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REGULAR ARTICLE

The institutional evolution of central banks

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Abstract
This article contributes to the literature on central banks' institutional rationale and evolution by analyzing the early development of the Bank of England as a case study. The history of the Bank is scrutinized under the framework of entangled political economy, revealing its origins in a process of bank and political bargains. The account clarifies the process by which the political and economic order becomes increasingly intertwined throughout the banking system, via political bargains under incomplete contracts. The analysis suggests that entanglement allows governments and non-profit organizations to transmit some of their features to banking organizations in exchange for financial benefits. Transmitting nonmarket characteristics through recurrent bargains leads a for-profit bank to gradually transform into a central bank. The article proposes an alternative rationale for the unintended emergence of central banks, providing evidence in favor of their politically oriented development, rather than their alleged intrinsic nature.

Keywords Institutional evolution · Central banks · Bank of England · Bank Bargains

JEL Classification E580 · H1 · H4 · K2

1 Introduction

Since the publication of Goodhart's (1988) *The Evolution of Central Banks*, scholars have seldom examined central banks' nature, their fundamental roles, and their evolution (Bindseil 2020; Giannini 2011; Ugolini 2017).[1] The lack of critical evaluation

[1] According to the Cambridge Dictionary (2013), evolution is 'a gradual process of change and development'. The Merriam-Webster (2019) dictionary defines evolution as 'a process of continuous change from a lower, simpler, or worse to a higher, more complex, or better state'. Thus, *institutional evolution* in banking affairs is here understood as a gradual process of change, in which a banking structure develops functions from a lower and simpler to a higher and more complex structure (see also Van den Bergh and Stagl 2003); this notion reflects also early proto-central banks' functional evolution (Ugolini 2017).

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of central banks' establishment and their institutional rationale has been more acute in the postcrisis literature (Calomiris and Haber 2014; Paniagua 2016a, b, 2017, 2020). Goodhart's (1988) general overview of early central banks' establishment is partly based on his account of the Bank of England (BoE) (Selgin 1993). Similarly, V. Smith (1990 [1936]) sought to explore the origins and development of central banks with a particular focus on the Bank. The Bank is thus undoubtedly a paradigmatic example of how a for-profit bank becomes a bankers' bank, and, finally, a central bank (Capie et al. 1994; Thornton 1978 [1802]).[2]

Goodhart's and V. Smith's focus on the BoE echoes Bagehot's (1873) original concerns about the establishment of central banks. Like Goodhart and V. Smith, Bagehot (1873) considered the Bank as a paradigmatic example of how central banks arose and developed from processes of political entanglement initiated by governments' interventions in the banking system. These political dynamics—hinted at by V. Smith, Thornton (1978 [1802]), and Bagehot—comprise the core focus of this article. The analysis provides further evidence that challenges Goodhart's (1988) and Congdon's (1981) claims that central banks naturally arise and are therefore institutionally and logically indispensable.

Despite social scientists having made important advances in illuminating the notion of institutional evolution and how institutional change occurs in social orders (Blyth et al. 2011; North 2005; Ostrom 2014; Van den Bergh and Stagl 2004), scarce work has expanded these ideas into banking theory or to central banks' institutional evolution.[3] Ostrom's (1990) seminal work on governing the commons has been extended into the notion of financial governance of systemic banking affairs, such as bank runs, self-monitoring, and financial resilience (Salter and Young 2018; Paniagua, 2016b, 2020). However, remaining gaps in the banking literature involve early central banks' establishment and institutional development (Bindseil 2020; Salter 2014). The failure of extending such institutional analysis and insights into the banking literature has impoverished macroeconomic thinking and, ultimately, affected how economists think about banking institutions, leaving them conceptually trapped in dichotomies such as banking anarchy versus government-oriented bankers' banks (Calomiris and Haber 2014). By borrowing from Calomiris and Haber's (2014) framework, this article contributes to filling such gaps on early central banks by analyzing the case of the Bank of England at its initial establishment and subsequent

[2] Central banks are defined as banking systems in which a single entity has either a complete or residuary monopoly over the service of issuing notes and thus it also plays a stability role as lender of last resort (Goodhart 1988). It is relevant to differentiate between the modern conception of central banks and their broader roles with proto-central banks that previously had banking privileges without clear stability roles (Selgin 1988). Proto-central banks became central banks only after public debates about recognizing their responsibilities as lenders of last resort (Capie et al. 1994).

