State-Central Bank Relations in Early Modern Britain

Abstract

Following the Glorious Revolution, William Patterson founded the Bank of England. Originally, it was created to aid England in funding a costly war with France. Despite its relatively humble origin, this Bank would go on to become the most important in the world through the late 19th century. However, it was still institutionally rooted as the state's personal lender. In its evolution from bank to the 'bank of banks', it was soon discovered that the institutional framework on which it was built and existed made it at the mercy of the state, and vice versa. Crucially, there existed the institutional capacity for central bank coercion. Studying a wide-scoping time period and substantiating local projection techniques with historical narrative, this paper ascertains whether and, if so, how this control may have been used and had influenced perceptions of trust, adding insights into why it was restructured 150 years after its initial establishment

1 Introduction

Often, the firsts in history are the strangest. The Bank of England (BOE), being one of the world's first central banks, was no exception. As posited by North and Weingast, the subsequent decades after the Glorious Revolution saw weakening monarchical powers, dampening the state's direct capacity for taxation (coercion). However, this transformation did not lessen the European states' incessant need for war. With war as a given but less ability for coercive taxation, the state needed a solution. Ultimately, settling on the BOE to regain its credibility.[1]

The initial stipulation of the Bank called for a twelve-year charter. Notably, this charter would have to be renewed every ten to twenty years for the bank to remain in operation. Upon its establishment in 1694, it loaned £ 1.2 million to the state, the first transaction in its nearly 150-year history, until it was completely restructured with the Bank Charter Act of 1844. This act called for a separation between banking and note insurance, which was implemented better to address its lack of separation from the state. Following the course of history, exacerbated by Napoleon, it became clear to many that the plausible merits of greater Independence between the British state and the Central Bank.

This paper, taking a bird's-eye view, looks between the goalposts of these two events. The Bank's original founding and its complete restructuring. Appreciating the period in between can help in understanding the particular institutional structures and exogenous shocks that gave rise to fears of state coercion and their impact on perceived trust. Little, if any, prior literature has approached this topic

1. Douglass C. North and Barry R. Weingast, "Constitutions and commitment: the evolution of institutions governing public choice in seventeenth-century England," *The Journal of Economic History* 49, no. 4 (1989): 803–832.

through the use of local projections; this paper exploits that niche. Moreover, by combining micro and macro analyses, one can better ascertain the specific incentives and justifications for the Bank's ultimate restructuring.

2 Theoretics

Though not originally founded as a central bank, the BOE soon became one. In 1708, as its first charter was set to expire in 1710, Britain again urgently needed funds to bolster its position in the War of the Spanish Succession. To compel the Bank to grant a new loan of 400,000 pounds, parliament ensured the BOE a monopoly on joint stock banking with the Bank of England Act 1708. Through this Act, it became inconceivable for any other bank or similar institution in the nation to achieve a significant scale. In doing so, no other institution could contest the BOE's Fiscal and Monetary influence without elaborate workarounds.

The Bank's first renewal demonstrates a common relationship it had with the state. When the government's coffers became depleted, it could be seen exchanging portions of state power for greater fiscal support. Ultimately, when the nation's banking needs grew and conflicts arose, the BOE became increasingly important.

Due to its market position, assured by the state and subsequent periods of crisis, which strengthened that very position, the BOE drifted into the role of central bank, becoming the "bank of banks" or the "lender of last resort". The Bank assumed its role out of necessity; however, it was still shackled to the state. People soon discovered that the desires of the state often departed from those of a central bank.[2] By inheriting this role, the BOE's priorities became monetary.

2. J. Lawrence Broz and Richard S. Grossman, "Paying for privilege: the political economy

With its ever-increasing deficits caused by war, the state's priority became fiscal.

This paper proposes two theoretical ramifications of this dependent relationship. First, if the state has sufficient power over its central bank and its deficit is large enough, the state might compel the bank to promote inflation. This would enable it to more easily pay off its debt. Alternatively, with a state guaranteeing a bank's existence, such as in England, it can be predicted that the state might force the central bank to provide unprofitable loans or vice versa, should the bank be strong enough. Fundamentally, through these two theories, we can understand the motivations for central bank coercion. Whether it actually occurred is a separate question entirely

Significant work has examined the relationship between the BOE and the early modern British state. Most notably, North and Weingast's seminal 1989 paper argues that, following the Glorious Revolution, shackled by parliament, the state had far less coercive powers and therefore had to prove its credibility to raise funds. This contested the state's pre-Glorious Revolution exploitative strategies—this new 'credible commitment' further constrained monarchical power. The authors argue that this created a more conducive borrowing environment by making debt more credible. They stress particular attention to further checks on state financing by parliament. The state-BOE relationship exemplified this phenomenon by separating state financing to a separate institution, further weakening the monarch's ability to coercively acquire funds while setting further checks and assurances on the state's commitment to repaying debt. While reasonable, the paper argues for immediate transformation of state credibility—that directly following the Glori-

of Bank of England charters, 1694–1844," *Explorations in Economic History* 41, no. 1 (2004): 48–72, https://doi.org/10.1016/j.eeh.2003.08.002.

ous Revolution, borrowing rates sank. Though seminal for institutional economics, this paper has been critiqued for failing to fit data that does not support the 'immediate credibility transformation' hypothesis. Despite this, theoretical notions of institutional mechanisms promoting trust in state financing remain relevant for understanding early modern central banking.[3]

Two main critiques have been raised towards the credible commitment thesis. First, our contemporary understanding of institutional trust tends to have a temporal component, where trust in institutions compounds the longer they have been established. Secondly, the empirical trend in interest rates was a long-term development resulting from significant shocks to government financing needs. That is, the far larger determinants of interest rates were not necessarily institutional but rather war-related; in fact, it would appear that interest rates did not sink to near Dutch levels until the 1720s when Britain finally arrived at a period of sustained peace. This observation, however, should not discredit the institutional thesis, as these institutions are widely important in determining how the state responds to fiscal shocks and whether those institutions are trusted. This will become clear when examining micro-level case studies.[4]

Despite the apparent shortcomings with the North and Wiengast argument, work has been done to further research the development of this credible commitment mechanism through the 18th century. Research has pointed out that the original credible commitment argument assumes the BOE was a permanently established institution; however, it was not. Between its founding and later re-

3. North and Weingast, "Constitutions and commitment: the evolution of institutions governing public choice in seventeenth-century England."

4. Nathan Sussman and Yishay Yafeh, "Institutional Reforms, Financial Development and Sovereign Debt: Britain 1690-1790," *Journal of Economic History* 66, no. 4 (2006): 906–935.

structuring, the Bank's charter had to be renewed eleven separate times. Often this renewal occurred substantially before the prior charter's expiration, and often it was during periods of fiscal stress, which, unsurprisingly, were often war-induced. The timing of these renewals is exploited to demonstrate the mutual dependence of both the bank and the state. Broz and Grossman (2004) interpret this as a power-driven relationship, that charter renewals could enable one party, the State or the Bank, to exert coercive power over the other. It is therefore through such institutional structures that, at the bare minimum, the state had the theoretical capabilities for coercion.[5]

Others have looked at the uniqueness of the English model to understand the credibility commitment problem. Creditability was ensured through "institutions of monopoly brokerage" where, centered around parliament, English rulers were able to raise funds in exchange for promises; Guarantees of one thing in exchange for funding by the citizenry. In line with this, Cox (2015) demonstrates micro-foundations for ensuring credibility through a repeated game structure. Such analysis can serve as the theoretical backbone for why credibility was so important to the English state. Moreover, such priorities can help to understand the BOE's 1844 restructuring as a form of ensuring greater trust.[6]

Furthermore, foundational work on the role of fiscal dominance in the modern period can be observed with Sargent-Wallace (1981). They construct the theoretical framework for fiscal supremacy and examine the conditions under which it may occur. They contend that in the long run, a higher rate of inflation will

5. Broz and Grossman, "Paying for privilege: the political economy of Bank of England charters, 1694–1844."

6. Gary W. Cox, "Marketing Sovereign Promises: The English Model," *The Journal of Economic History* 75, no. 1 (March 2015): 190–226, https://doi.org/10.1017/S0022050715000078.

be observed in an economy with persistent state deficits and debt limits on the private sector. This paper offers the theoretical precedent for state manipulation of economies for its own financial benefits.[7]

The following analysis extends the aforementioned research through a unique framework and novel methodology. As demonstrated, much of the previous literature focuses on the institutional causes for credible commitment. Inherent to the phenomenon of credible commitment is a state's commitment to not abusing authority over a central bank. Supplementing this analysis is the use of monthly data, which has historically been forgone in previous analysis.[8] Moreover, this paper studies determinants of coercion through the use of local projections, the advantages of which are explored further.

To complement econometric approaches to studying this relationship, key historical case studies are used to bolster the analysis. This approach helps better assess more micro-level phenomena, which the proposed empirical strategy might omit. The specific case studies are moments when the Bank's relation to the state was quite novel, Britain was going through considerable fiscal shocks from war or crisis, or both. Ultimately, both the proposed methodologies have blind spots of their own; however, it is hoped that when used in tandem, they can better illuminate one another's shortcomings.

7. Thomas J. Sargent and Neil Wallace, "Some Unpleasant Monetarist Arithmetic," *Federal Reserve Bank of Minneapolis Quarterly Review* 5, no. 3 (1981): 1–17, https://doi.org/10.21034/qr.531.

