

Questioning a Stylized Fact: When did the Bank of England become a Delegated Bureaucrat?

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The British Financial Revolution was a dramatic change in public and private finance around 1700 that began with the government becoming a more credible borrower. By becoming far more credible, the government could and did successfully begin to engage in long-term borrowing. The large supply of long-term securities then came to support deep secondary markets, so liquidity increased as risk decreased. A prime example of the revolution was the initial public offering of Bank of England stock in 1694. The funds raised by selling the stock were lent to the government for 12 years, so long-term debt was created. Also, Bank of England stock was far easier to transfer (lower transaction costs) than the annuities the government was offering the public, so liquidity was also increased. The Bank of England, however, is often held out as more than a result of the process. A literature references the Bank of England as an institution that also worked to increase the credibility of government debt, so the entire developmental loop was reinforced. Credible government debt was necessary for the creation of the Bank of England, and the Bank of England then increased the credibility of government debt, so the Bank of England was catalyst helping cause the revolution.

The devil in claiming that the Bank of England caused government debt to become more credible is detailing what mechanism the Bank of England used. The reduced form of mechanism offered by many authors concerned with credibility issues is that the Bank of England operated as a delegated bureaucrat. That means that the government delegated bureaucratic power to the Bank of England. The power delegated was a ability to pool debtors into a group that could collectively respond to a government default. With a collective response

being more painful to the government than the dispersed response of individuals, the government was less likely to default. Moreover, the effect was applied to all government debt and not just the debt held by the group coordinated by the Bank.

This paper considers four mechanisms available to the Bank of England to coordinate debtors: the Bank of England held government debt, carried out initial public offerings of government debt, managed the ongoing servicing of existing debts, and acted as a medium for the refinancing of government debt. For each mechanism, this paper examines when the Bank of England first began to execute each of these powers and when, or even if, the Bank of England came to dominate each. To do this, I have created a number of new time series including original figures from the Bank of England's own ledgers. The result is that the Bank of England began exercising most of these powers years after its founding and then the Bank of England often did not dominate those powers for additional years or even decades. It seems unlikely that the early Bank of England used any of these powers to reinforce government credibility. The facts do not concur with the stylized facts.

I. Credibility and Delegated Bureaucrats

Before deciding whether the Bank of England increased the fiscal credibility of the British government, one has to be clear about what credibility means. Credibility is the expectation that people will honor their commitments. In this case, credibility asks if people expect that the government will honor the terms of its financial obligations: interest, principal, maturity, etc. As an expectation, credibility resides in the minds of lenders today and speculates about what will be in the minds of borrowers tomorrow. Speculation can only use information

available today, so the actual behavior of borrowers tomorrow is not at issue. In contrast, the intent of a borrower today may provide useful information, but it is not the central question. Credibility asks what does a lender foresee will be the government's behavior when the day of deciding arrives.

North and Weingast (1989) proposed that the constitutional changes that followed the Glorious Revolution of 1688 increased the government's fiscal credibility. Before 1688, defaulting on debt was part of a larger game of power played between Crown and Parliament. The constitutional changes that followed the Glorious Revolution brought constitutional stability, relatively speaking, and increased constitutional stability reduced one cause of past defaults. In other words, lenders came to view the Stuart-era scenario of a king defaulting on his debt in order to gain advantage relative to Parliament as becoming a remote possibility after 1688. The point is not that the government no longer had the authority to default; rather, that the government was less likely to choose to default. Getting the combination of both houses of Parliament and the Crown to agree to a default is harder than getting just one part to favor default (Weingast 1997). Such constitutional credibility was essential for long run borrowing that committed governments of the distant future.

The greatest pressure for default, however, is the amount of debt owed relative to revenue and relative to other expenditures. In the long eighteenth century, the great, pressing expenditure was for war. While the government might find default undesirable, losing a war to France could be far worse. As wars dragged on and expenses mounted, the likelihood of default increased because the war effort had priority. The consequence for the credibility of government borrowing was that expectations of a war's length, outcome, and finance dominated a calculation

of credibility. To counterbalance this, governments raised taxes and expanded long run borrowing (Brewer 1988, Dickson 1967). The credibility of long run government borrowing began with constitutional stability and increased with confidence that Parliament would maintain taxes as long as needed to service the debt. Indeed, Stasavage (2003) has found that confidence in Parliament changed depending on the political party in power; Whigs were viewed as more credible.

Over the long eighteenth century, the government developed a number of credibility enhancing fiscal institutions. The Land Tax was introduced with a tax rate that could be easily adjusted year to year. The process of collecting the Excise Tax was improved. The Sinking Fund was adopted. The collection of these changes is known as the Financial Revolution and represent ongoing fiscal structures that help lenders believe that government debt will be repaid as promised. What contribution to the credibility of government debt did the Bank of England make? The answer offered repeatedly in the recent literature is that the Bank of England was a delegated bureaucrat. The delegation of the administration of government finances to the Bank caused the government to be less likely to default on that debt. Indeed, this point is repeated in the papers following North and Weingast (1989).

“The reason was that if the government defaulted, the bank might withhold revenues or even enforce a credit boycott (Stasavage 2002: 157).”

