amount of the debt owed to the goldsmiths and their respective creditors in the Assignment Books. These records reveal information about the names of the bankers' clients together with their professions, and the amounts of their individual deposits. Furthermore, the Assignment Books also recorded the secondary transactions of annuity between the original creditors and the third parties, and the market price of annuity.

¹⁴ For the development of goldsmith-bankers in seventeenth-century England see F. T. Melton, *Sir Robert Clayton and the Origins of English Deposit Banking, 1658-1685*, (Cambridge, 1986), pp. 16-39; S. Quinn, 'Goldsmith-banking: mutual acceptance and inter-banker clearing in restoration London', *Explorations in Economic History*, 34 (1997), pp. 411-432

¹⁵ Horsefield, 'Stop', p. 524

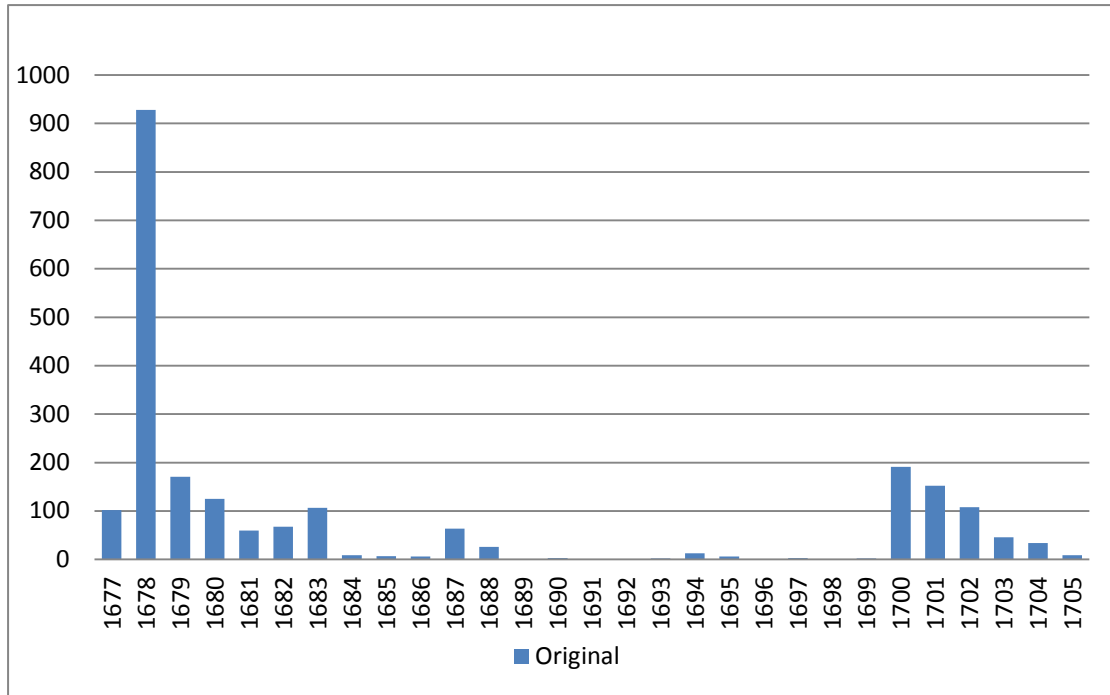
¹⁶ 12 & 13 W.III, c.12, s.15.

The Assignment Books are of two kinds: the Assignment Books (Goldsmiths') and the Assignment Books (Pells').¹⁷ This project uses the second series of the Assignment Books (Goldsmiths') and the Assignment Books (Pells'). The second series of the Assignment Books (Goldsmiths') deals with six bankers: Vyner, Backwell, Whitehall, Lindsay, Portman and Snell. Most content of the Assignment Books (Pells') is the duplicate of that recorded in the second series of the Assignment Books (Goldsmiths'). Nevertheless, it provides records of the original creditors of four other goldsmith-bankers: Sir Jeremiah Snow, Robert Rives, Robert Wealstead, and Thomas Rowe.¹⁸