8. Broz and Grossman, "Paying for privilege: the political economy of Bank of England charters, 1694–1844."

3 Case Studies

Three of the most important political and financial crises for the early modern BOE are studied below. Those being: The South Sea Bubble, the ensuing 7-year War debt crisis, and the Napoleonic Wars restriction period. These separate events span a considerable length of the early BOE life-cycle and therefore allow us to understand some of its evolution. Furthermore, these case studies can help bolster understanding of the micro-phenomenon behind the empirical results discovered later.

3.1 The South Sea Bubble

The South Sea Bubble was one of the earliest modern financial crises and provides important evidence of the institutional vulnerabilities that characterized early eighteenth-century state-financial relationships. The crisis emerged from the speculative overvaluation of the South Sea Company in 1720, but its origins show institutional mechanisms which would later influence central bank governance debates. While the episode involved complex political and financial factors, its development and resolution illustrate early patterns in the state-BOE relationship, setting the groundwork for notions of central bank independence

The crisis originated in 1711 when Robert Harley, then Lord High Treasurer, confronted the British state's substantial debt burden, exploring alternatives to relying solely on the BOE. While Harley faced challenges securing cooperation from the Whig-controlled Bank, which maintained loyalty to the previous administration and showed reluctance to negotiate across party lines, multiple factors influenced his pursuit of alternative financing mechanisms. Beyond partisan con-

siderations, Harley was constrained by the BOE's banking monopoly and sought 'innovative' approaches to debt management. His solution involved establishing a new trading company that, while ostensibly created to manage British affairs in the Spanish Americas, served the additional purpose of providing government financing in exchange for a state-granted monopoly over Spanish American trade.[9]

The company's transformation into a speculative vehicle occurred nearly a decade later. Beginning in 1719, the South Sea Company proposed converting various forms of government debt into company stock, justified by expectations of substantial profits from South American gold and silver extraction. The scheme involved extensive government participation, with state officials receiving preferential stock arrangements. Political figures received substantial preferential arrangements through the South Sea scheme. The Company allocated approximately £1 million for what were termed 'option bribes' to secure political support, with such arrangements appearing to have been widespread among government officials.[10]

Between December 1719 and July 1720, the company's stock value increased sevenfold before collapsing by year's end. The crisis resolution illustrates the institutional dynamics between state authorities and financial institutions during emergency periods. Following the collapse, Walpole's government divided the South Sea Company's debt among the BOE, the Treasury, and the Sinking Fund. The Bank's role in accepting South Sea obligations appears to have been negotiated rather than simply imposed, though institutional pressures during the crisis clearly limited the Bank's negotiating position. Larry Neal (1990) demonstrates

9. Larry Neal, *The Rise of Financial Capitalism: International Capital Markets in the Age of Reason*, Studies in Monetary and Financial History (Cambridge and New York: Cambridge University Press, 1990), p.62-88, ISBN: 9780521457385.

10. Richard Dale, *The First Crash: Lessons from the South Sea Bubble* (Princeton, NJ: Princeton University Press, 2004), p.119, ISBN: 9780691119717.

the complex political relationship between the Bank and state, noting the Bank's partisan character as a Whig-operated institution that showed reluctance to work across party lines during this period.[11]

This episode suggests several important aspects of early institutional relationships between the state and financial institutions. First, the South Sea Company's creation reflected the institutional constraints created by partisan control of financial institutions; the Bank's political alignment contributed to the state's pursuit of alternative financing mechanisms, though other factors, including debt management innovation, also motivated this development. Second, the crisis resolution required the Bank's participation in managing the aftermath, indicating state capacity to involve financial institutions in crisis management, though it should be noted that the specific terms appear to have involved negotiation rather than simple imposition.[12]

Furthermore, this point in history illustrates how insufficient institutional separation between banking, politics, and state financing could create conditions for problematic relationships during stress periods. The Bank's partisan identity contributed to governance challenges that necessitated potentially destabilizing workarounds, suggesting that political institutional control could threaten both banking stability and state financing effectiveness. However, the Bank's ability to negotiate terms during the crisis resolution also indicates that even in its early period, the institution possessed meaningful bargaining capacity that constrained

11. Neal, *The Rise of Financial Capitalism: International Capital Markets in the Age of Reason*, p.62-88.

12. Ann M. Carlos and Larry Neal, "The Micro-Foundations of the Early London Capital Market: Bank of England Shareholders During and After the South Sea Bubble, 1720–1725," *The Economic History Review* 59, no. 3 (2006): p.505-515, https://doi.org/10.1111/j.1468-0289.2005.00332.x.

pure state dominance.

The South Sea crisis demonstrates early patterns in state-financial institution relationships that would become relevant to later discussions about institutional independence. While the Bank was smaller and less systemically important in 1720 than it would become by mid-century, the episode revealed how partisan institutional control and unclear public-private boundaries could create governance challenges during crisis periods. These early patterns would inform later debates about institutional structure, though the specific dynamics of 1720 reflected the Bank's relatively limited role compared to its later systemic importance.

Rather than providing definitive evidence about state coercive capacity, the South Sea Bubble illustrates the institutional ambiguities and governance challenges that characterized early modern British finance. The episode suggests that unclear institutional boundaries and partisan financial control could create problematic dynamics during stress periods, contributing to the eventual recognition that clearer institutional frameworks might serve both monetary stability and government effectiveness. These early experiences would contribute to later discussions about institutional design, though the specific lessons would evolve as both the Bank's role and the broader financial system developed throughout the eighteenth century.

3.2 7-Year War Debt Crisis

In its own right, the Seven Years' War crisis of 1761-1762 displays a crucial test of institutional relationships between the British state and the BOE during a period of unprecedented fiscal stress. This episode provides evidence for examining

whether the Bank's evolving institutional position enabled meaningful resistance to state fiscal demands, or whether formal charter dependency ensured government control over central banking operations during emergencies.

The crisis emerged from Britain's participation in one of the largest conflicts to date. Beginning in 1756, British forces had conducted simultaneous military operations across North America, the Caribbean, Europe, India, and the Philippines. By 1761, Britain was financing not only its own extensive military commitments but also providing substantial subsidies to Frederick the Great's Prussian forces, maintaining large naval squadrons across multiple oceans, and supporting colonial defensive operations against French and allied indigenous forces.[13]

The fiscal consequences of this global military commitment created pressures that exceeded those of any previous British conflict. Military expenditure consumed approximately fourteen percent of Britain's national income annually, requiring unprecedented levels of government borrowing. The national debt increased from approximately £75 million in 1756 to over £130 million by 1761, with debt service absorbing substantial portions of government revenue during peak war years.[14] Unlike earlier conflicts characterized by seasonal campaigns and periodic truces, the Seven Years' War demanded continuous financial commitments across multiple theaters, creating sustained pressure on government finances.

The institutional crisis developed when these fiscal pressures intersected with the politics of charter renewal. With the Bank's charter expiring in 1764, it meant that renewal negotiations would occur precisely when government financing needs

13. John Brewer, *The Sinews of Power: War, Money and the English State, 1688-1783* (London: Unwin Hyman, 1989), p.98.
14. Brewer, p.94.

remained acute.[15] This timing appeared to provide the government with significant leverage over the Bank's institutional position. The Bute administration, which gained influence following Pitt's resignation in October 1761 and Newcastle's departure in May 1762, faced mounting fiscal pressures as the war continued beyond its initially expected duration.[16]

The government's expectations regarding bank cooperation reflected established patterns in state-institution relationships during fiscal emergencies. Previous charter renewals had typically involved the Bank providing financial concessions in exchange for continued privileges, suggesting that institutional dependency on state charter renewal created leverage for government fiscal demands. The 1764 renewal would involve "a gift of £110,000, and an advance of one million for Exchequer bills for two years, at 3% interest," demonstrating the government's expectation that charter dependency would ensure favorable financing terms.[17]

However, the Bank's response during 1761-1762 appears to have deviated from these expectations. Evidence suggests that the Bank reduced its accommodation of government financing demands during this period, though the specific mechanisms and extent of this resistance require careful interpretation. The Bank's position may have reflected institutional calculation that its growing importance to Britain's financial system provided leverage that balanced charter dependency. Notably, however, the precise nature of this resistance remains subject to historical interpretation.[18]

15. Broz and Grossman, "Paying for privilege: the political economy of Bank of England charters, 1694–1844," p.60-65.

16. Walter Thornbury, "The Bank of England," in *Old and New London: Volume 1* (London: Cassell, Petter & Galpin, 1878), p.456-460, https://www.british-history.ac.uk/old-new-london/vol1/pp453-473.

17. Thornbury, p.456-457.

18. John Clapham, *The Bank of England: A History: 1694-1797*, vol. 1 (Cambridge: Cambridge

The institutional dynamics of this period involved complex relationships between Bank leadership and parliamentary politics. Several Bank directors held seats in Parliament, as was common among London's commercial elite, creating potential channels for institutional concerns to influence political debates over war financing..[19]

The government possessed theoretical tools for compelling Bank cooperation through charter mechanisms and regulatory authority. Bute's administration could have explored creating alternative financial institutions or implementing emergency interventions, as precedents existed for government restructuring of financial arrangements during crises. However, the practical implementation of such threats involved considerable costs and risks that may have constrained their effectiveness.[20]

The eventual resolution of the 1761-1762 tensions involved negotiated accommodation rather than unilateral state victory or bank capitulation. The 1764 charter renewal terms suggest that both institutions achieved essential objectives: the government secured necessary financing and continued Bank cooperation, while the Bank preserved its institutional position and extracted favorable terms for its services.[21] This outcome indicates that both institutions possessed sufficient leverage to require mutual accommodation rather than permitting hierarchical control by either party.

The empirical evidence regarding bond yields during this period provides some

University Press, 1944), p.248-289.