“Second, with the Bank organizing the government’s borrowing and managing many of its financial affairs, creditors now had a mechanism to coordinate their

response in case of default. Coordination in turn allowed creditors to inflict greater punishment on the state, and thus improved the latter's ability to borrow (Wells and Wills 2000: 422)."

"The Bank of England contained an explicit commitment technology that secured creditors' property rights. The key innovation was the proviso in its charter granting the Bank a dominant position in managing government finances (Broz 1998: 232)."

"Second, at exactly this time (1694), Parliament created the Bank of England, providing additional means to coordinate lenders and thus increasing the penalties available on the sovereign (Weingast 1997: 230)." Goes on to say some strange and incorrect things.

The importance of a credit boycott emphasized by this argument goes back to the Machiavellian reality that a government may target a vulnerable subgroup of lenders to suffer a default (Weingast 1997). A default limited to a few unfortunates can be very lucrative to the sovereign if the remaining lenders in the credit market will still lend. Individuals can defend themselves by banding together (Grief, Milgrom, and Weingast 1994). Therefore, if the Bank of England can coordinate a credit boycott, then the government is less likely to default and therefore government debt becomes more credible. A variation is to stress the Bank's role in processing government receipts, so the Bank could threaten to disrupt the inflow of government

funds (Stasavage 2003: 75).

What remains undeveloped are the dimensions of bureaucratic delegation. The various dimensions matter because they developed at different times and to different scales. Despite some misconception in the literature (See Weingast 1997: 230-1; Broz 1998: 244-5), the newly founded Bank of England had no monopoly position over the administration of government finances. Instead, the Bank's overall position developed slowly and sporadically over a few dimensions. Those dimensions regarding debt include direct lending to the government, issuing new debt to the public, and servicing debt already issued to the public. All these aspects of debt, in turn, can be considered by type of debt: unsecured bills, anticipations, and the various forms of long run annuities, company stocks, company bonds, and revenue stocks. The diversity of debt instruments also introduces the additional delegated function of converting existing debts into new forms. Yet another type of delegation is the inflow of funds from tax collection. Finally, each of these has a dimension of scale. The remainder of the paper lays out the various dimensions from the Bank of England's founding in 1694 until the creation of the Three Percent Consol in 1752 because that is last element considered part of the Financial Revolution. Table 1 shows that the Bank of England had begun each major role of delegated bureaucrat by 1717, yet, as the remainder of the paper will show, it took much longer for the Bank to reach levels of control that suggest an ability to coordinate market-wide boycotts.

Table 1. Years the Bank of England Began Various Aspects of Managing Government Finances

Debt Held by the Bank of England	
Long Run	1694
Anticipations	1694
Exchequer Bills	1707
Debt Issued to the Public by the Bank	
Exchequer Bills	1707
Long Run	1710
Debt Held by the Public Serviced by the Bank	
Exchequer Bills	1707
Long Run	1715
Conversion of Debt conducted by the Bank	
where the Bank became the debt holder	1709
where the Bank did not become the debt holder	1717

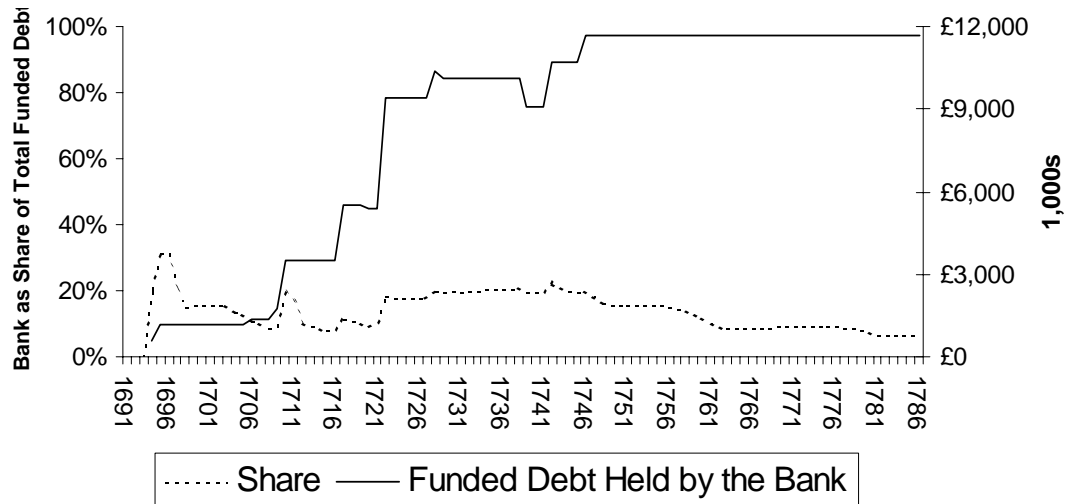
Source: Dickson 1967

II. Delegated Lending

The initial service the Bank of England provided was to coordinate investors into funding a long annuity of £1.2 million that formed the basic asset of the new Bank in 1694. The East India Company added more corporate loans in 1698 and 1708. Although investors might have believed that the government was less likely to default on these corporate loan than other forms of debt, other aspects made the stock behind these companies an attractive way to hold government debt. Stock was much easier to transfer than annuities (Neal 1990). Also, both the Bank of England and the East India Company had other businesses that benefitted from incorporation and privileges the government granted in exchange for the loans. Not only did the

Bank of England not monopolize the corporate holding of funded debt, the share of the funded debt held by the Bank was often less than 20 percent of all funded debt. Figure 1 plots both the amount of funded debt held by the Bank of England by year from 1694 to 1752. Figure 1 also reports that amount as a share of the total funded debt as reported in Quinn (2004). If the funded debt owed the Bank of England is considered the primary means of coordinating investors in a way that would increase the cost of government default, then the effect would have been strongest in the earliest years of the Bank's existence. Even then, the highest share reached by the Bank of England was only 31 percent of the funded debt in 1695 and 1696.