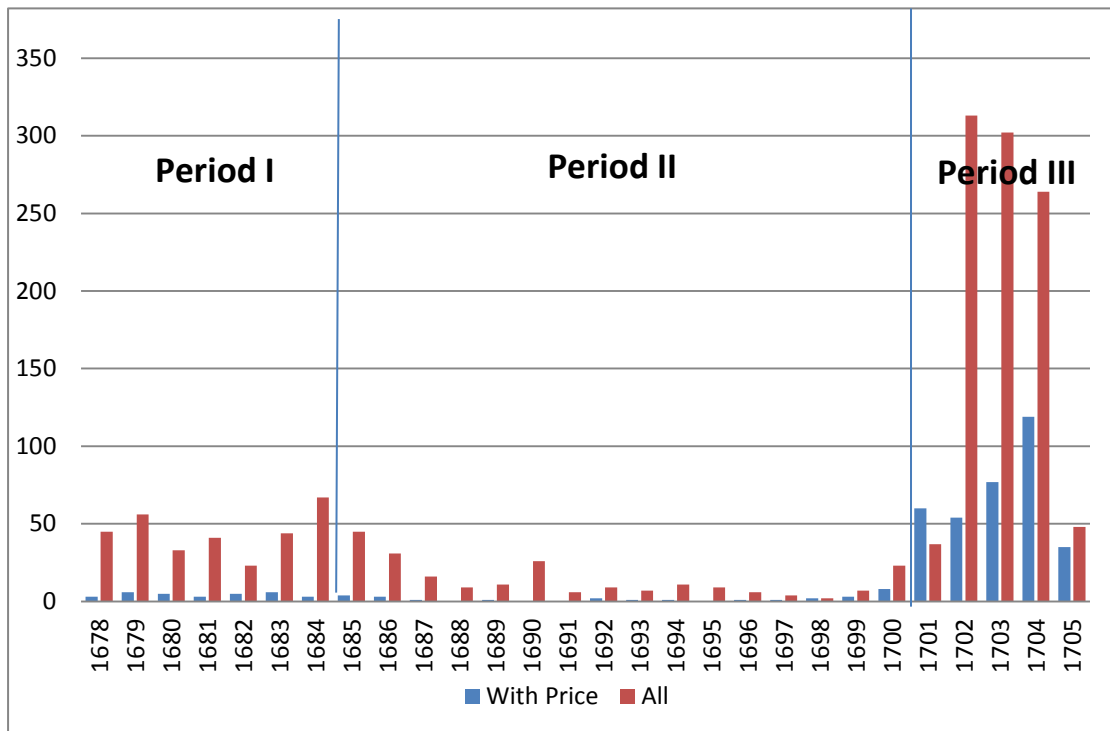
Between 1677 and 1705, the Assignment Books (Goldsmiths') recorded 2,245 entries between original creditors and their goldsmith-bankers, and another 1,495 entries of secondary transaction of assignments. Among these 1,495 secondary transactions, there are 404 transactions with quotation of prices. The number of transactions is shown in Graphs 1 and 2. According to the payment of interest, the years covered by the dataset can be divided into three sub-periods: the first period (1677-1684) when the government regularly made the repayment, the second period (1685-1700) of irregular or non-repayment and the third period (1701-1705) of the resumption of repayment of interest. The number of secondary transactions in the three periods are 309 (21%), 222 (15%) and 964 (64%), respectively. The distribution of secondary transactions should reflect whether the government honoured its debt. During the second period, when the repayment was irregular, the number of secondary transactions fell. As soon as the resumption of repayment was announced, the number of transactions increased rapidly, as indicated in Graph 2.

¹⁷ The Assignment Books are stored in the National Archive: E406/16-26, the second series of the Assignment Books (Goldsmiths), 11 volumes and E406/27-44 the Assignment Books (Pells), 18 volumes.

¹⁸ I only discovered the Assignment Books (Pells') in the archival work of the summer of 2016. Hence, this report will not include the additional information contained in the Assignment Books (Pells').



Graph 1. The number of original transactions, 1677-1705



Graph 2. The number of secondary transactions, 1678-1705.

The assignment shown in Figure 1 is typical of this kind of entry: “Whereas William Moyer of London Merch[ant] hath delivered up unto me John Lindsay of London goldsmith all his securities for, and hath discharged me of the sume of eight

hundred and sixteen pounds which was due unto him by John Colvile of London goldsmith dec[eased], and is content to accept of an assignment of a propor[t]ionable part of the rent or yearly sume of five thousand one hundred forty nine pounds seventeen shillings and four pence granted unto me, my heirs and assignees by his Maj[esty] and payable out of his hereditary revenue of excise by virtue of his Maj[esty] Letters Patent dated the third day of May last part. Know all men therefore by these presents, that I the said John Lindsay in consideration thereof grant and assign unto the said William Moyer and his heirs the sume of forty eight pounds nineteen shillings and two pence yearly being his propor[t]ionable part of the said yearly sume of five thousand one hundred forty nine pounds seventeen shillings and four pence in satisfaction for his said debt. To hold receive and enjoy the said yearly sume of forty eight pounds nineteen shillings and two pence unto the said William Moyer and his heirs assignees forever to commend from..... .”

A large proportion of defaulted loans came from the money deposited with the goldsmiths. Consequently, a great number of people, who did not directly lend money to the crown, were also hurt by the Stop. As indicated in the text, there were two distinct credit chains: one between the goldsmith-bankers and the crown, and the other between the depositors and the goldsmith-bankers. When Charles II discharged the debts of goldsmith-bankers owed to their depositors, and used tax revenue to repay the debt, the personal debt of goldsmiths to their creditors was converted into the debt of the crown. The payment of the interest was out of the Hereditary Excise. The method used to repay this £1.3 million debt was the precursor of the permanent annuity financed by regular tax, which emerged in the 1690s.¹⁹ The creditors of the goldsmiths thus became investors in English government debt. The two credit chains are clearly illustrated in Figure 2. By the Letters Patent, the liability of goldsmith-bankers became the permanent assignable government debt. The holders of the debt could pass it to their heirs or assign it to a third party. As a result, the secondary market of government debt emerged in the last quarter of the seventeenth century.

¹⁹ P. G. M. Dickson, *The Financial Revolution in England* (1967), pp. 46-75.