19. Broz and Grossman, "Paying for privilege: the political economy of Bank of England charters, 1694–1844," p.60-65.

20. P. G. M. Dickson, *The Financial Revolution in England: A Study in the Development of Public Credit, 1688-1756* (London: Macmillan, 1967), p.173.

21. Thornbury, "The Bank of England," p.456-457.

support for interpreting this episode as demonstrating Bank institutional capacity rather than effective state control. Government borrowing costs appear to have risen during periods of fiscal stress, suggesting that market mechanisms continued to operate rather than being suppressed through state coercion of the Bank.[22]

Ultimately, this episode highlights the increasing tension between the Bank's institutional development and the informal arrangements that governed state-institutional relationships. By 1761-1762, the Bank had evolved from a convenient government funding mechanism into a central component of Britain's financial infrastructure, possessing technical expertise and market relationships that made it difficult to replace or coerce effectively. Yet formal institutional arrangements remained ambiguous, creating potential for conflicts that lacked precise resolution mechanisms.

The 1761 crisis, therefore, demonstrates why the 1844 institutional restructuring would address fundamental governance challenges that had developed over the Bank's first century. While both the state and the Bank possessed tools for influencing each other's behavior, the absence of clear operational boundaries created opportunities for conflicts that complicated effective policy coordination. The eventual need for formal institutional separation reflected not the failure of early central banking independence but rather the success of institutional development, which required more systematic governance frameworks to manage complex modern fiscal-military operations effectively.

22. Martin Ellison and Andrew Scott, "Managing the UK National Debt 1694–2018," *American Economic Journal: Macroeconomics* 12, no. 3 (July 2020): p.241, https://doi.org/10.1257/mac.20180263.

3.3 Napoleon Restriction Period

Lastly, the Banking Restriction Act of 1797-1821 represents the most significant test of state influence over central banking operations in the BOE's early history. This crisis provides a crucial case study for examining whether existential fiscal pressures could override institutional independence arrangements and compel central bank accommodation with government priorities. The episode reveals complex dynamics of negotiated institutional accommodation rather than simple state dominance over central banking operations.

The 1797 crisis originated from the intersection of war-related fiscal pressures and an unexpected monetary panic. By February 1797, Britain had been financing the French Revolutionary Wars for four years, creating a substantial strain on the financial system through continuous government borrowing and military expenditure. The immediate trigger came from the Fishguard invasion of February 22, 1797, when a small French force landed in Wales. Although the military threat was minimal and quickly contained, news of foreign troops on British soil created widespread panic among depositors who feared a larger invasion was imminent.[23]

This panic triggered systematic bank runs across Britain as depositors demanded immediate conversion of paper money into gold. Provincial banks, already strained by years of war financing, began failing rapidly as they depleted their specie reserves. The crisis reached London by February 25, creating unprecedented pressure on the BOE as withdrawal demands threatened to exhaust the institution's gold reserves within days[24]

The government's response demonstrated both decisive state action and recog-

23. Clapham, *The Bank of England: A History*, p.245-265.
24. Clapham, p.245-265.

nition of institutional interdependence. Parliament passed the Banking Restriction Act on February 26, 1797, suspending the Bank's legal obligation to convert notes into gold. However, this apparently unilateral state action masked extensive negotiations between government ministers and Bank directors. The Bank successfully extracted significant conditions for accepting restricted convertibility, including government guarantee of expanded note issues and legal protection against private litigation challenging the restriction.[25]

The restriction's implementation revealed continued Bank influence over policy execution despite formal state control. Bank directors retained operational autonomy over credit allocation and continued to shape monetary policy implementation through their technical expertise and market relationships. The government gained unprecedented ability to expand the money supply for war financing, but this expansion operated through Bank cooperation rather than simple institutional subordination.[26]

The restriction evolved from an emergency measure to a permanent institutional arrangement over its twenty-four-year duration. The Bank's note issue expanded from £11 million in 1797 to over £24 million by 1810, enabling unlimited government war financing, consistent with dominance predictions.[27] However, this monetary expansion occurred within a framework that preserved the Bank's corporate structure, operational autonomy, and profitable operations. Both institutions gradually recognized that the arrangement served their interests more effectively

25. Frank Whitson Fetter, *Development of British Monetary Orthodoxy, 1797-1875* (Cambridge, MA: Harvard University Press, 1965), p.165-198.

26. Patrick K. O'Brien and Nuno Palma, "Danger to the Old Lady of Threadneedle Street? The Bank Restriction Act and the Regime Shift to Paper Money, 1797-1821," *Working Papers, European Historical Economics Society*, 2020, p.323.

27. Sargent and Wallace, "Some Unpleasant Monetarist Arithmetic."

than previous competitive relationships.

The restriction's termination in 1821 occurred through a coordinated institutional agreement rather than a unilateral government decision. Both the state and the Bank carefully managed the return to convertibility to prevent renewed monetary instability. The Bank regained formal independence while retaining its expanded operational capacity developed during the restriction period. The government maintained enhanced influence over monetary policy through informal cooperation mechanisms established during the crisis years.[28]

Therefore, the Banking Restriction Act provides evidence for substantial state influence over central banking during existential crises, but this influence operated through negotiated accommodation rather than hierarchical control. The episode demonstrates that extreme fiscal pressures could override formal independence arrangements, supporting dominance theories under emergency conditions. However, effective crisis management still required institutional cooperation that preserved core Bank interests rather than complete subordination to state fiscal priorities.

The Bank's capacity to extract favorable terms even under maximum state pressure suggests that institutional independence operated through technical indispensability and market relationships rather than formal legal protections alone. This finding challenges simple state dominance predictions while confirming that extreme circumstances could override formal independence guarantees. The restriction period illustrates how crisis-driven accommodation can evolve into permanent institutional cooperation when both parties recognize the mutual benefits

28. Andrea Papadia, "How Fiscal Policy Affects Prices: Britain's First Experience with Paper Money," *Journal of Economic History* 77, no. 4 (2017): p.1080-1085, https://doi.org/10.1017/S0022050716000978.

of altered arrangements.

This experience proved crucial for understanding why the 1844 reforms focused on systematic operational boundaries rather than strengthening formal independence protections. The restriction period revealed that extreme circumstances could override any formal guarantees, but also demonstrated that effective monetary governance required institutional partnership rather than state dominance. The 1844 restructuring aimed to prevent future crises from necessitating such drastic interventions by establishing operational rules that would maintain cooperation while preserving more precise institutional boundaries.[29]

3.4 Ultimate Restructuring

The Bank Charter Act of 1844 represents a comprehensive institutional response to governance problems revealed by over a century of crisis interactions between the BOE and the British state. Rather than emerging solely from abstract monetary theory, the 1844 restructuring reflected the convergence of practical institutional problems exposed by repeated financial crises and the Currency School's theoretical framework for monetary reform. While immediate impetus came from banking panics of 1825, 1837, and 1839, the reforms systematically targeted sources of institutional tension that had created governance challenges since the early eighteenth century.

The Currency School, led by Lord Overstone (Samuel Jones Loyd), Robert Torrens, and George Ward Norman, gained significant influence during the 1830s-1840s by advocating strict rules governing note issue. They argued that central bank discretion in monetary policy created inherent instability and enabled prob-

29. Clapham, *The Bank of England: A History*, p.265-290.

lematic institutional relationships that had characterized British monetary governance. Their central proposition held that note issue should be mechanically tied to metallic reserves, eliminating discretionary authority that could be influenced by political pressures or commercial interests.[30]

This theoretical framework directly addressed institutional problems revealed by previous crises. Currency School advocates argued that the Bank's quasi-public status and discretionary powers had enabled the problematic dynamics observed during the South Sea Bubble, Seven Years' War crisis, and Banking Restriction period. By eliminating discretionary authority and establishing mechanical rules for monetary operations, they sought to prevent both state manipulation of central banking and central bank resistance to legitimate government policy.[31]

The three major crises spanning 1720-1821 revealed that the Bank-state relationship contained institutional mechanisms that threatened the effectiveness of both institutions during periods of stress. The South Sea Bubble demonstrated how institutional ambiguity could enable state manipulation of financial institutions, with the Bank's forced acceptance of South Sea stock revealing dangers of unclear public-private boundaries. However, the Bank's negotiated terms also illustrated how quasi-public institutions could leverage crisis circumstances to extract favorable arrangements, creating moral hazard problems that Currency School theorists specifically sought to address.[32]

The Seven Years' War crisis highlighted how charter renewal mechanisms cre-

30. Vera C. Smith, *The Rationale of Central Banking and the Free Banking Alternative* (London: P.S. King & Son, 1936), p.71-91.

31. Charles Goodhart and Meinhard Jensen, "Currency School versus Banking School: an ongoing confrontation," *Economic Thought* 4, no. 2 (2015): p.22-24.

32. Neal, *The Rise of Financial Capitalism: International Capital Markets in the Age of Reason*, p. 89-117.

ated mutual leverage that could lead to governance tensions and policy paralysis. The Bank's capacity to resist state demands through lending restrictions demonstrated the problematic discretionary authority that Currency School advocates argued should be eliminated. Meanwhile, government threats regarding charter renewal revealed institutional uncertainty that Currency School reforms sought to address through permanent rules rather than periodic renegotiation.[33]

The Banking Restriction period proved most decisively that existential crises could override formal independence arrangements entirely, forcing institutional accommodation under emergency conditions that Currency School theorists viewed as inevitable under discretionary systems.[34] The restriction's evolution from a temporary measure to a permanent arrangement exemplified how informal institutional relationships could drift beyond their original scope, creating institutional confusion that the Currency School reforms specifically sought to address.