Figure 1. Bank of England's Holding of Funded Debt as a Total and as a Share.



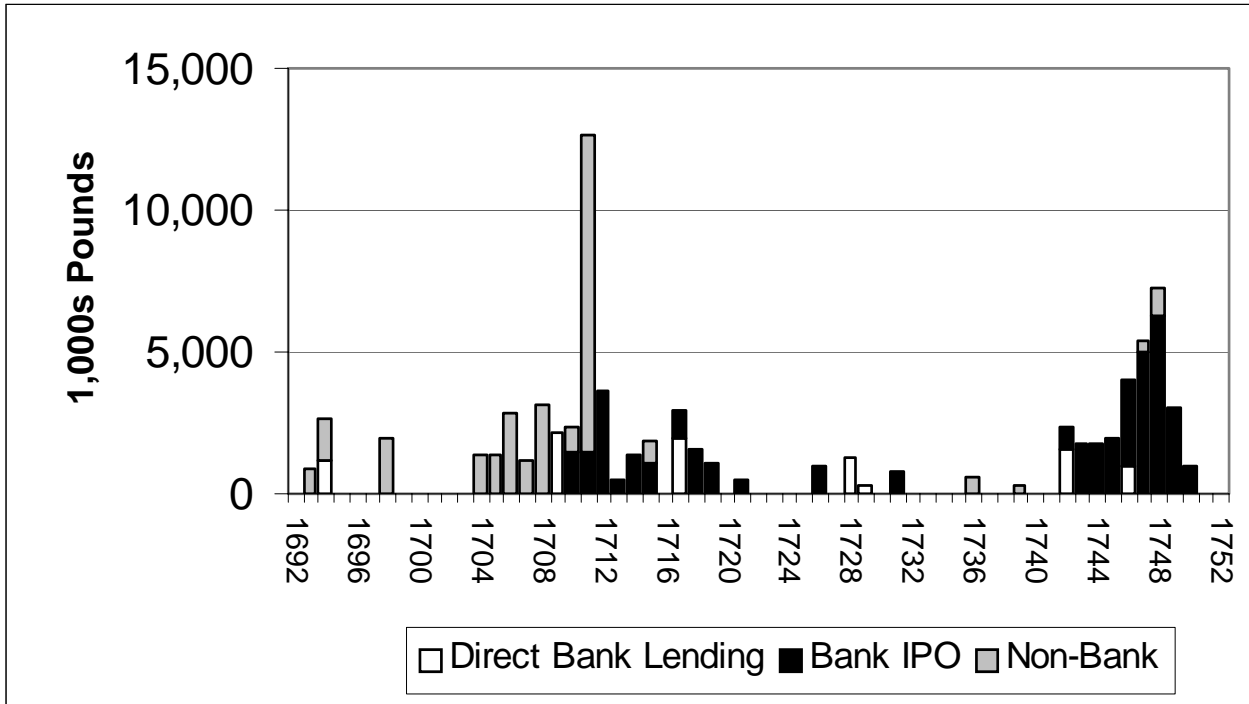
Source: Mitchell 1962: 401-2; Quinn 2004.

B. Delegated Administration of Debt

The Bank of England offered a different kind of coordination of creditors when the Bank issued government debt to the investing public on behalf of the government. The bank managed the initial public offerings, but did not assume ownership or underwriting liability. For long-term debt, this first occurred in 1710 when the Bank of England acted as receiver for two lotteries offered that year (Dickson 1967: 62). The Bank continued the service by issuing lotteries for the government 1711 and 1712. Perhaps the government came to rely on the Bank of England to administer new debt issues, so the government therefore became less likely to default and so ruin its intermediary.

To measure this new dimension, Figure 2 shows the pound value of newly created long-term government debt by year. Black bars are issued by the Bank of England to the public. White bars are direct long term lending by the Bank and gray bars are new long-term debt not involving the Bank of England. The values Figure 2 have been reconstructed from Dickson (1967) and an 1898 British Parliamentary Paper because the standard Mitchell (1962: 404-5) series “Creation of Funded Debt” does not include terminable annuities. Since the early long term debt issues were of this nature, the series grossly misrepresents the flow of long-term borrowing before 1710. While the emergence of this new bureaucratic delegation in 1710-12 is clear in Figure 2, the enormous role played by the South Sea Company in 1711 is also evident. After 1712, however, the Bank continues to dominant the issuance of new long-run debt during the re-construction of the National Debt in the mid-1710s through the War of Austrian Succession in the 1740s.