[3] Gradual institutional change can be conceived as a form of evolutionary process, yet the evolution of a rule system or institution is not synonymous with progress or improvement (Ostrom 2014). To explore the analytical relationship between evolutionary theory and institutional change, see Lewis and Steinmo (2012: p. 315), who state that, 'human social institutions literally evolve' (also see Ostrom 2014). Following Ostrom and Basurto (2011), 'institutional evolution' refers to the development and gradual change of a particular institution, rather than the selection process within a set of institutions.

development, 1694–1708, then important institutional changes during the period 1797–1821 and up to 1890.

The article proposes a framework for the institutional evolution of early proto-central banks, based on examining the historical progression of the BoE as a paradigmatic—yet unintended—case study of banking evolution (Goodhart 1988). As Blyth et al. (2011: p. 307) recognize, 'many social scientists today are groping for a better understanding of origins and mechanisms of institutional and political change. The problem is that most social science models assume fixed mechanisms.' This problem is particularly acute in the banking and fiscal literature which usually treats institutions as the rational equilibrium outcome of a one-shot maximizing strategy (Broz 1998). Instead, political economy can be fruitfully used to examine central banks; it can expand the narrow notion of institutions as established equilibria in rational maximizing exchanges (Blyth et al. 2011; Salter and Tarko 2019)[4] and has therefore the capacity to illuminate the phenomenon of institutional change (Ostrom 1990, 2014).

Building from Goodhart's (1988) main arguments and Broz's (1998) theoretical and historical insights, this article proposes an alternative rationale for understanding the emergence of early (prior to the 1800s) proto-central banks. This alternative is essential for developing an institutional explanation to help explain why central banks are established and how they develop. The article contributes additional evidence in favor of central banks' unintended and politically oriented developments, as opposed to their alleged 'natural' emergence. The findings contrast the conventional rationale for central banks since they suggest that the origins of, and catalysts for, the evolution of them resides mostly within bank bargains and privileges originally granted to them by governments (Selgin 1993).[5] If shown that central banks evolve out of political processes initiated by bargains, then not only will they prove Bagehot's (1873) conjectures accurate, but they will also call into question Goodhart's (1988) and Congdon's (1981) 'natural' or 'inherent' claims.

The following Section 2 reviews key concepts and definitions, especially the notion of bank bargains and the framework of entangled political economy. Section 3 explores the Bank's early history, starting with its establishment in 1694 and its gradual changes up until 1708, as well as explains how charter renewals exacerbated the entanglement. Section 4 analyzes the Bank's change based on the subsequent process of concentration of the English banking system's reserves, enhanced by legal precedents and accumulated privileges between 1797 and 1821 (known as the Restriction Period). Section 5 concludes.

[4] Political economy is here conceived as the interdisciplinary study of human and collective action, exchanges, and the social phenomena that stem from them, which lies at the intersection between philosophy, politics, and economics (Buchanan 1964; Coase 1994). As such, it focuses on cooperation, exchanges, and the real-world institutions where exchanges occur (Ostrom 1990). See Groenewegen (1987) for a survey on the meaning of the terms 'economics' and 'political economy'.

[5] Calomiris and Haber (2014: p. 9) define 'bank bargains' as the rational political process through which political coalitions in power manage and distribute the concentrated economic benefits and spoils offered by banks, in exchange for political favors and monopolistic powers. 'Special privileges' are monopoly powers, special charters, and advantageous regulations granted to specific banks (p. 10).

2 Setting the framework: bank bargains and entangled political economy

The vision of 'additive political economy' refers to 'a scheme of thought where economic equilibrium is conceptualized prior to political activity, with political activity then modifying that equilibrium' (Wagner 2012: p. 9). The concept starts with the assumption that the economy as a whole is in a state of equilibrium that might not be desirable. The political organization comes as an exogenous unit into the system to purposefully move the equilibrium to a new, more preferable, state. The political entity therefore acts as a whole united mass to direct the economic system toward a new, preferred (Pareto-improving) state of equilibrium (Persson and Tabellini 2000).