The banking panics of 1825, 1837, and 1839 revealed that these structural vulnerabilities persisted despite the return to convertibility, as the Bank continued to face conflicting pressures between its public responsibilities and private interests during financial stress. These recurring difficulties validated the Currency School's arguments that discretionary central banking inherently generated institutional instability, which could only be resolved through systematic, rules-based approaches.

Contemporary policymakers recognized that effective reform required systematic rather than ad hoc approaches [35]. Robert Peel articulated these concerns

33. Broz and Grossman, "Paying for privilege: the political economy of Bank of England charters, 1694–1844," p.60-65.

34. O'Brien and Palma, "Danger to the Old Lady of Threadneedle Street? The Bank Restriction Act and the Regime Shift to Paper Money, 1797-1821," p.420-426.

35. Peel was far from the only one; see, for example, the report made by Charles Wood Great

in his May 6th, 1844, parliamentary speech introducing the BOE reforms, noting "the danger to which the BOE has been exposed" and "the reckless speculation of some of the Joint Stock Banks," while hoping that "the wisdom of Parliament will at length devise measures which shall inspire just confidence in the medium of exchange".[36] Peel's speech indicates direct connections between problems identified in prior crises and advocacy for institutional reform, explicitly embracing Currency School solutions based on historical experience.

Each crisis revealed different dimensions of institutional governance challenges. Still, all shared the common feature identified by Currency School analysis: the absence of clear institutional boundaries that could prevent problematic relationships while maintaining vital cooperation. Recent banking panics made clear that convertibility alone was insufficient to address these fundamental governance challenges. The 1844 reforms addressed this structural problem by establishing institutional mechanisms that aimed to reduce conflicting authorities while preserving the coordination functions necessary for the effective implementation of monetary and fiscal policy.

The Bank Charter Act addressed several primary mechanisms through which institutional tensions had emerged across the previous century. The creation of separate Issue and Banking Departments directly addressed the institutional am-

Britain. Parliament. House of Commons. Select Committee on Banks of Issue, *Report from Select Committee on Banks of Issue: With the Minutes of Evidence, Appendix, and Index*, Charles Wood, chairman. Ordered by the House of Commons to be printed, 7 August 1840. British Parliamentary Papers, 1840: H. of C. vol. IV (London: House of Commons, 1840) and the theory derived by OverstoneBaron Overstone Samuel Jones Loyd, *Further Reflections on the State of the Currency and the Action of the Bank of England* (London: P. Richardson, 1837), 52, among others

36. Robert Peel, *Parliamentary Speech on the Bank Charter Act*, Speech delivered to the House of Commons, Introducing the Bank of England Charter Act, May 1844, accessed January 17, 2025, http://www.historyhome.co.uk/polspeech/bank.htm.

biguity highlighted during the South Sea Bubble by establishing a more precise functional separation between monetary policy and commercial banking operations (Perlman, 2009). This separation sought to prevent authorities from manipulating the Bank's commercial incentives to influence monetary policy decisions.

Most significantly, the Act's strict limitations on note issuance requiring gold backing beyond a fixed fiduciary issue addressed the fiscal accommodation mechanism revealed during the Banking Restriction period.[37] By tying monetary expansion to metallic reserves rather than government financing needs or commercial pressures, the reforms constrained both authorities' ability to force inflationary finance during emergencies while limiting the Bank's capacity to create destabilizing credit expansions. This provision embodied the Currency School's core principle that mechanical rules should replace discretionary authority.

The Act also addressed the charter renewal mechanism that had contributed to the tensions of the Seven Years' War by establishing a more permanent institutional status with clearly defined operational rules. Rather than periodic renegotiation of fundamental terms that had enabled mutual leverage and governance conflicts, the 1844 framework provided institutional predictability, reducing the state's primary source of leverage over Bank policy while maintaining parliamentary oversight through transparent regulatory mechanisms.[38]

The reforms simultaneously addressed the Bank's capacity to influence state policy through market operations and lending policies, targeting resistance mechanisms revealed during the Seven Years' War crisis. The departmental separation

37. Goodhart and Jensen, "Currency School versus Banking School: an ongoing confrontation," p.22-24.

38. Frank W. Fetter, *Development of British Monetary Orthodoxy 1797–1875* (New Jersey: Augustus M. Kelley, 1965), p.165-198.

sought to prevent the Bank from using its monetary policy authority to influence government borrowing costs, while the Issue Department's strict operational rules prevented the discretionary deployment of economic policy for political purposes.[39]

By establishing more precise boundaries around the Bank's public functions while preserving its private commercial operations, the Act addressed the institutional confusion that had enabled the Bank to leverage its quasi-public status during crisis negotiations. This separation targeted the institutional capture problem revealed during crisis resolutions, where the Bank had extracted policy concessions in exchange for cooperation during emergencies.

The 1844 restructuring pursued institutional independence not by strengthening the Bank's resistance to state influence, but by establishing clearer conditions that reduced circumstances enabling problematic relationships. The departmental separation created operational rules intended to limit discretionary authority from both institutions while maintaining essential coordination mechanisms.[40] The Issue Department operated according to predetermined rules designed to prevent both state interference and Bank manipulation. At the same time, the Banking Department functioned as a private commercial institution without quasi-public authority.

This institutional architecture addressed the fundamental problem revealed by previous crises: the difficulty of maintaining clear public-private boundaries when institutions possessed overlapping functions and mutual leverage capacity. By establishing functional separation with clearly defined roles, the reforms reduced the

39. Broz and Grossman, "Paying for privilege: the political economy of Bank of England charters, 1694–1844," p.49-50.

40. Morris Perlman, "On Central Banking "Rules": Tooke's Critique of the Bank Charter Act of 1844," *Journal of the History of Economic Thought* 31, no. 2 (2009): p.221.

ambiguity that had enabled problematic dynamics while preserving cooperation necessary for effective monetary and fiscal policy coordination.

The 1844 reforms' contribution to reducing institutional tensions can be observed through enhanced monetary governance stability that followed implementation. The post-1844 era saw more stable monetary governance without the governance tensions that had marked previous stress periods, even when the Act required temporary suspension during crises of 1847, 1857, and 1866.[41] Crucially, these later suspensions were temporary emergency measures that did not fundamentally alter the institutional framework, unlike earlier crises that had forced wholesale renegotiation of Bank-state relationships.

The Bank Charter Act represents an important example of institutional learning transforming crisis experiences into modified governance structures through systematic theoretical analysis. Rather than responding to immediate problems through ad hoc arrangements that had characterized previous crisis resolutions, the 1844 reforms created systematic approaches that addressed underlying structural causes of institutional tensions revealed through repeated crisis interactions spanning more than a century. The Currency School's influence reflected not merely their response to recent banking difficulties, but their recognition that these difficulties were symptomatic of deeper institutional problems requiring fundamental structural reform.[42]

The 1844 restructuring, therefore, represents a significant development in addressing central bank governance challenges in early modern Britain through the application of systematic monetary theory to practical institutional problems. The

41. Denis P. O'Brien, "Monetary Base Control and the Bank Charter Act of 1844," *History of Political Economy* 29, no. 4 (1997): p.620-630, https://doi.org/10.1215/00182702-29-4-593.
42. Frank W. Fetter, *Development of British Monetary Orthodoxy 1797–1875*, p.165-198.

reforms reduced institutional mechanisms that had created governance tensions for over a century while establishing institutional arrangements that would influence monetary governance across the developing industrial world. The apparent success of these reforms in limiting problematic relationships while maintaining effective policy coordination provides insight into how institutional design informed by theoretical analysis can address governance challenges in modern states.

With this, the analysis proceeds to empirical approaches for measuring, if any, state coercion of the central bank through revealed preferences. Bolstering the empirical approach addresses the real impacts of the relationships above, helping to appreciate the extent of state coercion further.

4 Empirical Approach

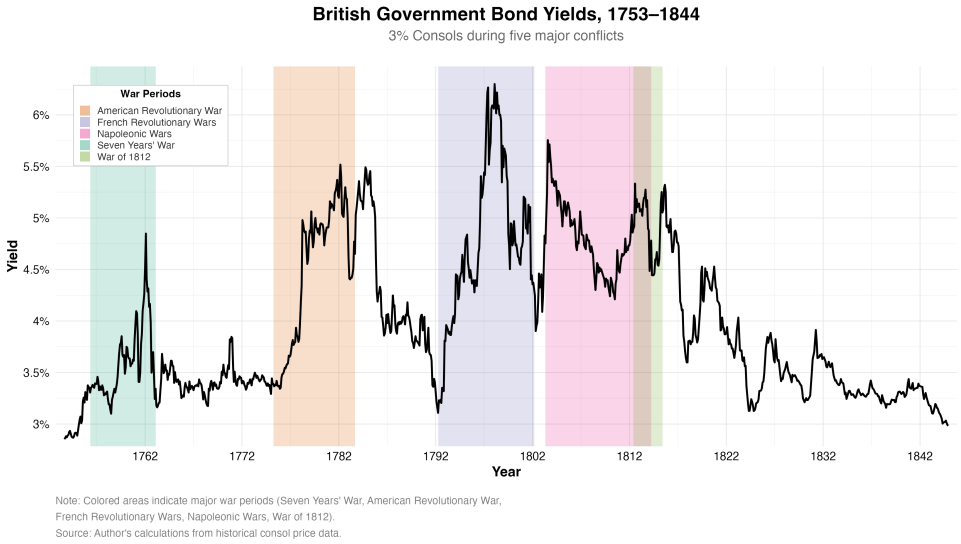

Figure 1: Consol Yields and Major Wars

One drawback of historical case studies is their vulnerability to bias. More-

over, when conducting this strain of analysis, as has been done here previously, it's possible to conflate assumptions between the past and the present. Does contemporary 'rationality' mean the same as 18th-century rationality? Even beyond concerns about the similarities between human behavior now and in the past, we must also be vigilant about the accuracy of historical interpretations of behavior. Maybe someone did write down they thought so and so for such and such, but how do you prove the lack of deceit in the document being read? In some cases, it becomes a pursuit of truth, playing detective on a case conducted 300 years ago. Perhaps it's more profitable to convince investors of one truth rather than the other, or to say one thing instead of the truth.