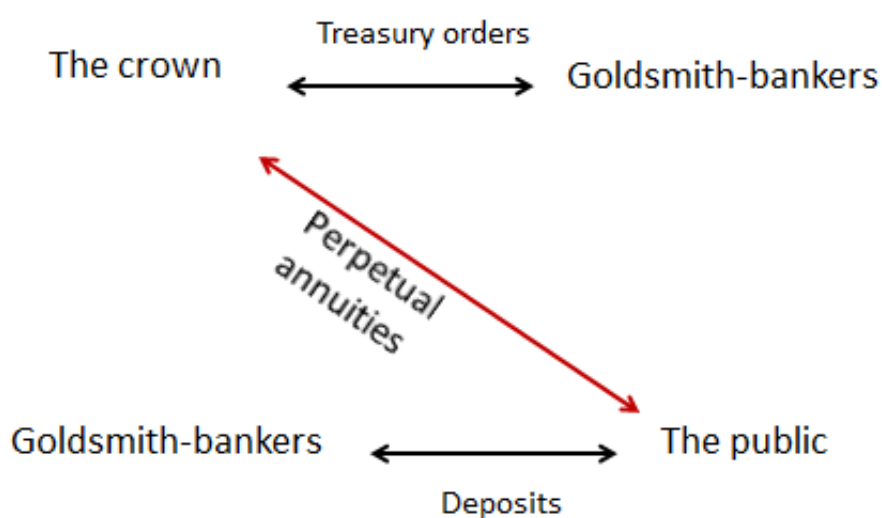


Figure 2. The credit relationship between the crown, goldsmith-bankers and the public.

IV. Primary results

By analysing the information contained in the Assignment Books, this project is able to examine the financial role played by London goldsmith-bankers in the second half of the seventeenth century and the effect of the constitutional changes of 1689 on the secondary market of government debt.

1. London goldsmith bankers' clients

London has long been the social, political and economic centre of England. The country gentry spent several months per year in London for business or leisure. Therefore, making these incomes available in London was an essential duty of estate stewards. Furthermore, London, being densely populated, drew its food supplies from the surrounding countryside, and as a result, part of the countryside's income accumulated in London, and was deposited with London goldsmiths. Probably from the mid-seventeenth century, London goldsmiths gradually acquired the function of deposit-banking. It became common practice to leave spare cash with the goldsmiths. The deposits were mainly associated with agrarian proceeds, and the goldsmiths' deposit-banking business was constructed around the agricultural season. Country gentlemen needed money in London to pay off their expenses for purchasing luxury goods or spending time living in the city. However, their income came from agrarian rather than urban sources, and therefore funds had to be transferred from the

countryside to London. Depositing money, which could be withdrawn at short notice, with the goldsmiths, was the solution.²⁰

London goldsmiths acting as deposit-bankers not only served the country gentry, but also the retailers operating in the neighbouring areas. As listed in Table 2, the landed gentry (gentlemen and esquires) forms the largest group of London goldsmith-bankers' clients, followed by the men engaged in various trades. These two groups together account for 70 percent of the total number of clients. Women, either spinsters or widows, represent one-sixth of the total number recorded. The occupations that cannot be represented by these three categories include clerks, marines, students, musicians, clergy and others. In terms of geographic distribution (shown in Table 3), over half of the total clients resided in London. Together with the two neighbouring counties (Middlesex and Surrey), the geographic concentration becomes even more pronounced: 80 percent of the clients were living in the city of London, Middlesex or Surrey, as illustrated in the shaded part of Figure 3.

Table 2 Distribution of transactions in terms of occupations

	Original depositors	Secondary market: sellers	Secondary market: buyers
Landed Gentry	38%	36%	40%
Tradesmen	32%	38%	46%
Women	17%	16%	5%
Noble	8%	6%	6%
Other	5%	4%	3%

Source: National Archives, E406/16-26

Table 3 Geographic distribution of transactions

	Original depositors	Secondary market: sellers	Secondary market: buyers
London	54%	60%	72%
Middlesex	22%	19%	17%
Surrey	5%	4%	2%
Other I (excluding London)	46%	40%	28%
Other II (excluding London, Middlesex and Surrey)	19%	17%	9%

Source: National Archives, E406/16-26

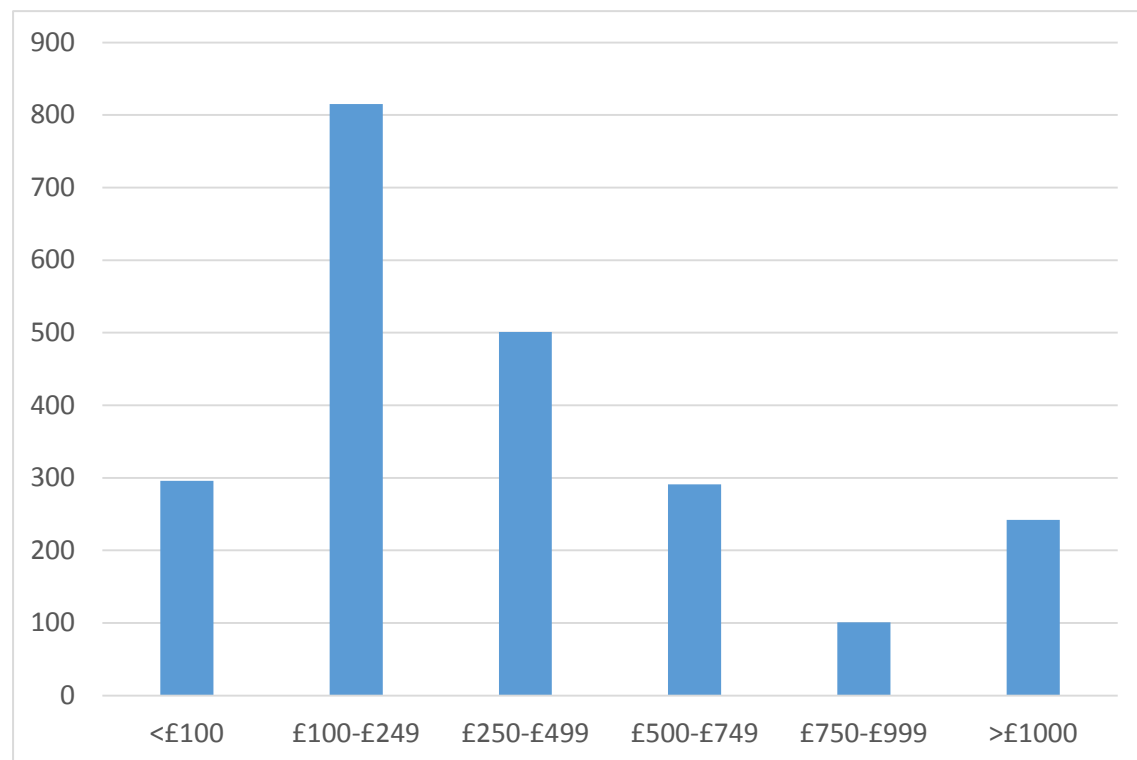
²⁰ F. T. Melton, *Sir Robert Clayton and the Origins of English Deposit Banking, 1658-1685*, (Cambridge, 1986), pp. 20-1