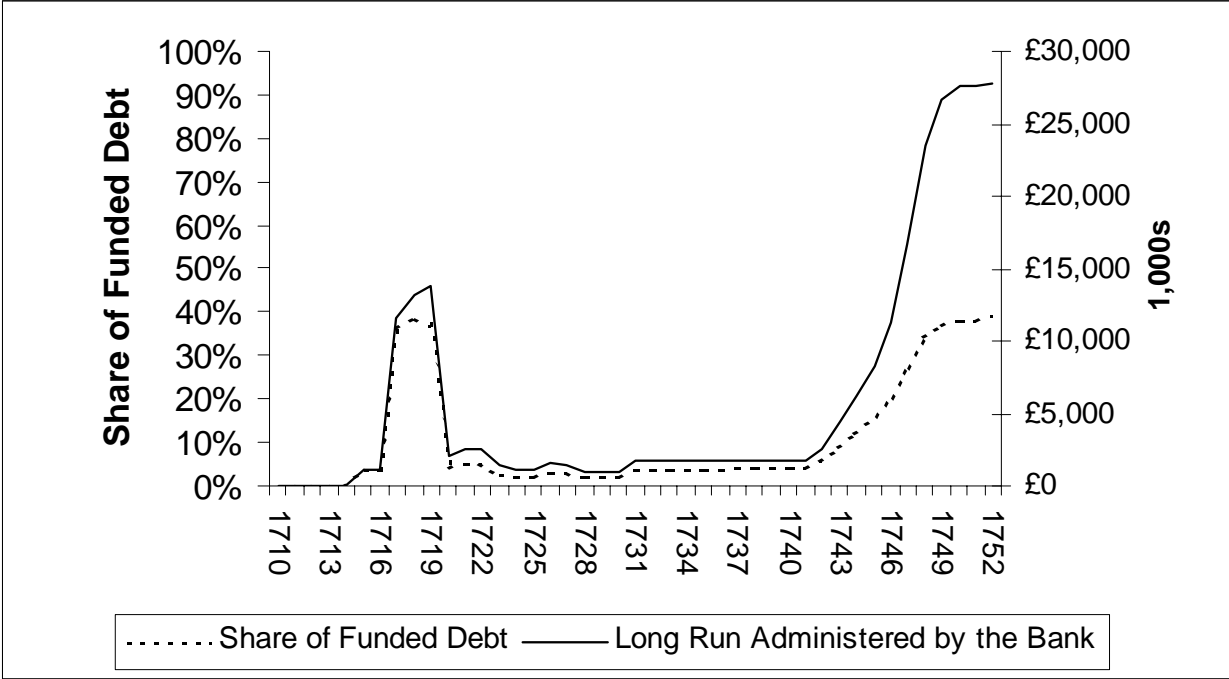
Figure 2. Yearly Pound Value of New Long-Run Government Debt



Issuance, however, is not the same thing as the ongoing services of recording transfers and distributing interest. Here the Bank of England did not get involved in long-term debt until 1717 when the lotteries of 1711 and 1712, along with debt remaining from the Stop of the Exchequer in 1672, were converted into a 5 percent stock managed by the Bank (Dickson 1967: 85-6). Figure 3 presents the amount of funded debt the Bank of England serviced on behalf of the government and that amount as a share of the total funded debt from 1710 to 1752. The share of total funded debt serviced by the Bank of England increased rapidly to 39 percent in 1718, but the South Sea Scheme reduced that share to 4 percent. The break in trajectory is dramatic because that share remained below 5 percent until 1742 when the War of Austrian

Succession reintroduced high levels of Bank servicing. By the consolidation of various Bank administered stocks in 1752, the share of funded debt administered by the Bank of England was no higher than the 1718 peak. The Bank did not manage even a substantial minority of the funded debt until the late 1740s.

Figure 3. Amount and Share of Funded Debt Serviced by the Bank of England



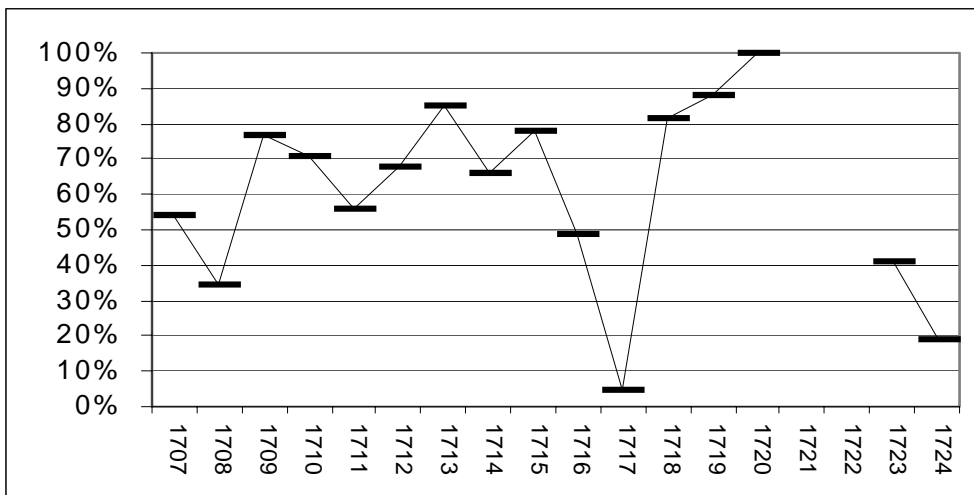
To summarize this section, the Bank of England did begin to dominate the issuance of long-term government debt as early as 1712; however, the Bank’s early gains over the actual administration of long-term debt was stymied by the great conversion of debt by the South Sea Company in 1720. The following two decades of peace and limited wars meant that little new long-term debt was actually issued until the War of Austrian Succession in the 1740s, so the