This is to say that while more statistically driven strategies have their own problems, they help address many of the concerns above. Ultimately, combining the two methodologies can prove to be more insightful than keeping to just one. Therefore, they are married to each other here. By doing so, the blindsides of each approach are better covered.

As previously alluded to, there is a distinction between the possibility of state dominance and its actual occurrence. It might seem reasonable, given our contemporary understandings of behavior, that the state would have superseded the bank, given the institutional framework and make-up of the 18th-century British state. However, it's often difficult to determine whether behaviors mentioned or even hypothesized about the past actually occurred solely through textual analysis.

Notably, this paper assumes that bond yields reflect investors' expectations of state credibility. Their aggregate 'revealed preferences', therefore, are the yields which should represent their estimate of state trust. If fears of weakening BOE independence were to rise, the assumption is that the state would be returning

to its prior behavior of 'uncreditable' commitment. This would occur, with the expectation that government debt would become more risky as fewer checks would be placed on the state's ability to repay its loans—a key consequence of the revolution.

Moreover, separate from the behavior of economic actors, an argument could be made that the financial sophistication of Britain at this time was not grand enough to have significant market-clearing effects. That is, did English markets have enough high-quality information flows to ascertain significant financial integration? Crucially, if this were not the case, it is unlikely that financial variables would respond efficiently and accurately to exogenous shocks. If they did, it would be more challenging to identify specific events as causal mechanisms. However, this was not the case; it can be seen that 18th and 19th-century English financial markets were quite sophisticated, as demonstrated by Neal (1990). Bolstered by statistical results, he shows that information networks were indeed very capable of efficiently reacting to changes.[43]

And Finally, some may critique studying such a long stretch of time empirically. For one, the 150 years of early modern industrial change witnessed drastic shifts in financial markets, literacy, and societal structure.[44] This is true, to compensate, robustness analysis includes substituting different time periods. Nonetheless, this long-running analysis still provides merits for both studying this change and uncovering any fundamental institutional relationships for the time period.

Having critiqued the accuracy of assumptions, it should be reasserted that this methodology does not remove all of them; instead, it reduces them. The key

43. Neal, *The Rise of Financial Capitalism: International Capital Markets in the Age of Reason*.
44. Neal.

assumption made here is that individuals reveal their honest, valid preferences in financial markets. Perhaps it was stated that the government's fiscal responsibility was waning, but unless it is reflected in the data, does it have any real economic consequence? Specifically, people say and do different things. This paper argues that identifying the 'do' is easier with this type of analysis. Having addressed motivation, this paper proceeds to the specific empirical methodology employed.

4.1 Methodology

To assess the level of state coercion, if any, this paper tests the relationship between expected shocks to fiscal stress on consol yields. Specifically, it is asked if console yields do two different things. First, does their behavior deviate significantly from periods without moments of fiscal stress? For example, had war not occurred, would the behavior of Consols still be the same? Second, if they do deviate significantly, do they trend in the predicted/same direction they would in periods without fiscal stress? The second question addresses the heart of this problem: Do yields rise when state fiscal uncertainty increases? With greater uncertainty, investors demand a greater risk premium. Therefore, if yields don't follow this expected inverse relationship between credibility and bond yields, we ascertain a degree of state coercion over financial markets.

If coercion did exist, it is expected that consol yields would not rise, and if anything, would fall during periods of greater fiscal risk. In line with established theory, riskier debt assets yield higher returns. In this paper, it is assumed that war was seen as a cause for riskier debt, as the historical record shows the immense fiscal pressure that it consistently put on the government balance sheet, raising concerns

over default. However, this phenomenon is quite bad for a state committed to war. Firstly, they will have to borrow large sums of money to finance the war. Secondly, increased perceptions of risk are expected to make borrowing far more expensive for the state than it would be in a lower-risk historical context. From this perspective, war financing becomes extremely taught with greater needed quantities and larger prices. Therefore, it seems reasonable that if the state could artificially impact consol yields, it would. These 'controlled' consol yields would, under shock of fiscal stress, either stay the same or decrease to make borrowing easier for the state.[45]

With this logic, we can assert a null-hypothesis. If, during periods of fiscal stress, consol yields rise, it indicates that the state was unable to influence the BOE effectively. This would argue for a certain degree of independence between the two institutions. Alternatively, suppose the consol yields are to remain the same or even decrease after a fiscal shock. In that case, it implies that the state was able to influence the behavior of the BOE, which raises greater concerns over central bank independence.

Therefore, the key empirical methodology employs narrative methods to identify 20 exogenous or pseudo-exogenous shocks to state fiscal stress perceptions, with particular attention to major wars and different currency regimes. Through the use of local projections, one can assess the shocks to consol values with fewer specification issues than a traditional VAR. Through the impulse response functions (IRFs) of these shocks, this paper is better able to ascertain the role, if any, of state coercion in the early modern British economy by comparing the reaction

45. Robert C. Merton, "On the pricing of corporate debt: The risk structure of interest rates," *The Journal of Finance* 29, no. 2 (1974): 449–470.

of consol yields to both historical and theoretically expected outcomes.

4.2 Data

Four primary variables are used in a monthly time series framework between the years 1753 to 1844 [46]. The first variable used is the consol rates produced by Neal (1990).[47] However, since this series ends in 1823, the rest are supplemented by the Odlyzko series (2016).[48] This paper exploits the aggregate nature of British Consols, which have an infinite maturity date, and is thereby expected to reflect long-term perceptions of state trust more accurately than short-term market inefficiencies, which short-term bonds are more susceptible to.

The second variable includes monthly market value debt rates for the period, which are constructed by Ellison and Scott (2020). This series is currently the most comprehensive available, as it incorporates monthly observations, a notable innovation of this paper's work. This variable serves as an essential control for isolating the impact of shocks on consol yields. The inclusion of this variable helps in isolation, as it alleviates concerns that the model is merely identifying a general relationship between debt and consol yields.[49]

The third variable consists of narratively identified shocks, interacted with both the gold standard and war interaction terms. These shocks are codified as a simple monthly dummy variable for the outset of a perceived fiscal strain on the state. Additionally, there exist dummies for whether this shock occurred during

46. monthly data before 1753 is yet to be constructed

47. Neal, *The Rise of Financial Capitalism: International Capital Markets in the Age of Reason*.

48. Andrew M. Odlyzko, "Economically Irrational Pricing of 19th Century British Government Bonds," *Financial History Review* 23, no. 3 (2016).

49. Ellison and Scott, "Managing the UK National Debt 1694–2018."

the suspension of the gold standard and if it was a major war. Five periods are defined as the outset of major wars: the Seven Years' War, the American Revolutionary War, the French Revolutionary War, the Napoleonic Wars, and the War of 1812. It is justified to denote these five events specifically because, as Figure 1 demonstrates, they incurred central fiscal pressure on the state and involved much more of the country's economy than an event like the Anglo-Mysore War's, which, while important to the empire, was much more disconnected from the British economy than an event such as the Napoleonic wars.

And the final variable employed is a month variable to control for seasonality, following a Kruskal-Wallis test that indicated high monthly predictive power for the yield change series, with a p-value approaching zero. Seasonality here was to be expected for this series. Firstly, because the amount of taxes collected was dependent on agricultural production. Secondly, financing occurred quarterly. And thirdly, the bank experienced dividend payment cycles for each quarter.[50] These mechanical components of the fiscal state justify minimizing seasonal impacts through the use of a month-coded categorical variable. Moreover, summary statistics for the data frame can be observed in Table 1

Table 1: Summary Statistics

Variable	Mean	SD	Min	Max	Obs
Change in Yield	0.000	0.120	-0.749	0.639	1040
Market debt growth	0.220	3.142	-13.769	22.116	1040
Shock	0.022	0.202	0.000	1.000	1040
Partly Expected War	0.004	0.062	0.000	1.000	1040

50. Brewer, *The Sinews of Power: War, Money and the English State, 1688-1783*, p.118.

4.3 Stationarity and Variable Adjustment

The following modifications are then made to the respective variables. First, Consols are converted to yields following Equation 1. Secondly, the debt levels are restored to percentage changes in the market value of debt for each month. This is done for interpretive purposes and to enhance model fit efficiency. ADF tests are then run on all three relevant variables to assess stationarity; the results of these are presented in Table 2. Given these results, Consol yields are differences that ensure stationarity to better fit Common time-series assumptions.

$$\text{Yield} = \frac{3}{\text{Consols}} \times 100 \tag{1}$$

Table 2: Augmented Dickey-Fuller Unit Root Test Results

Variable	Level	Test_Stat	P_Value
Yield	Levels	-2.683	> 0.10
Yield	First Diff	-22.101	< 0.05
Change in Yield	Levels	-22.112	< 0.05
Change in Yield	First Diff	-36.518	< 0.05
Market Debt Growth	Levels	-23.244	< 0.05
Market Debt Growth	First Diff	-38.670	< 0.05
Shock	Levels	-23.400	< 0.05
Shock	First Diff	-39.383	< 0.05

4.4 Shocks

Twenty separate shocks are narratively identified, taking into consideration whether they were major war events or occurred during the suspension of the gold standard. The advent of a 'major' war is considered necessary here for being such an enormous shock to perceived government spending. A gold standard suspension

is seen as crucial for hosting financial markets in a completely different monetary regime. Specifically, it can be seen that gold standard suspension created a default risk for the British state, which would increase the risk premium for Consols.[51]

Three information lags are incorporated into the analysis. All three Anglo-Mysore wars follow an additional lag of 5 months. This is applied due to average travel times by the East India Company at the time were 5 months; therefore, it is assumed that it would take that long for information of a war outbreak in India to make it to Britain and be viewed as a possible period of fiscal stress for the state.[52] The specific shocks by month, gold-standard regime, and major war are articulated in Table 3.