Figure 3. Historical map of England.

Graph 3 shows the distribution of the amount of money of each individual client deposited with London goldsmith-bankers. The average amount deposited is £428, but most deposits fall within the range £100-£245. The clients labelled as ‘noble’ tended to deposit relatively large sums of money: the average being £820 and the median £500. The average deposit of the groups of tradesmen, women and others is about £325. Compared with the average household annual income in late seventeenth-century England, which was about £40 to £60, these London goldsmith-bankers’ clients were wealthy, considering that the money deposited with goldsmith-bankers represented their surplus cash. To sum up, in the late seventeenth century, the London goldsmiths’ deposit-banking business only serviced a small proportion of the total population, who owned substantial amounts of movable assets, and lived in a small area confined mainly to the city of London and two neighbouring

counties. London did not acquire its status as a financial centre on a national scale before the eighteenth century.



Graph 3. The distribution of the amount of money deposited with goldsmith-bankers.

2. The secondary market of government bonds

As indicated in the context of Figure 1 and illustrated in Figure 2, the crown made payment of six percent interest on the principal defaulted on by the Stop to the original depositors. The original depositors could either hold the right to enjoy the yearly interest payment or assign this right to a third party. The Assignment Books recorded the first re-assignment of the yearly rent on 18 December 1677, just a few months after the issue of the Letters Patent. A nascent secondary market for government bonds developed in London in the late seventeenth century. As shown in Graph 2, on average there were fifty secondary transactions every year until the interest payment faltered in 1685. Although secondary transactions seem to cease during the period when the government made irregular payments, the trade in government bonds rapidly regained momentum and the number of transactions increased to 300 every year.²¹

The preliminary analysis reveals several characteristics of financial investment in late seventeenth-century London. The occupational and geographic distribution of the

²¹ The assignments ceased to be recorded in mid-1705, since the number of transactions was so low.

secondary transactors of government bonds are presented in Tables 2 and 3, and show that the secondary transactions further concentrated occupationally and geographically. Gentry and tradesmen dominated the secondary market accounting for, 75% and 85% of sellers and buyers of government bonds. In terms of female transactors, the proportion of sellers remained the same as the original depositors, however, their participation as buyers fell dramatically to account for only five percent of the total number of observations. Contrary to the female transactors, tradesmen became more active as buyers in the secondary bond market, the share of their participation increasing by a third to 46%, followed closely by gentry (40%). This changing proportion reflects that women, as investors, may have been more risk-averse, tending to sell their holdings and less likely to participate in buying bonds. Perhaps due to the customary use of credit, tradesmen chose to invest in annuity.

As mentioned earlier, the money deposited with London goldsmiths was drawn from small areas: the city of London, Middlesex and Surrey. London, as a financial centre, was poorly integrated with other counties. Assignees of the re-assignment of annuity were further concentrated in London, indicating the limited extent of the secondary market of annuity. London alone accounted for nearly three-quarters of the total purchase of annuity in the secondary market. This skewed distribution could be a result of the accessibility of information and the use of credit in the city and neighbouring counties.

The reasons behind the secondary transaction of government bonds are listed in Table 4. Across all transactions monetary reasons predominate. Transactions occurring between family members largely increasing but monetary reasons declining during the years 1685-1700 could be attributed to the irregular payments made at the time. After the intention to resume payment of interest was made public in 1701, the number of transactions associated with monetary reasons increases to 85 per cent in the period 1701-5. In the period 1685-1700, the holders of government bonds could not recoup their investment, and therefore, it was difficult to sell the bonds. Once the government made it clear that they were going to resume payment, if the public trusted the government, people anticipated repayment and could be persuaded to buy the bonds. As a result, the share of monetary reasons for transaction is low in the period 1685-1700, but high in 1701-1705.

Although most secondary transactions of these annuities involved monetary reasons, there are signs that these annuities were quite useful and acceptable in the sphere of family finance, i.e. endowment, legacy or dowry. For example, Peter Aylworth, a citizen and cloth-worker of London, granted his annuity of yearly interest of £12 6s as dowry for his daughter, Hannah. The annuities were also employed for debt settlement, and to act as security for future payment.