strongest dimension of bureaucratic delegation that the Bank of England could use to coordinate debt holders did not become viable until the 1740s – half a century after the Bank’s founding.

III. Short-Run Debt

The Bank of England gains ascendancy over short-term government debt much faster. Unlike long-term debt, the Bank of England did not issue short-run debt on behalf of the government. Instead, the Bank generally took ownership of tallies and Exchequer Bills and then circulated them to the public. From 1707 to 1724, the Bank of England circulated much of the Exchequer Bills to the public. Figure 4 reports the share of all Exchequer Bills in circulation outside of the Bank of England from 1707 to 1724 with some gaps in the series. While values vary widely (4.8 percent in 1717 to 99.8 percent in 1720), it seems safe to say that the Bank of England did manage the circulation of Exchequer Bills for the government in this era.

Figure 4. Share of Exchequer Bills in Circulation but Not Held by the Bank of England

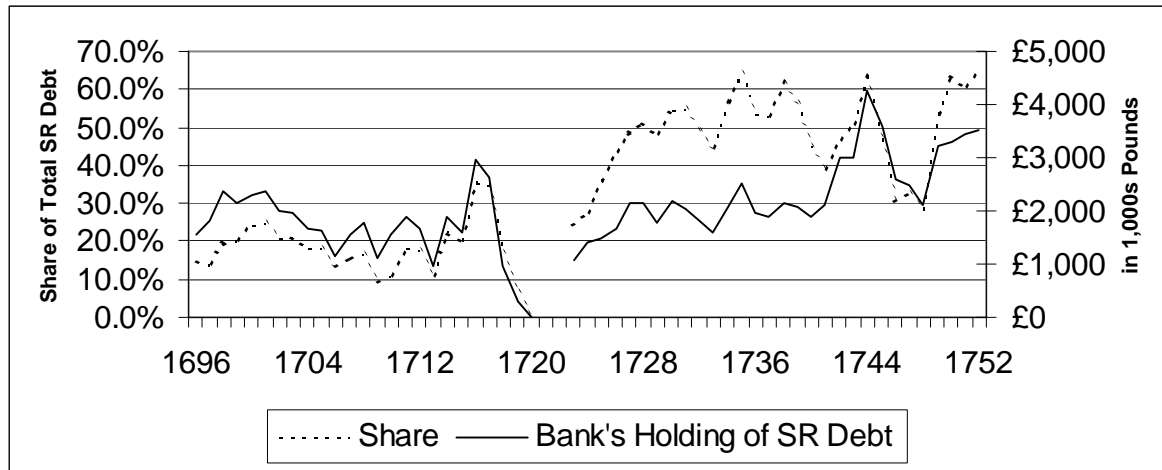


Source: Dickson 1967: 377, 383.

After 1720, the method of the Bank of England's management of short-run debt changed. First, the failure of the South Sea Company to displace the Bank in this particular form of bureaucratic delegation left the Bank the only corporate player in the short run debt game. The Bubble Act made it unlikely any rival would soon appear (Harris). Second, in 1725-6, exchequer bills were transformed from being completely unsecured to being anticipations on tax receipts. At the same time, the Bank stopped any serious attempt to circulate the Exchequer Bills (Dickson 1967: 382-3). Instead, Exchequer Bills became debts the Bank of England chose to hold. This change marks the final, long-desired success of the Bank in demonetizing Exchequer Bills which, in turn, reflected sufficient political security for the Bank.¹

To show the change, Figure 5 plots the total amount of tallies and Exchequer Bills held by the Bank of England (right axis) and the share of that total of all unfunded government debt (left axis). I currently lack any data for 1694-5 and 1720-1, so those years appear as gaps. Also, I have no amounts for Bank held tallies after 1719, so if the Bank continued to hold tallies after 1719, both total and share lines would be higher. Even with those qualifications, it is clear that the Bank's holding of short run debts does become a substantial coordinator of that type of debt after 1720 even though the amount of short run debt held by the Bank is a fraction of the amount of long run debt held by the Bank.²

Figure 5. Short-Run Debt Held by the Bank of England



The focus on unsecured, short-run debt by the Bank of England does follow the credibility story. Unsecured debt was the most vulnerable type of debt because it lacked direct Parliamentary backing. The government could default without triggering a constitutional crisis. It was this type of debt that Charles II had defaulted on in 1672. In that sense, the threat created by the coordination of creditors would be more beneficial than with the funded debt; however, investment in the early Bank of England was dominated by Whigs (Carruthers 1996). The concentration of political faction behind such debt would make it particularly vulnerable reversals in party power (Stasavage 2003). The problem for the delegated lending story is that the great leap forward by the British government during this era was in terms of long-term debt. The Bank of England's dominance of short-run financing might have proven a very convenient system for both the Treasury and the Bank; however, the credibility question remains largely unanswered.