4.5 Lags

Being a time series analysis, it is essential to fit proper lags to the model. Though they have been argued to be less critical for local projection-based methodologies[53], they are still a fundamental component of a robust analysis.[54] With this in mind, lags are determined based on the Akaike Information Criterion (AIC). The results are presented in Table 4. Bayesian Information Criteria (BIC) are also calculated, yielding one lag for each variable. Additionally, the Hannan-Quinn Information Criterion (HIC) was calculated and either suggested similar lag recommendations

51. Michael D. Bordo and Eugene N. White, "A Tale of Two Currencies: British and French Finance During the Napoleonic Wars," *The Journal of Economic History* 51, no. 2 (1991): 303–316, https://doi.org/10.1017/S002205070003895X.

52. Peter Solar and Luc Hens, "The speed of East India Company ships," in *International Conference of the International Trade and Finance Association* (Montreal, May 2013).

53. This argument, however, has been critiquedMikkel Plagborg-Møller and Christian K. Wolf, "Local Projections and VARs Estimate the Same Impulse Responses," *Econometrica* 89, no. 2 (2021): 955–980

54. Òscar Jordà, "Estimation and inference of impulse responses by local projections," *American economic review* 95, no. 1 (2005): 161–182.

Table 3: Exogenous Shocks and Events, 1753–1844

Date	Event	Gold[a]	War[b]
05/1756	Seven Years War	0	1
02/1763	Amsterdam Banking Crisis	0	0
08/1767	First Anglo-Mysore War[c]	0	0
01/1773	British Credit Crisis	0	0
08/1775	American Colonies Rebellion	0	1
05/1780	Gordon Riots Emergency	0	0
07/1780	Second Anglo-Mysore War[c]	0	0
12/1790	Third Anglo-Mysore War[c]	0	0
02/1793	French Revolutionary War	0	1
04/1793	Exchequer Bill Merchant Report	0	0
07/1797	Bank Restrictions Act	1	0
05/1798	Irish Rebellion	1	0
04/1799	Fourth Anglo-Mysore War[c]	1	0
05/1803	Napoleonic Wars	1	1
07/1810	Export Bubble Crash	1	0
01/1811	Luddite Uprising	1	0
06/1812	War of 1812	1	1
12/1825	Bank Panic	0	0
08/1830	Swing Riots	0	0
12/1837	Canadian Rebellions	0	0

[a] Gold Standard period: 02/1797–05/1821.
[b] Partly Expected Major War indicator.
[c] 5-month information lag applied.

to the AIC or the BIC, depending on the variable. However, the AIC results are opted for over both of these for a couple of reasons.

The AIC recommendations are chosen predominantly for their ability to fit the data better. Since this paper heavily relies on historical data, many variables that could be used to minimize OVB in more contemporary studies are simply not present. Therefore, by using AIC, it is believed that the local projections are a better fit to the actual model than they would have been with the BIC or HIC recommended lags. Inherently, this decision does bias the model in exchange for precision; this should be noted.

Table 4: Optimal Lag Selection Results (AIC, BIC, HIC)

From	To	AIC_Lags	BIC_Lags	HIC_Lags
Change in Yield	Market Debt Growth	6	1	6
Change in Yield	Shock	1	1	1
Change in Yield	Partly Expected War	1	1	1
Market Debt Growth	Change in Yield	4	1	4
Market Debt Growth	Shock	1	1	1
Market Debt Growth	Partly Expected War	1	1	1
Shock	Change in Yield	1	1	1
Shock	Market Debt Growth	6	1	1
Shock	Partly Expected War	1	1	1
Partly Expected War	Change in Yield	1	1	1
Partly Expected War	Market Debt Growth	6	1	1
Partly Expected War	Shock	1	1	1

Table 5 illustrates Granger causality tests performed between the key variables employing the AIC-recommended lags. Most importantly, the change in consol yields predicting a Shock can be observed. This likely implies that many of the specified shocks are valid because they seem to predict changes in bond yields; however, the opposite can not be seen. Effectively, this observation is strong

evidence that many of these shocks are relatively exogenous. Moreover, the Partial Expected Wars (Major wars) have an even stronger prediction of bond yield changes and even weaker prediction of vice versa. This in itself justifies the special designation of these major wars to facilitate comparison of the differences.

Table 5: Granger Causality Test Results Matrix (P-values, * indicates $p < 0.05$)

	Change in Yield	MDG	Shock	PEW
Change in Yield	—	<0.001*	0.082	0.871
MDG	<0.001*	—	0.440	0.745
Shock	0.016*	0.523	—	0.808
PEW	0.007*	0.387	1.000	—

Note: MDG = Market Debt Growth; PEW = Partly Expected War.

4.6 Local Projections

To further explore this relationship, Jorda's (2004) local projections are employed. Local projections are used instead of traditional VAR for several reasons. Most importantly, local projections are far more robust to model misspecification as they do not impose assumptions over a finite-order VAR. Because the data used in this analysis are historical, some of which have been reconstructed, it becomes far more essential to maintain reliability in implementation. Furthermore, this methodology computes impulse responses directly at each unique horizon, thereby preventing the compounding of estimation errors, which are a common problem when working with such old data. And finally, local projections have the capacity for further flexibility, allowing the analysis to handle more nuanced parameters.

Additionally, local projections require fewer assumptions about causality order-

ing, which should help reduce bias.[55] Moreover, note that Newey-West standard errors are employed to better control for autocorrelation. For comparison, both models with and without these corrections are presented.[56]

In contrast to fitting a single explanatory model, local projections directly estimate the responses of variables at each forecast horizon. The nature of such provides greater flexibility along with the aforementioned merits. The generalized model is represented as follows in equation 2a:

$$\text{General Form:} \quad y_{t+h} = \alpha^h + \beta^h \epsilon_t + \sum_{j=1}^{p} \gamma_j^h y_{t-j} + \sum_{j=0}^{q} \delta_j^h X_{t-j} + u_t^h \tag{2a}$$

$$\begin{aligned} \text{where} \quad y_{t+h} &= \text{variable of interest at time } t+h \\ \epsilon_t &= \text{shock or treatment variable at time } t \\ X_{t-j} &= \text{control variables (lags of other variables)} \\ \beta^h &= \text{impulse response coefficient at horizon } h \\ u_t^h &= \text{error term} \end{aligned}$$

The impulse response function is then constructed by estimating equation (2a) separately for each horizon $h = 0, 1, 2, \ldots, H$ and collecting the sequence of coefficients $\{\hat{\beta}^0, \hat{\beta}^1, \ldots, \hat{\beta}^H\}$.

While local projections may sacrifice statistical efficiency compared to a perfectly specified VAR, it is unlikely that the data here meets VAR assumptions. Therefore, it is considered both worthwhile and valid to pursue the insurance of

55. Jordà, "Estimation and inference of impulse responses by local projections."

56. Whitney K Newey and Kenneth D West, "A simple, positive semi-definite, heteroskedasticity and autocorrelation consistent covariance matrix," *Econometrica* 55, no. 3 (1987): 703–708.

local projections. The specific model used by this paper, accounting for the gold standard regime change and the start of major wars, is as follows in equation 3a:

$$\text{Basic Models:} \quad \Delta y_{t+h} = \alpha^h + \beta_1^h S_t + \beta_2^h Debt_t + \Gamma^h X_t + \varepsilon_{t+h} \tag{3a}$$

$$\begin{aligned}\text{Gold Standard:} \quad \Delta y_{t+h} &= \alpha^h + \beta_1^h S_t + \beta_2^h Gold_t + \beta_3^h (S_t \times Gold_t) \\ &\quad + \beta_4^h Debt_t + \Gamma^h X_t + \varepsilon_{t+h}\end{aligned} \tag{3b}$$

$$\begin{aligned}\text{where} \quad S_t &\in \{Shock_t, War_t\} \\ \mu_t &= \text{Month fixed effects} \\ X_t &= \left[\sum_{i=1}^{4} \gamma_i^h \Delta y_{t-i}, \sum_{i=1}^{6} \delta_i^h S_{t-i}, \sum_{i=1}^{6} \theta_i^h Debt_{t-i}, \mu_t\right]^\top\end{aligned}$$

By constructing local projections in this manner, this paper can measure the impacts of the gold standard suspension during the Napoleonic Wars amid shocks to state debt expectations. Furthermore, it can also single out what have been considered as major wars, or exceptional shocks to debt exceptions and their impacts on consol yields.