Additive political economy possesses two main shortcomings. First, it assumes that the economy and the polity are single, divisible entities or solid unities (separated entire wholes) of equilibrated relationships (Wagner 2016). But in reality, economic and political worlds are formed via a myriad of interacting actors and decentralized entities (Ostrom 1990). In that heterogeneous setting, actors' objectives and incentives differ but they nonetheless interact in meaningful ways. Second, the assumption that the political entity is detached economically from the economic sphere is unfounded since the polity's survival requires support from the economic order (Tullock 1965). In contrast, entangled political economy differs from the prevailing approach (see Persson and Tabellini 2000), particularly in understanding social relationships (Wagner 2016).

Entangled political economy (EPE) is a scheme of thought that recognizes the interdependence of the political and economic spheres; it considers politics as much a part of economic action as economics is a part of political action (Wagner 2019). As such, it treats agents and the private and public institutions not as a hierarchical order but as intertwined in overlapping exchange relationships along competitive and collaborative dimensions (Salter 2014). This notion is akin to how Elinor Ostrom (1990, 2014) depicted social and ecological systems as polycentric orders of governance.

The central claim of entangled political economy (Wagner 2016) is recognizing that political and economic entities assist, bargain, and conflict with one another along significant margins of action (see also Calomiris and Haber 2014). Entanglement is a process and a non-random network with patterns of connections among heterogeneous entities. The resulting patterns of entanglement are features stemming from interactions and bargains and are, to some degree, subject to influence by the agents involved (Patrick and Wagner 2015). The EPE framework fits with bottom-up representations of social phenomena and institutional change (Smith et al. 2011; Wagner 2019).

Instead, within the prevailing framework of political economy (see Persson and Tabellini 2000), the final societal equilibrium is generated by a process of sequentially adding two separate frameworks: one of private property, competition, and freedom of contract governing the market order, and another political-constitutional one that governs political exchanges (Wagner 2019). Actions undertaken exogenously in the political arena are supposed to modify the equilibrium outcome attainable in the market. As such, it disregards the open-ended nature of choice along with the unintended institutional consequences arising from the relationships of the parts (North 2005; Ostrom 1990, 2014). In reality, institutional change and their political-economic outcomes are interactive elements of a higher complexity, irreducible to the agents' original choices in an equilibrium framework (Ostrom 2014; Wagner 2012).

Such dynamics are precisely the elements that entangled political economy, and this article, seek to illuminate. The patterns of entanglement among private and public entities are emergent features of human interaction.[6] Hence, entangled political economy is a framework—similar to Ostrom's (1990) framework on bottom-up governance—that seeks an emergent representation of social and institutional phenomena and stresses the gradual development of institutions (see Wagner 2019).

2.1 The inseparability of economic and political phenomena

The historical narrative put forth throughout this article advances two relevant arguments. First, the development of central banks does not necessarily follow the 'inherent' or 'natural' path that Goodhart (1988), Giannini (2011), and Congdon (1981) suggest. Second, banking development involves the interplay of both entangled political and economic forces, and political or legal institutions which affect them by defining banking property rights (Calomiris and Haber 2014; Paniagua 2016a, 2017, 2018; Ugolini 2017).

Indeed, this second point—concerning the inseparability of economic and political phenomena—has been a relevant feature of economic thinking since Adam Smith's work, especially prominent in the German Historical School and for the 'old' or 'original' institutional economists (Camic and Hodgson 2011; Commons 1924; Deakin et al. 2017; Samuels 1971). Recently, the inseparability between economic and political phenomena and how political institutions have largely shaped how markets and economic institutions develop can be exemplified by the roles of law and states in constituting property rights and markets, as the literature on 'legal institutionalism' identifies (Deakin et al. 2017; Samuels and Schmid 1981; Hodgson 2015).

Additionally, Calomiris and Haber (2014), North et al. (2009), and North and Weingast (1989) all similarly stress the roles of law and constitutions in general and the legal incorporation of firms and banks in underpinning economic and financial development. Thus, the entangled political economy framework in this article

[6] Emergent properties are novel features that—before their appearance—cannot be predicted or explained through the initial conditions. They are ontologically and causally irreducible to the basic elements that compose them, if the latter are considered separately from being organized or relationally arranged (Lawson 2019). As Hodgson (2000: p. 68) points out, 'emergent properties at a particular level of reality means that explanations cannot be reduced entirely to components and phenomena at lower levels'.

largely builds on a long line and tradition of institutional and legal thought in economic thinking (Wagner 2019).