IV. Delegated Refinancing of Debt

Yet another aspect of debt management was the refinancing of existing debts. Refinancing contributed to the government's ability to service its debt and, in turn, refinancing increased the credibility of all government debt. Refinancing creates a positive externality for all debt holders. Of course, investors who have their debts repaid may not like the outcome, but it is not an issue of credibility. Repaying principal is the successful fulfillment the debt contract.

To examine the amount of new long-term borrowing used for refinancing requires an important modification of the long-run debt series presented in Figure 2 because that series reports only the increase in debt to finance current expenditures or to retire short-run debt, so the only type of refinancing included in Figure 2 is when the government issued new funded debt to retire unfunded debt. Much refinancing, however, did not involve a migration of debt from unfunded to funded. For example, in 1728 the government borrowed £1.75 million from Bank of England at 4 percent. The funds were used to retire £500,000 in long-run debt owed the South Sea Company, to retire £532,000 worth of various short-run debts, and to finance £718,000 for current needs (Dickson 206). The replacing of £500,000 at 5 percent owed the South Sea Company with £500,000 at 4 percent owed the Bank of England does not appear in Figure 2 nor in changes in the total amount of funded debt reported in the common source (Mitchell 1962).

To calculate a new series called Gross Creation of Long-Run Debt, I include types of refinancing that did not increase the total National Debt. Gross creation includes refinancing that replaces or modifies existing long-run debt. The gross series includes the debt-for-equity swaps of 1711 and 1720, and it also includes the various renegotiations, especially Pelham's great conversion in 1750. Table 3 reports the summary statistics that show that refinancing

accounted for 72 percent of the total Gross Creation. Also, the Bank of England, as direct lender or delegated administrator, accounted for half the refinancing of the long-term debt up to 1752. Again, these numbers treat a situation like the Bank of England agreeing to a reduced interest rate as the same as if the government had to borrow that sum and use it to retire the debt held by the Bank.

Table 3. Gross Creation of Long-Term Debt, 1690 to 1752, in Millions

£215.3	Total	
	£59.6	For New Borrowing (28% of Total)
	£155.7	For Refinancing (72% of Total)
		£81.1 Refinanced by or through the Bank of England (52.1% of All Refinancing)
		£74.6 Not Refinanced by the Bank of England (47.9% of All Refinancing)

Figure 6. Gross Creation of Long-Term Debt, by Year to 1752.

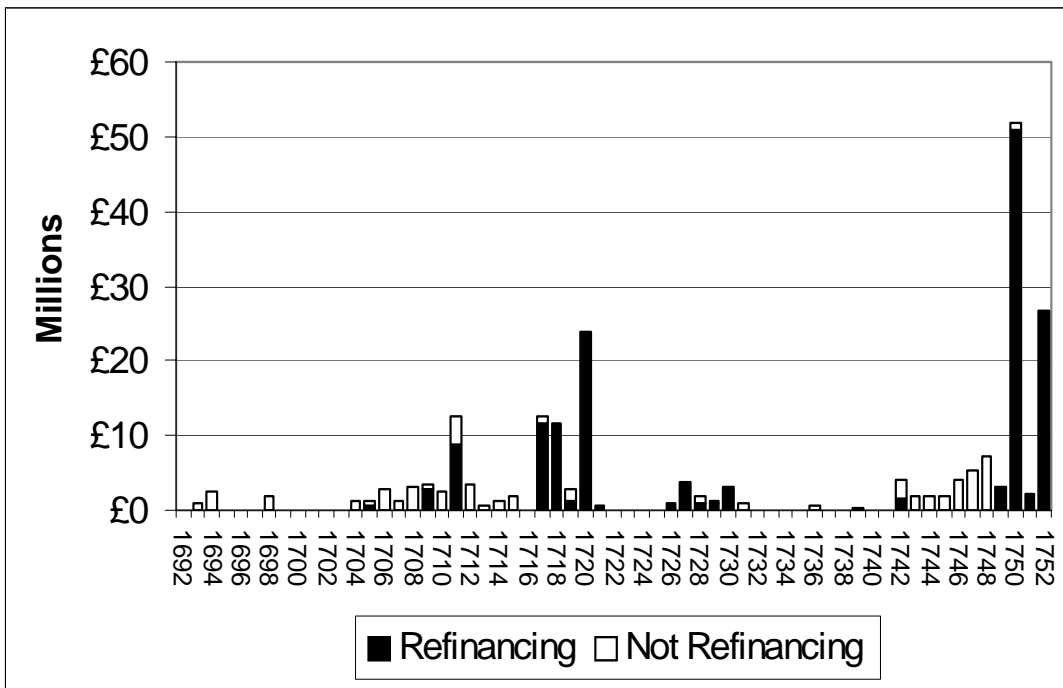
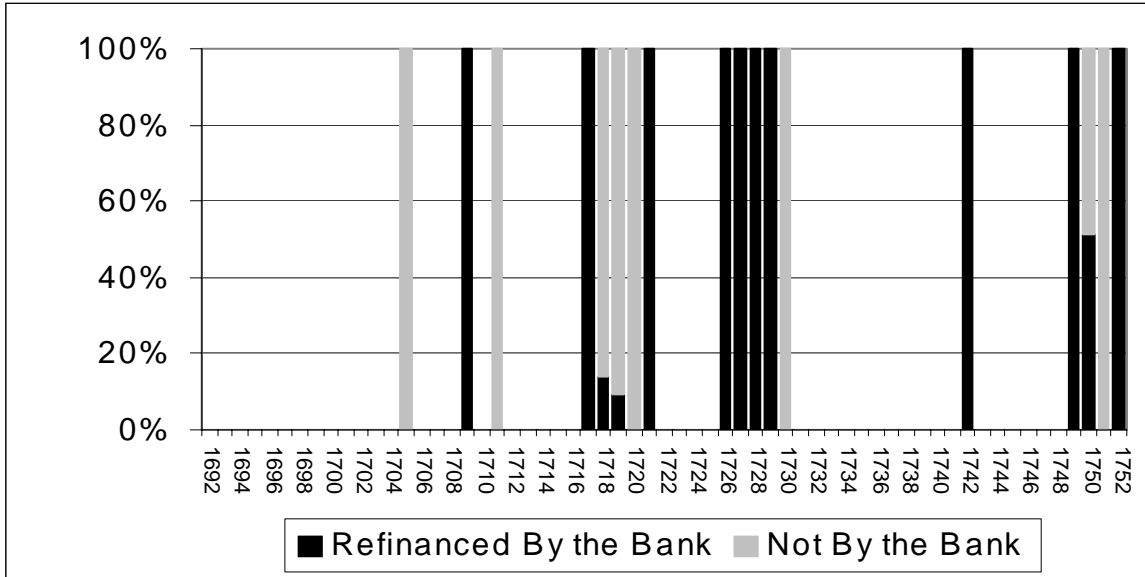