Table 4. The types of secondary transaction (in %)

	Monetary	Diverse good causes	Discharge of trust	Family	Others
Whole period	81%	8%	3%	4%	3%
Irregular payment period (1685-1700)	70%	8%	3%	13%	7%
1701-1705	86%	8%	2%	2%	2%

Source: National Archives, E406/16-26

Here the case of the re-assignment of Anthony Bryant's bonds is used to illustrate a secondary transaction. As shown in Figure 4, Anthony Bryant deposited money with three goldsmith-bankers; Robert Vyner, Edward Backwell and John Portman. Because of their financial dealings with the crown, these three goldsmith-bankers were all affected by the Stop. As a result, Anthony Bryant received three assignments of yearly rent from the crown: £28 16s, £30 and £10s 12s. After Anthony Bryant died in 1684, his widow Elizabeth, probably liquidating Bryant's assets, sold these three bonds to John Wordell of Middlesex (gentleman). A month later, John Wordell for a certain amount of money sold these bonds to Anthony Stuart Junior of London (esquire). Two of these bonds (the yearly rents of £28 16s and £30) were sold to William Woort of Cambridge (gentleman) in May 1685, and the third bond (£10 12s) was not sold until the end of 1700. These transactions were all associated with money exchange, which traded as nowadays on the secondary market. Moreover, the re-assignments occurred within a year, indicating that the holders were eager to dispose of the bonds before the payment of interest completely stopped, and to recoup as much of their investment as possible.

After the government failed to make the payment of interest, the original depositors and the holders of government bonds filed petitions and pursued their cases in the courts. One such was Robert Williamson of London (esquire). According to the Assignment Books, an amount of £1300 owed to Robert Williamson - £100 deposited with Robert Vyner and £1200 with Edward Backwell - was lost by the Stop of the Exchequer. Along with other bankers and creditors, Robert Williamson brought the cases to the Court of Exchequer in 1691. Before the lawsuit, Robert Williamson had accumulated his holding of bonds by purchasing from other assignees, part of which is illustrated in Figure 2. It is clear that Samuel Brockenbrough and Joseph White acted as broker. They purchased heavily in 1689, which may have been under the instruction of Robert Williamson, and sold the bonds to Robert Williamson in 1690. Obviously, Robert Williamson largely increased his holding before the lawsuit, and this suggests that he seemed confident in his case.

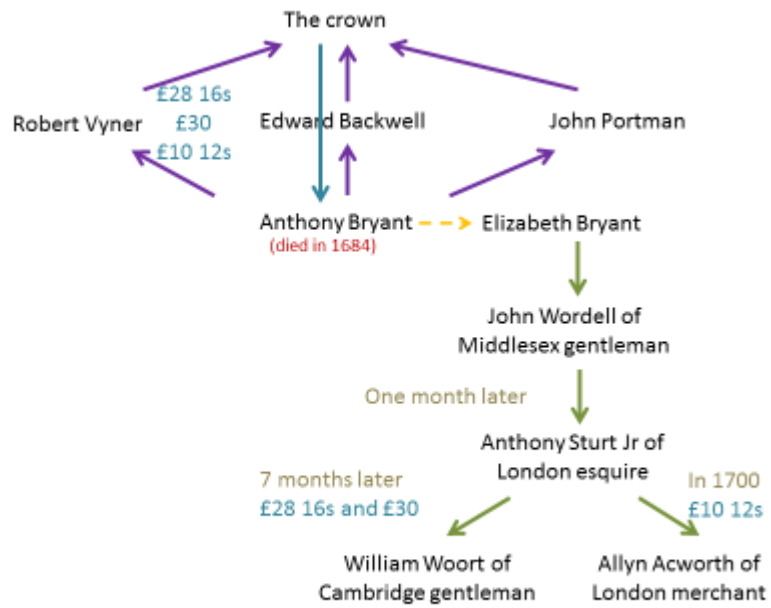


Figure 4. The secondary transactions of the government bonds originally assigned to Anthony Bryant.