5 Results

Figure 2 presents the impulse response functions of the various fit models. Figure 3 does the same, however, adjusted with Newey-West (NW) standard errors. It can be observed that the shocks, taken as a whole, do not indicate a profoundly strong impact on bond yields. However, when we specify specific shocks, a significant relationship can be observed for the first horizon following the shock. This was

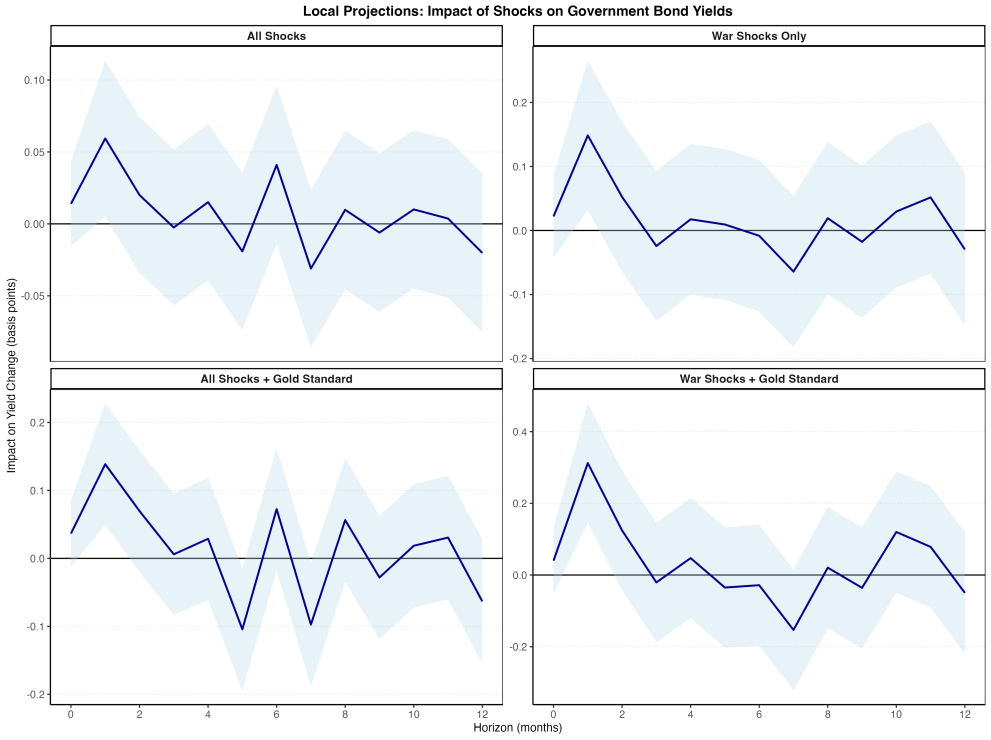

Figure 2: Local Projections: Impact of Shocks on Government Bond Yields

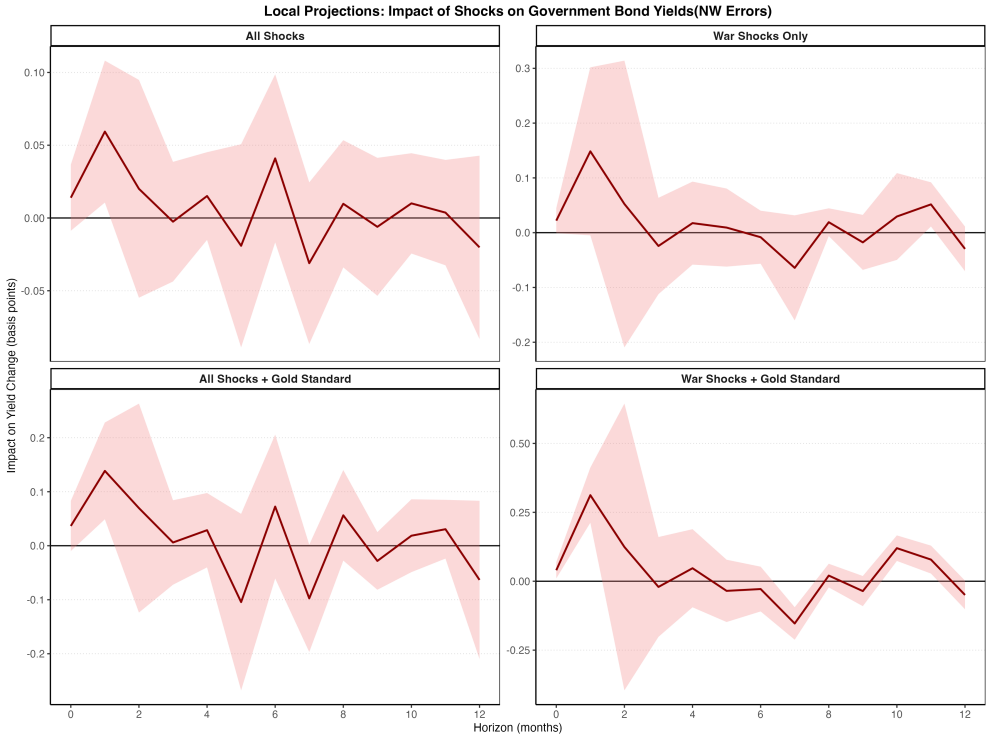

Figure 3: Local Projections: Impact of Shocks on Government Bond Yields

Table 6: Local Projections with Newey-West Standard Errors

model	horizon	coefficient	std_error	f_stat	p_value	significance
All Shocks	0	0.014	0.012	0.86	0.353	
All Shocks	1	0.059	0.025	4.62	0.032	*
All Shocks	6	0.041	0.029	2.15	0.142	
All Shocks	12	-0.020	0.032	0.51	0.473	
War Shocks	0	0.022	0.012	0.46	0.498	
War Shocks	1	0.148	0.078	6.22	0.013	*
War Shocks	6	-0.008	0.025	0.02	0.891	
War Shocks	12	-0.030	0.021	0.24	0.626	
All Shocks + Gold	0	0.037	0.024	1.10	0.335	
All Shocks + Gold	1	0.139	0.046	4.75	0.009	**
All Shocks + Gold	6	0.072	0.068	1.49	0.226	
All Shocks + Gold	12	-0.063	0.075	0.95	0.386	
War Shocks + Gold	0	0.040	0.015	0.38	0.686	
War Shocks + Gold	1	0.312	0.051	6.83	0.001	**
War Shocks + Gold	6	-0.028	0.041	0.07	0.929	
War Shocks + Gold	12	-0.050	0.026	0.17	0.847	

to be expected given the preliminary analysis. Furthermore, Table 6 depicts the specific coefficients for the Newey-West models at horizons 0, 1, 6, and 12 for each of the specified models for a more precise understanding of variable relationships

Firstly, the "base-level" specification, which includes all shocks, has a limited impact on consol yields. Results from Table 5 do suggest a lack of reverse causality, which is promising. The 'all shocks' results show that exogenous impacts on government financing expectations had some short-term impact on consol yields. Therefore, it can be concluded that there was likely no significant extent of government coercion. However, it is possible, since we don't have a strong counterfactual, to say that coercion did exist and it muted the impact on consol yields that we would have seen otherwise. Effectively, it's possible that coercion could have moved consol yields smaller in magnitude.

Secondly, and most surprisingly, the model, which identifies war shocks explicitly, once adjusted for NW errors, shows only very slightly robust impacts of war shocks on consol yields. While we can empirically conclude that the massive pseudo-exogenous moment of expected fiscal stress had a relationship with consol yields, it was not very strong. Regardless, these results align with expectations, as it can be seen that yields on state debt would rise as the government's financial responsibility was perceived as waning. That is, yields rise as debt assets become perceived as more risky. As mentioned, the British government had a long history of war-induced debt struggles before the Glorious Revolution and frequently failed to repay them. It's therefore reasonable to assume that one component of the perceived risk in debt was the possibility of the government defaulting on its loans during or after a war. Achieving a robust, credible commitment was a long process, taking hundreds of years for the British state.[57] Therefore, it should be no surprise that financial actors became weary of the expectation of significant financial commitments.

Thirdly, we can better assess the impact of the gold-standards suspension on consol yields as an essential variable. If it were only large-scale wars that had significant impacts on yields, then we might expect a very weak relationship between the shocks that occurred during the suspension of the gold standard. However, since the five other shocks that occur during this period, when interacted with the gold standard, do not significantly affect the significance of the impulse response variables, it can be ascertained that the gold standard was an essential determinant of consol yields, which extends beyond simply major wars. The impact that

57. Sussman and Yafeh, "Institutional Reforms, Financial Development and Sovereign Debt: Britain 1690-1790," p.906-910.

the gold standard suspension had is reasonable because it can be perceived as better enabling the state to 'artificially' cause inflation due to debasement. This could have therefore been done to help 'drown' out its own debts. Expectations of this strategy would then propagate through to a change in Consol yields, as state financing would seem less risky due to its lower profitability.

Furthermore, currency debasement indicates a government strategy to manipulate its debt, which can be expected to increase the perceived risk of Consols. Ultimately, currency debasement in this period likely created concerns over inflation. In line with this, a rise in consol yields is observed, implying greater risk and financing, as well as threats to credibility.

And finally, the combination of War Shocks and the Gold Standard, which serves only as an identifier for the Napoleonic Wars and the War of 1812, yields significant impacts. Despite its small sample size, it shows significant results for the first horizon. This relationship was to be expected, given that it was one of the most fiscally tumultuous periods in the BOE's history up to then. Moreover, this event highlighted several rising concerns about the BOE's institutional position as an independent central bank and its importance.

Ultimately, as shown, had the state been coercive over the BOE, the last thing to be expected was an increase in yields. As far as our understanding of these variables is concerned, greater state spending with a non-coerced central bank would imply that yields would rise; this did occur. With these results, it can be ascertained that the real impact of coercion, even if concerns for it were raised, was felt only slightly.

6 Robustness Checks

A battery of checks is run on the shocks identified by narrative approaches. Such is done to confirm the validity of the prior results. These checks confirm understandings more generally.