Moreover, the framework of Calomiris and Haber (2014) is particularly relevant for this article since they develop a public-choice analysis to explain banking systems' institutional fragilities. They conceive banking systems' rules and operations as the rational outcome of the 'Game of Bank Bargains', in which banking, 'is best thought of as a partnership between… the government, bankers, minority shareholders, debtors, and depositors' (p. 13). The balance of power among these actors determines the deal-making and rent-sharing process, which ultimately shapes the institutional structure of the banking system (see also footnote 5). Thus, for Calomiris and Haber (2014: p. 501), nations 'get the banking system that their political institutions and dominant coalitions permit'.[7] This article conceptually borrows from and complements their framework, using it as its major point of departure. However, while they emphasize the rational choice and deliberate outcomes of such bargains, this article seeks to supplement their analysis by instead emphasizing the unintended institutional evolution and unanticipated dynamics of banking that arise from those bargains. Henceforth, while having similar points of departure, we differ in our institutional emphases (see also Selgin 2015).

In sum, the article argues that the process of entanglement throughout the English banking system developed from the original 1694 bank bargain between private rent-seeking bankers and government officials and monarchs looking for financial support. The bargain was made under an incomplete contract that allowed both parties to renegotiate the charter earlier by exercising options to recharter.

2.2 Central banks' 'joint production' rationale

Standard neoclassical economic analysis has thus far modeled central banks mainly as natural and rational institutional responses to crises and to the demand for public goods, following the logic of collective action and the rational provision of public goods through exchanges between rent-seeking groups and governments (Giannini 2011; Goodhart 1988). Their establishment has been interpreted as a logical and beneficial convergence between public and private interests and thus as a 'joint production' kind of private–public exchange (Broz 1998). Thus, central banks have been interpreted as a rational manifestation of a joint-production agreement between the sovereign and private actors, bilaterally undertaken to collectively produce public goods, such as financial stability, banking supervision, banking services, and more predictable long-term forms of government financing (Broz 1998). This sort of institutional arrangement, the literature argues, has been rationally created *ex ante*—as a form of an institutional equilibrium in a coordination game—to provide dispersed collective benefits to society, such as banking and financial stability, while establishing a bureaucratic entity that also provides benefits to interest groups (North and Weingast 1989). Central banks are depicted as maximizing and static

[7] For an in-depth assessment of Calomiris and Haber's (2014) banking framework, see Selgin (2015).

'institutional compromises' stemming from one-shot mutual beneficial exchange between politicians and interest groups (Broz and Grossman 2004; Giannini 2011).

While Broz's (1998) concept of 'joint production' can explain the microfoundations of the original Bank charter in 1694, it implicitly assumes that it was a *permanent* institutional entity, implying that the Bank was originally created as a fully developed central bank (Giannini 2011). It assumes that the banking entity was fully established with its banking goals defined and explicit from the beginning, which conflicts with how early proto-central banks actually developed (Paniagua 2016b, 2017; Ugolini 2017). Therefore, it neglects the role of the subsequent recharter bargains, which are how the Bank gained extra, unpredicted, and important nonmarket characteristics; such changes occurred while the Bank was gradually transitioning toward a nonprofit structure.

Due to the importance of the recharter negotiations, this article explores the repetitive bank bargains that ignited an entanglement process and allowed the institutional evolution of central banking in England. Contrary to Broz (1998), this article shows that the Bank's roles changed over time as the entanglement advanced because of the charter renewals and legal precedents: the Bank gradually became a bankers' bank and took on the role of being the exacerbated center of reserves for the entire English system (Dowd 1993). The focus lies on the unintended process by which the political-economic order became increasingly entangled, which affected the entire banking system and the Bank's ultimate role within it.

Entanglement allowed a polity organization (the sovereign) to transmit some of its extra-market and political features to the economic organization (the Bank) with which it established relationships. Transmitting such nonmarket features was an essential part of the bank bargains between the Bank and the government (Calomiris and Haber 2014). The 'game of bank bargains' (p. 10) entails a process that considers government policies and banking legislations as the outcomes of partnerships and exchanges among private interest groups and political coalitions that control regulation and definitions of property rights.