Figure 6 plots the timing of gross long-term debt creation, and the portion of each year due to refinancing is in black. The refinancing spikes of 1711, 1717, 1718, 1720, 1750, and 1752 show that refinancing caused the most dramatic fiscal events of the period. All of these great refinancings except 1711 were post-war reorganizations. In contrast, 1711 was in the middle of the War of Spanish Succession (1703-1714). The pattern of long-term debt management was to build up debt during wars at relatively high wartime rates and then later refinance the debt at relatively low peacetime rates. To the degree such post-war refinancing became expected, it would increase the credibility of wartime debt issuances. Again, credibility is not about the return expected by lenders, but rather the expectation that the government would honor its commitments. An expectation of post-war refinancing would lower expected returns to

lending but would increase expectations of government being able to service its debt.

What role did the Bank of England play in supplying the government with refinancing services? The Bank was an important player, but it did not have a monopoly because the Bank's great rival, the South Sea Company, strongly contested this sphere. Table 3 reported that about half of the refinancing component of gross long-term debt creation involved the Bank. By Bank's portion of refinancing, I mean 1) the refinancing of long-term debt that was held by the Bank, 2) the issue of new long-term debt by the Bank to refinance existing debt, and 3) the refinancing of debt held by the public but administered by the Bank. Figure 7 gives the Bank's share of long-term debt refinancing, or the Bank's share of the black bars in Figure 6. Through 1720, the Bank of England played a secondary role to the South Sea Company. After 1720, the Bank of England truly did dominate long-term debt refinancing. The two major non-Bank refinancings in 1730 and 1750 were chartered companies (East India Company in 1730, East India Company and South Sea Company in 1750) agreeing to reductions in the rate paid on their long-term funds. The South Sea Company had one additional refinancing loan to retire holdouts from Pelham's conversion in 1751. All other debt restructuring was conducted with or by the Bank of England between 1721 and 1752.

Figure 7. Bank of England's Share of Refinancing of Long-Term Debt to 1752.



The scale of refinancing operations made the supply of refinancing services especially valuable to the government. When the amount needed for refinancing was beyond the government's ability to borrow or when debt was in a form that did not allow early repayment (so called irredeemables), the government was in a particularly difficult situation. Up to 1720, the solution was to have companies entice investors into voluntarily giving up their old debts in exchange for stock. The old debt would then be replaced by a new debt to the company. While not new net borrowing, conversions were a valuable service to the government because they allowed some aspect of debt to be re-worked without technically defaulting. The first conversion-by-swap was conducted by the Bank of England in 1697, but does not appear in the gross long-term debt figures above because no long-term debt was ever created. The 1711, 1719, and 1720 conversions did create long-term debt and were all conducted by the South Sea

Company. Supplying this service was how the South Sea Company challenged the Bank's relationship with the government.