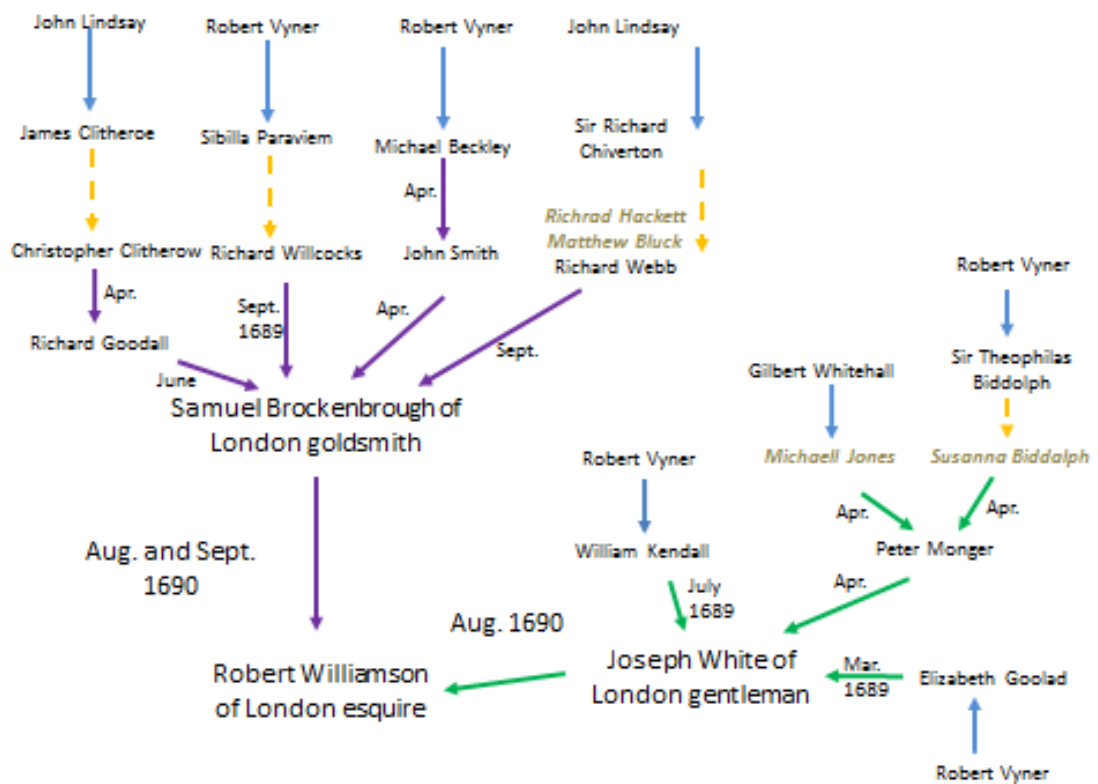


Figure 5. An example of secondary transaction: Robert Williamson

3. The constitutional changes and the secondary market of government bonds

One question this project intends to answer is whether and to what degree the constitutional changes of 1689 affected the government's credibility as perceived by the public. The approach to analyse this question is to examine the price of the government bonds traded on the secondary market. If the government became more trustworthy after the constitutional changes, the price of government bonds should increase and the yield fall. Therefore, the movement of the price and yield of bonds sheds light on the effects of the constitutional changes in terms of the government's credibility in financial affairs. In addition to the personal information of assignees, the Assignment Books also provide some price data related to the secondary transaction of government bonds in 1678-1705.

Table 5 The yield of government bonds, 1678-1705

	# of transactions	Yield
1678-1705	404	0.117 (0.126)
1678-1688	40	0.185 (0.227)
1689-1705	364	0.110 (0.107)
1678-1684	31	0.136 (0.091)
1685-1700	28	0.374 (0.354)
1701-1705	345	0.095 (0.042)

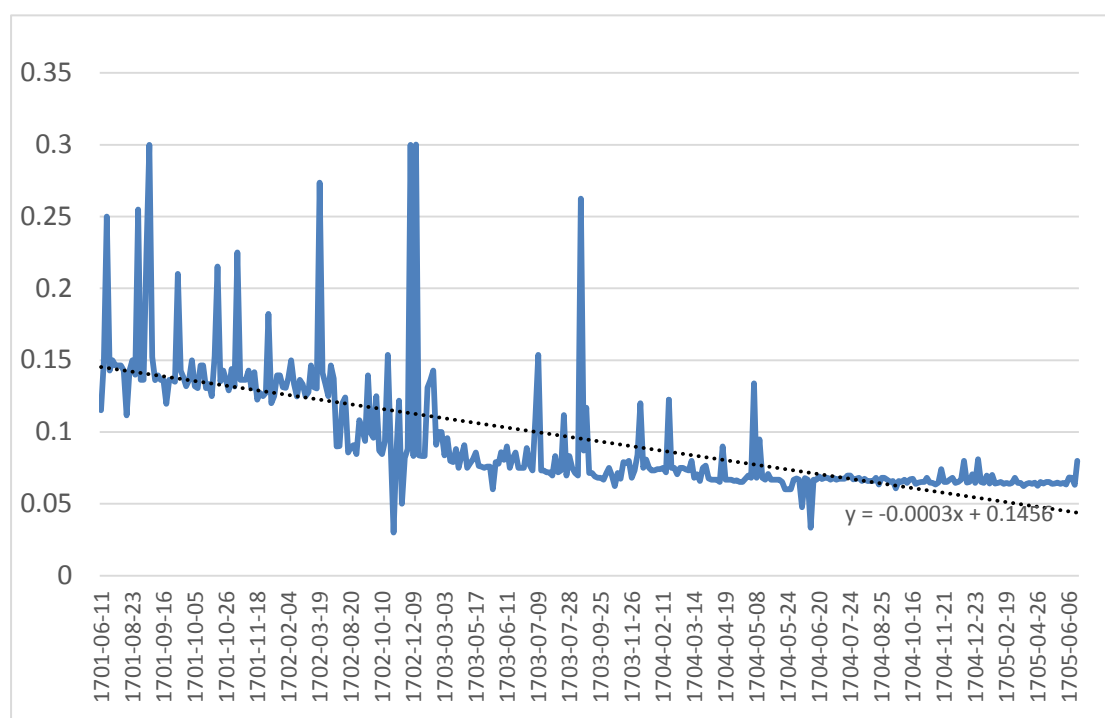
Source: National Archives, E406/16-26

Note: The standard deviations are shown in brackets.