The bank-bargain players are groups or institutions with a stake in the banking system's performance and credit allocation. In this historical case, the main players were Parliament, the government, the shareholders (private owners), and BoE managers (Calomiris and Haber 2014). Coalitions and agreements can arise among interested players and affect the banking industry's rules and competitive credit properties (Smith et al. 2011). Calomiris and Haber (2014) recognize that governments possess the power to regulate banks and to enforce contracts through altering the structure of property rights via bank charters and barriers to entry. Banking institutions, like any other economic institution, function within the legal and political environments (Commons 1924; Deakin et al. 2017; North 2005; Paniagua 2017).[8]

[8] Many scholars have explored the impact of both the legal framework and the political environment on the development of institutions and markets (e.g., Commons 1924; Hodgson 2015; Samuels 1971). On how the legal system can affect institutions, see the literature on 'legal institutionalism' (e.g., Samuels and Schmid 1981; Deakin et al. 2017).

When bank bargains—under incomplete contracts—determine property rights and the legal and economic limits within which banks operate, banks and government actors that gain from those bargains are interested in perpetuating or enhancing such exchanges. Under incomplete contracts, both parties seek to leave the bargaining open, so that they can later renegotiate to tilt contracts in their favor, by altering legal and property-rights structures in subsequent charters (Tirole 1999). This could generate flexible long-term bargaining relationships among banks and governments, opening the possibility of entanglement among the involved entities. Bank bargains (e.g., charter renewals and negotiations) could be a strong and plausible starting point for an entanglement process in banking that perpetuates over time (Calomiris and Haber 2014). Repetitive bargains, stemming from incomplete contracts, could ignite the entanglement process and, perhaps more critically, advance the entanglement's own growth throughout the banking system.

During bank bargains, the entities or parties enter into incomplete contracts since they expect gains from bargaining. In their maximizing behavior, however, neither of the parties involved has future knowledge and foresight as to where bargains under incomplete contracts might institutionally lead. The bargains' unintended outcomes lead to an entanglement process that is perpetuated via the parties' narrow interests. Such a scenario ultimately affects the overall institutional framework, incentives, and market setting in which all banks operate.

3 The bank's initial entanglement (1694–1708)

Goodhart's (1988) account of central banks' evolution mainly rests on recognizing that because of economic considerations such as having economies of scale, simplifying interbank lending and clearing, and reducing the overall need to mobilize reserves among banks—which all reduce interbank transaction costs—competing banks have a natural tendency to centralize (and economize) reserves in the system (Dowd 1993; Selgin 1993). Goodhart (1988) further suggests that this economizing tendency naturally leads banks to concentrate reserves with one important bank, and that bank becomes a bankers' bank and a controller of the system's reserves (i.e., a sort of governing clearinghouse). The short story thereafter is, given the crucial and systemic role of managing the reserves of other banks, the new for-profit bankers' bank will naturally transform into a central bank with regulatory roles.[9]

Goodhart's account of the 'centripetal forces' of the concentration of reserves within a banking system leads him to assume that competitive banking is inherently hierarchical and monocentric as an optimal institutional arrangement. This stance assumes away the possibilities of institutional heterogeneity and polycentrism in banking (Paniagua 2020; Salter and Tarko 2019). Goodhart (1988) proposes that banking competition and centralization of reserves to economize on them lead to a gradual domination of a single for-profit bank that handles high levels of reserves of other commercial banks and unwillingly lends to competitors in times of distress.

[9] For an analysis of Goodhart's main institutional arguments, see Paniagua (2017) and Selgin (1993).

The noncompetitive transition will then reflect the public interest of safeguarding the entire banking system and its reserves (Congdon 1981). Goodhart hence suggests that a hierarchical and public central bank seems to be a natural and necessary institutional outcome of commercial banks' inherent tendencies to concentrate, and economize on, reserves in a single for-profit banking entity.