Two main approaches are employed to test for the robustness of the results. The first aggregates the sign consistency of a specific variable on all 12 horizons. Effectively, it asks at horizon 0 through 12 what proportion of those specifications yielded positive responses. If the Sign Consistency is persistently much greater than 0.5, we can have greater trust in the results. The second approach highlights how different specifications impact outcomes at horizons: 0, 1, 6, and 12. Consistency in these values (coefficients) implies greater generalization of results, as slightly changing the specification does not massively alter the results.

6.1 General Shock

The robustness analysis for general fiscal shocks in Tables 7 and 8 demonstrates stable results across alternative specifications, lending strong credibility to the baseline findings. With an average sign consistency of 92 percent across all, the general shock measure demonstrates that the estimated fiscal effects are not the result of biased methodological choices. The most important finding is the consistent sign at horizon 1, where all twelve specifications yield positive coefficients with a median effect of 0.0665; however, as illustrated previously with the IRFs, we often cannot conclude a significant relationship beyond this, as the errors were too great. This consistency extends across different lag structures, control variable specifications, and alternative shock measures, suggesting the accuracy of

specification. The stability is particularly notable when comparing minimal versus extended controls, where the inclusion of month fixed effects and additional variables produces only modest changes in coefficients, indicating that the baseline specification captures the essential fiscal-yield relationship without suffering from significant omitted variable bias. However, the two specifications that seem to deviate the most are the gold interaction and the early vs late period comparison. The first can be explained as the significant impact that currency regimes had on consol yield outcomes. The second falls in line with an observation made by Broz and Grossman (2004), who contend that the arguments and motivations for the BOE renewals after 1800 differed from those before.[58] Therefore, it's reasonable to assume that the expectations and concerns held by predominant investors differed between these two periods.

Table 7: Robustness Summary Statistics: Shock

Horizon	Median	Range	Std_Dev	N_Specs	Sign_Consistency
0	0.0073	0.0481	0.0152	12	1.00
1	0.0665	0.1573	0.0459	12	1.00
2	0.0272	0.1086	0.0309	12	0.92
3	-0.0097	0.0756	0.0203	12	1.00
4	0.0127	0.0911	0.0220	12	0.92
5	-0.0131	0.1161	0.0282	12	0.92
6	0.0425	0.0773	0.0225	12	1.00
7	-0.0345	0.0939	0.0235	12	1.00
8	0.0158	0.0786	0.0200	12	0.92
9	-0.0137	0.0367	0.0090	12	1.00
10	0.0052	0.0374	0.0088	12	0.92
11	-0.0006	0.0712	0.0186	12	0.58
12	-0.0181	0.1610	0.0398	12	0.92

58. Broz and Grossman, "Paying for privilege: the political economy of Bank of England charters, 1694–1844," p. 69.

Table 8: Specification Comparison for Shock at Selected Horizons

Specification	H0	H1	H6	H12
baseline	0.0073	0.0665	0.0418	-0.0184
short_lags	0.0088	0.0655	0.0437	-0.0175
long_lags	0.0075	0.0687	0.0432	-0.0158
minimal_controls	0.0073	0.0665	0.0418	-0.0184
extended_controls	0.0134	0.0570	0.0397	-0.0179
early_period	0.0015	0.0079	0.0614	-0.0681
late_period	0.0043	0.1652	0.0116	0.0381
no_war_sample	0.0034	0.0389	0.0571	-0.0146
gold_interaction	0.0385	0.1327	0.0764	-0.0590
alt_abs	0.0073	0.0665	0.0418	-0.0184
alt_ma3	0.0491	0.1077	0.0829	-0.1229
alt_std	0.0010	0.0089	0.0056	-0.0025

6.2 Major War

The robustness analysis for partly expected war shocks in Tables 9 and 10 demonstrates mild reliability in understanding the phenomenon as mentioned earlier. With high average sign consistency across all horizons, these results show robust directional stability despite considerable coefficient variability, where the maximum range of 0.3343 at horizon 1 coincides with the strongest median effect of 0.16, indicating substantial sensitivity precisely when market reactions are most pronounced.

The specification comparison reveals insights about temporal and institutional factors in war shock transmission. The dramatic contrast between early period effects (negative 0.0044 at horizon 1) and late period effects (0.3290 at horizon 1) demonstrates fundamental structural changes in how Britain's maturing financial system processed war-related fiscal information, with the late period showing more than seventy times stronger immediate responses.

The gold standard interaction specification yields strong results, indicating that monetary regime considerations have a significant impact on the transmission of war shocks to bond markets, particularly when the gold standard constrains monetary policy responses to fiscal pressures. The extended controls specification shows notably muted effects.

Notably, the specification sensitivity analysis reveals that while baseline, short lags, long lags, and minimal controls specifications produce highly consistent results across all horizons, the dramatic differences in early versus late period responses and the strong gold standard interaction effects highlight that institutional and temporal context fundamentally altered the nature of war shock transmission. The pattern observed in the robustness statistics, combined with the specification comparison's revelation of strengthening effects over time, supports the economic interpretation that shocks created increasingly sophisticated market responses as Britain's fiscal-military state and financial system co-evolved during this critical period. For this paper, the validity of war shocks is bolstered; therefore, one can be more confident in the relationship between state fiscal constraints and consol yields. It is then clear that the state likely had minimal 'real' coercive impact on the BOE.

7 Discussion

If the most statistically significant relationships between fiscal shocks illustrate respect for central bank independence, why was it ultimately restructured in 1844? England was likely fortunate not to have found itself in an egregious abuse of central bank capabilities in the first 150 years of the BOE's existence. As the

Table 9: Robustness Summary Statistics: Partly Expected War

Horizon	Median	Range	Std_Dev	N_Specs	Sign_Consistency
0	0.0205	0.0598	0.0192	8	0.88
1	0.1600	0.3343	0.1076	8	0.88
2	0.0650	0.1228	0.0394	8	1.00
3	-0.0342	0.0201	0.0061	8	1.00
4	0.0258	0.0601	0.0195	8	0.88
5	0.0165	0.1120	0.0346	8	0.75
6	-0.0173	0.0502	0.0164	8	0.88
7	-0.0614	0.1227	0.0380	8	1.00
8	0.0375	0.0319	0.0097	8	1.00
9	-0.0357	0.0647	0.0206	8	1.00
10	0.0199	0.1459	0.0439	8	0.88
11	0.0364	0.0213	0.0074	8	1.00
12	-0.0348	0.0413	0.0128	8	1.00

South Sea Bubble demonstrates, at least in the bank's early years, independence was not only an institutional barrier but also an ideological barrier. The tactics used by Harley demonstrate this. Alternatively, by the time of the 7-Year War debt crisis, the BOE was central enough to the economy that it was able to be quite resilient. But while it may have had such power, there existed no formal institutional means for the two entities to settle their disputes, creating threats of instability. And finally, the Napoleonic Wars illustrate how, even after the bank had established itself with a longer than 100-year precedent, this was not enough to resist the state in a period of complete and total economic emergency.

The historiography of these case studies illustrates the threat of total state dominance and the evolution of the BOE-state relationship. The use of local projections bolsters an over 100-year historical understanding by articulating these concerns in revealed preferences. They demonstrate that the bank was coerced but not abused. This acts as the historical backdrop to the bank's later restructuring.

Table 10: Specification Comparison for Partly Expected War at Selected Horizons

Specification	H0	H1	H6	H12
baseline	0.0205	0.1600	-0.0173	-0.0347
short_lags	0.0184	0.1600	-0.0179	-0.0352
long_lags	0.0150	0.1634	-0.0165	-0.0349
minimal_controls	0.0205	0.1600	-0.0173	-0.0347
extended_controls	0.0284	0.1491	-0.0069	-0.0285
early_period	-0.0114	-0.0044	0.0093	-0.0144
late_period	0.0484	0.3290	-0.0409	-0.0557
gold_interaction	0.0480	0.3299	-0.0400	-0.0515

Further work can try to draw out a counterfactual for the relationship between expected fiscal shocks and bond yield movement. As of current, this analysis cannot definitively say that coercion did present itself in financial markets. It is possible that coercive behaviors could have muted bond reactions, which would have been larger had that not been the case. Moreover, it would be beneficial to study this relationship more empirically from the state's perspective. It was the state that saw weakening power over this period, while the BOE only became stronger.

8 Conclusion

This analysis suggests why the bank was restructured in 1844. The empirical results demonstrate a significant relationship between financial stress and bond prices during episodes of expected fiscal shocks, major wars, and currency regime changes. This relationship only became significantly apparent in the first month following a shock. While the different models exhibited varying behaviors, they all consistently demonstrated a statistically significant impact of exogenous shocks on bond yields in the month following the shock.

These findings are significant in the expected direction of a non-coerced central bank. That is, when state financing is likely to be more risky, consol yields rose to compensate for this. This implies that, if state coercion of the bank did occur, it was minimal in terms of financial variables.

The local projection approach used here doesn't directly explain why the bank was restructured in 1844. To supplement this, this paper has examined specific case studies from the bank's history. These moments of fiscal stress — the South Sea Bubble, the Seven Years' War Debt Crisis, and the Napoleonic Restriction Period — demonstrate that coercive maneuvers were performed on the bank during this early period, despite what the regression analysis would indicate. Therefore, this paper concludes that, despite the use of manipulative strategies towards the bank, their impact was only partially felt by financial markets and, more importantly, created justification for later institutional reform. Ultimately, the BOE was perceived as independent enough to grant the state more credibility than it had before the Glorious Revolution; crucially, this phenomenon was a process that spanned more than 100 years.

Ultimately, the BOE was perceived as independent, even though its independence had been under test during many periods of stress. Regardless of the actual impacts, these periods of stress justified later restructuring.

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