According to the available price data, the yield of government bonds can be calculated. The number of transactions and average annual yield are listed in Table 5. For a given amount of interest payment, the higher the yield (or the lower the price), the higher the risk (i.e. of default) perceived by investors. The average yield for the whole period is 11.7%, which was nearly twice the legal rate of interest at the time. The upper part of Table 5 shows the yield of government bonds before and after the Glorious Revolution of 1689: the yield for the pre-revolution period is 68% higher than the yield for the post-revolution period. It seems that parliamentary supremacy boosted the government's credibility. However, there was no regular repayment in the first ten years of constitutional monarchy; the public must have taken this into account. The lower part of Table 5 divides the whole period according to whether the payment of interest was made: regular repayment (1678-1684), irregular repayment (1685-1700), and the announcement of the resumption of repayment (1701-1705). The yield in the period of irregular repayment is much higher than that during the

period of regular repayment, despite falling under the constitutional monarchy. After the government announced that the payment of interest (though now only with an interest rate of three percent) would be resumed five years later (December 1705), the yield dropped immediately and dramatically. The increased number of transactions and the falling yield strongly suggest that the public had substantial confidence in the government even though there had been no regular repayment for fifteen years.

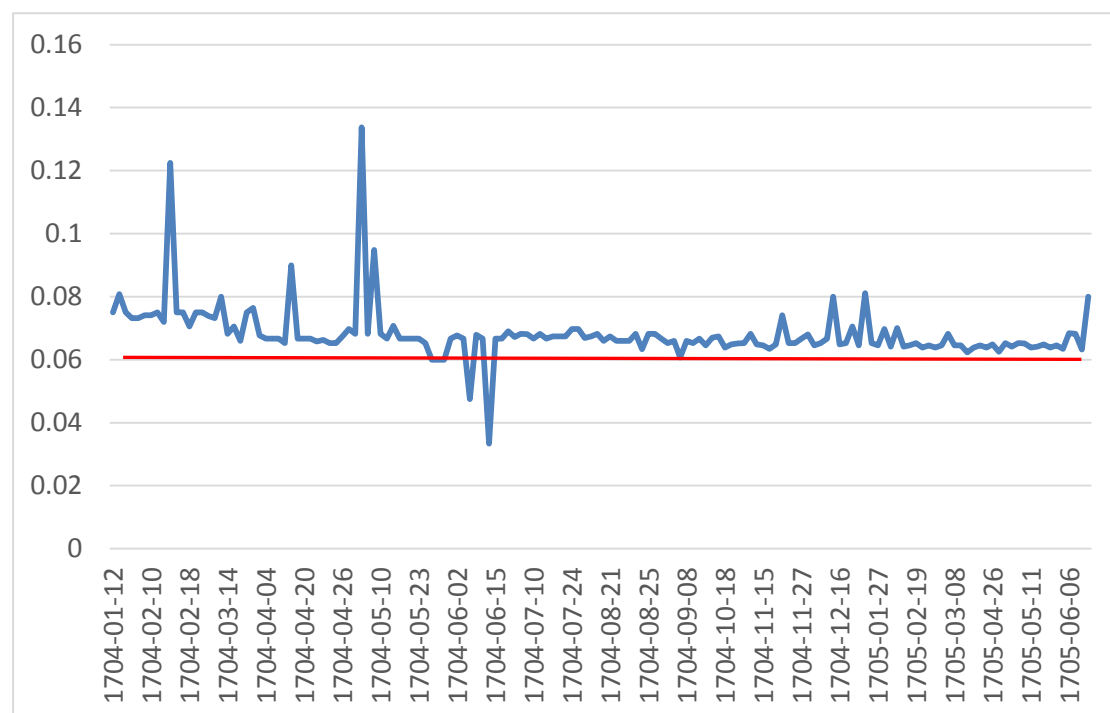
The movement of yield in 1701-1705 can also be observed in Graph 4 and Graph 5. The yield in 1701-1705 was not only low in comparison with the previous period, but also continued to fall over time, as shown in Graph 4. Notwithstanding some volatility, the continuously downward trend cannot be mistaken: the yield fluctuated around 15% in 1701 and gradually converged to six percent, which was the legal rate of interest at the time. Graph 5 shows that the yield stabilised and remained close to six percent in 1704-1705. The movement of yield indicates that the financial market in London, in terms of government bonds, was sufficiently efficient to reflect the changes in institutional and political conditions.



Graph 4. The yield of government debt in the secondary market, 1701-5.

As mentioned, the irregularity and uncertainty of payment of interest may have caused the high and volatile yields in the period 1685-1700; however, the government's fiscal difficulties at the time may also have contributed to the high level of yield. After William ascended the throne of England, he brought England into war with France (1688-1697). As a result, the demands of military expenditure greatly

increased and every available financial resource was tapped by the government. One method was to borrow from the public. The achievement was remarkable, considering the nascent political system and the remaining unpaid debt and arrears related to the Stop: the new constitutional monarchy managed to borrow a large sum of money from the public (shown in Table 6). Despite this success, the government was forced to pay a high rate of interest to elicit the loans. The 15% yields observed in 1701 could be a reflection of the recent high rate of interest paid by these new annuities.



Graph 5. The yield of government debt on the secondary market, 1704-5.

Table 6. Government long-term borrowing, 1693-8

Loan	Date	Sum raised	Interest rate
Tontine loan	1693-01-25	£108,100	10% until midsummer 1700, then 7%
Single-life annuity	1693-01-25	£773,394	14%
Single-life annuity	1694-02-08	£118,506	14%
Lottery	1694-03-23	£1,000,000	14%
Bank of England	1694-04-24	£1,200,000	8%
Annuities for one, two, and three lives	1694-04-24	£300,000	14%, 12%, and 10%, respectively
Lottery	1697-04-16	£1,400,000	6.3%
New East India Company	1698-07-05	£2,000,000	8%

Source: P. G. M. Dickson, *The Financial Revolution in England* (1967), Table 2.