After the War of Austrian Succession (1741-48), the next great round of refinancing saw the government get the corporate debt holders to agree to a reduction in interest rates. The process, however, suggests another weakness of the stylized credibility story (Dickson 233-41). In 1750, the government wanted the £57.7 million of debt at 4 percent converted to 3.5 percent immediately and then 3 percent after 7 years. The government's first go in January 1750 was a flop because the Bank of England, the East India Company, and the South Sea Company all voted no. The government could threaten a holdout with a pay-off of its debts, but the Bank of England and the South Sea Company were just too big to do this credibly. In this sense, they were successfully coordinating their debtors, and individual investors looked to follow the companies if they agreed to resist.

The situation changed when the government somehow got the Bank of England to change policy and agree in February 1750. The offer had not changed. In fact, the government played hard ball after the Bank vote and reduced the 3.5 percent period to 5 years. Perhaps the government made a threat, but there is no record of how the government turned the Bank. With the Bank on board, many of the individual stock and annuity holders volunteered to join the plan. By February 28, 72 percent of non-corporate investors had voluntarily converted. Under this pressure, the East India Company agreed in April. The South Sea Company, however, held out until February 1751, and then it got a superior deal. The South Sea Company got 4 percent instead of 3.5 percent to 1757. Individuals who held out were eventually bought out.

The result was that the two companies that relied on the government for rents caved in.

While corporate coordination could block government abuse, the reliance of those companies on other privileges granted by the government actually made them vulnerable to renegotiation. Moreover, the ability of the government to get the large companies to refinance would increase expectations of successful refinancing after wars which would increase government credibility.

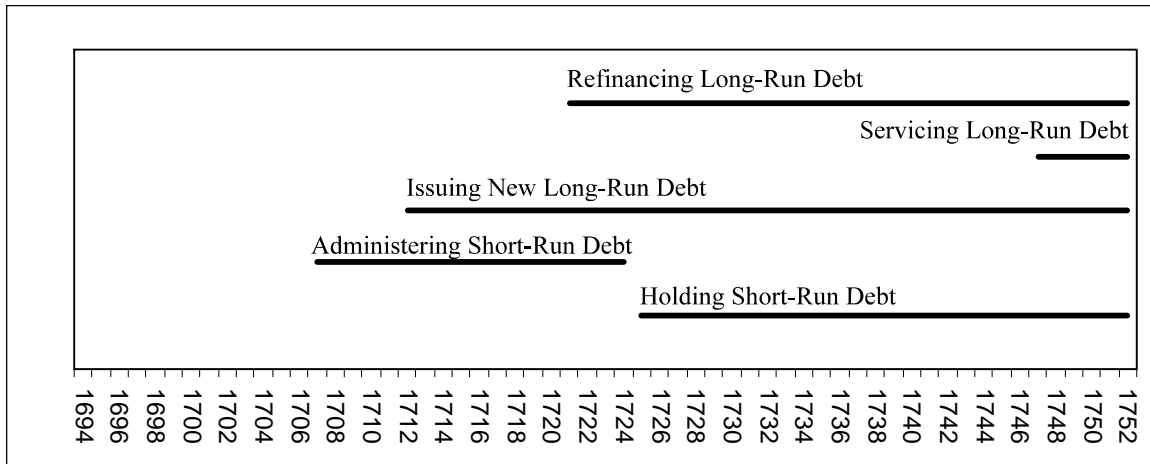
Conclusions

Despite becoming a substantial holder of government debt upon its founding 1694, the Bank of England did not come to dominate various dimensions of government finance until years later. Hence theories that assume the Bank of England's dominance of the administration of government debt need to contend with the timing summarized in Figure 8. The Bank gained a dominant position over short-run Exchequer Bills in 1707 and retained it after the nature of that control changed to direct ownership after 1725. Long-term debt, however, was the important new financial tool during the British Financial Revolution, and the Bank of England never dominated the holding of such debt. The Bank of England did come to control issuance of new long-term debt after 1712, but the Bank did not service most of it until 1747. Finally, the Bank of England gained control of the refinancing of long-run debt only after the collapse of the South Sea Bubble in 1720. Even then, the Bank's ability to resist refinancing was apparently weakened by its reliance on other government privileges.

Why does the stylized story fail to match the apparent facts? Before 1720, the Bank of England's competition with the South Sea Company meant that the government had the upper hand. The government was a monopsony dealing with a competitive duopoly. Because the government used the duopoly situation (1711 to 1720) mostly for refinancing, the credibility of

the government's fiscal situation was improved.

Figure 8. Periods when the Bank of England Dominated Various Dimensions of Government Debt Administration.



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Endnotes

1. For the stormy political economy of exchequer bills and the Bank see Dickson 1967: 365-92.
2. It should also be noted that Dickson's claim that the Bank of England, "made the major of the loans to the departments between 1702 and 1710, and indeed until the end of the [War of Spanish Succession] (1967: 360)," should be understood to apply to tallies only, but, as Table 2 reports, the actual amount of tallies held by the Bank of England decreased substantially during the war as Godolphin moved primary war funding to other instruments.

Table 2. Tallies Held by the Bank of England During the War of Spanish Succession
in 1,000s pounds

1702	1,987.0
1703	1,945.4
1704	1,679.3
1705	1,617.2
1706	1,165.9
1707	709.3
1708	565.8
1709	508.1
1710	658
1711	491.3
1712	585.7
1713	300.2

Source: Bank of England General Ledgers.