Table 7. The returns from secondary transactions in the period 1685-1700

	1699	1700	1700	1686	1686
Buy-in price	£10	£20	£34	£18	£100
Sell-out price	£20	£41	£50	£10	£50
Length of holding	9 days	22 days	22 days	87 days	2y 5.5 m
Rate of return	4056%	1742%	780%	loss	loss

Source:

The price data allows us to calculate the return from secondary transactions, and the five available results during the period of irregular payment are listed in Table 7. For the three cases with profit, the sellers disposed of the bond in a very short period of time, and made a huge profit. Moreover, the profitable cases all occurred at the time which was close to the announcement of the resumption of payment. By contrast, the two cases suffering loss were traded in 1686, when uncertainty about the repayment prevailed.

V. Conclusion

By using a new dataset, this project intends to study the effect of the constitutional changes of 1689 on the credibility of government perceived by the financial market, and to what extent London acted as the financial centre on the national scale in the late seventeenth century. The Assignment Books provide information about the occupations and locations of the assignees affected by the Stop of Exchequer, and the prices of secondary transactions of government bonds. This project is able to identify the occupational and geographic distribution of transactors involved with the secondary market and the yields of government bonds.

The level of yield seems to have been decided by whether the payment of interest was actually made, rather than the constitutional changes of 1689. The high yields in 1685-1700 may be due to the uncertainty of repayment. Once provision for the discharge of interest was made, the secondary market became active prior to the actual date of repayment. Furthermore, the average yield was lower than that of the period 1678-1684, when the repayment was regular. Although the yield became high and volatile during 1685-1700, when repayment was irregular and uncertain, the government still managed to borrow a large sum from the public to finance the war. It is hard to tell whether the uncertainty of payment or the straitened fiscal situation caused the rising yields. However, the movement of yields in 1701-1705, to some extent, accords with the argument of North and Weingast that the constitutional changes of 1689 improved the government's credibility. Once the government announced the resumption of the payment of interest, albeit in five years' time, yields

fell immediately and converged to the level of the legal rate of interest. The public must have been sufficiently confident that the constitutional monarchy would honour the promise, and quickly resumed active participation in trading in government bonds. The resumption of payment came as a result of fierce and continuous petition and litigation from bankers and assignees, indicating that credit commitment was not offered from above, but rather had to be demanded from below by people whose money was at risk.²²

References

- Brewer, J. (1989). *The Sinews of Power: War, Money and English State, 1688-1783*, New York
- Browning, A and Douglas, D. C. (1953). *English Historical Documents, 1660-1714*, London
- Carruthers, B. G. (1996). *City of Capital: Politics and Markets in the English Financial Revolution*, Princeton University Press
- Clark, G. (1996). 'The political foundations of modern economic growth, 1540–1800', *Journal of Interdisciplinary History*, 26, pp. 563–88
- Coleman, D. C. (1963). *Sir John Banks, Baronet and Businessman: Study of Business, Politics, and Society in Later Stuart England*, Oxford
- Dickson, P. G. M. (1967). *The Financial Revolution in England*
- Feavearyear, A. (1963). *The Pound Sterling: A History of English Money*, Oxford
- Flandreau, M. and Flores, J. H. (2009). 'Bonds and brands: foundations of sovereign debt markets, 1820–1830', *Journal of Economic History*, 69, pp. 646–84
- Horsefield, J. K. (1982). 'The "Stop of the Exchequer" Revisited', *The Economic History Review*, 35, pp. 511-28
- Melton, F. T. (1986). *Sir Robert Clayton and the Origins of English Deposit Banking, 1658-1685*, Cambridge
- Murphy, A. (2013). 'Demanding 'credible commitment': public reactions to the failures of the early financial revolution', *Economic History Review*, 66, pp. 178-97.
- North, D. and Weingast, B. (1989). 'Constitutions and commitment: the evolution of institutions governing public choice on seventeenth-century Britain', *Journal of Economic History*, 49, pp. 803-32
- Price, F. G. H (1881). 'Some notes on the early goldsmiths and bankers, to the close of the seventeenth century', *Transactions of the London and Middlesex Archaeological Society*, 5, pp. 255-81.
- Quinn, S. (1997). 'Goldsmith-banking: mutual acceptance and inter-banker clearing in restoration London', *Explorations in Economic History*, 34
- Quinn, S. (2001). The Glorious Revolution's effect on English private finance: a microhistory, 1680-1705', *Journal of Economic History*, 61, pp. 593-615
- Roseveare, H. G. (1962). *The Advancement of the King's Credit, 1660-1672*, unpublished Cambridge University PhD thesis
- Sussman, N. and Yafeh, Y. (2006). 'Institutional reforms, financial development and sovereign debt: Britain 1690-1790', *Journal of Economic History*, 66, pp. 906-35

²² Murphy, 'Credible commitment'.

Temin, P. and Voth, H.-J. (2008). 'Private borrowing during the financial revolution: Hoare's Bank and its customers, 1702-24', *Economic History Review*, 61, pp. 541-64

Wells, J. and Wills, D. (2000). 'Revolution, restoration, and debt repudiation: the Jacobite threat to England's institution and economic growth', *Journal of Economic History*, 60, pp. 418-41