These observations also relate to how clearinghouses develop. Clearinghouses comprise a relevant element in arguments about the concentration of reserves and the 'natural' development of central banks (Dowd 1993; Paniagua 2017). As the banking system expanded, large numbers of settlements and payments started to be drawn from one bank and deposited in another, thus the system starts to develop central parts or nodes within a wide banking network. Additionally, a clearinghouse could be also established, meant to reduce transaction costs, and could later adopt some monitoring and regulatory functions (Dowd 1994). This could lead to questions about how such a clearinghouse should be governed (Timberlake 1984). Using club theory, Goodhart (1988) argues that there are information asymmetries, monitoring and principal-agent problems, and conflicts of interest—which suggest that privately governed institutions must transition (naturally) toward an independent government-led institution or central bank.[10]

It is plausible to argue that the institutional evolution of banking is partly predetermine by the underlying reserves, principal-agent and transaction costs conditions described by Goodhart (1988) and Congdon (1981), which might lead subsequently to some form of banking network with some degree of hierarchy and concentration (Timberlake 1984; Salter and Young 2018). However, recognizing these structural conditions is insufficient to claim that establishing a central bank is the only and 'natural' institutional response, nor could it be claimed that this outcome would be optimal and preferable to other alternatives (Dowd 1994; Selgin 1988, 1993).

The following subsection scrutinizes this 'natural' account by reviewing the key historical events—the original 1694 charter, plus the two following charter renewals—that led the BoE to become the bankers' bank of the entire English system (see Table 1).[11] The remainder argues that what Goodhart believed to be a natural and generalized evolution of central banking is in reality an unintended and emergent institutional effect of a specific political-economic entanglement process, initiated by bank bargains between political organizations and a for-profit bank.

3.1 The bank-charter model and the incomplete contract of 1694

The bank-charter model began with monarchs needing to finance their new expansionary domains (Glasner 1989). European empires used charter monopolies on different business activities to subcontract and finance colonization (Calomiris and Haber 2014; Glasner 1989). The charters allowed the banks involved to benefit from privileges and nonmarket features, while furthering the state's financial and

[10] These arguments have been examined by Dowd (1994), Paniagua (2020), and Timberlake (1984).

[11] On the early history of the Bank, consult Andréadès (1966), Clapham (1944), and Fetter (1965).

Table 1 Bank of England charters 1694–1844

Date of actual character	Years of actual duration	Original time to final option (Years)
1694	3	11 (1705)
1697	11	13 (1710)
1708	5	23 (1732)
1713	29	29 (1742)
1742	22	22 (1764)
1764	17	22 (1786)
1781	19	31 (1812)
1800	33	33 (1833)
1833	11	22 (1855)
1844	Indefinitely	11 (1855)

Clapham (1944); Broz and Grossman (2004)

colonization goals. In the case of England after the Glorious Revolution of 1688, King William III needed resources to finance the war against Louis XIV of France (Clapham 1944). To do so, and facing constraints from Parliament, he had to rely on corporate and chartered entities as critical funding sources for long-term debt involved in the war effort (North and Weingast 1989).

The Financial Revolution (1693–1720) undertaken by Parliament allowed the English state to replace costly and unpredictable short-term floating debt with predictable and funded long-term loans secured by sector-specific revenue streams. Chartering a bank in exchange for long-term credit was part of that innovation, which also helped reduce credit transaction costs, improving the monarchs' financial situation and capacity to leverage and borrow in the long run (Broz and Grossman 2004). Monopoly charter schemes were established while addressing this public debt; during this process, the government internalized potential state creditors into joint-stock companies, opening access to a stable and predictable pool of creditors (Calomiris and Haber 2014; Selgin 1988).

These chartered companies were founded to provide loans and credit to the English monarchs in exchange for monopoly deals and corporate privileges. One of the first of these deals was with the 'Governor and Company of the Bank of England' in 1694, as proposed by entrepreneur William Patterson (Broz 1998). Unlike other chartered companies, such as the New East India Company and the South Sea Company, the Bank was the only chartered company able to survive in close entanglement with the government for centuries. Between 1694 and 1844, the Bank's charter was renewed nine times. The renegotiations that perpetuated and enlarged the Bank's entanglement in the economy reflected highly contextual and ad hoc economic and political uncertainties that unfolded over time and the different bargaining powers that the parties possessed (Broz and Grossman 2004).

A parliamentary act initially established the Bank with an explicit expiration date of 1705, suggesting the lack of a serious or long-term vision among the involved parties to create a joint-production public institution to provide critical public goods in the long run. The Bank was chartered for only eleven years with initial capital of £1,200,000, which was lent to the government at 8 percent (Broz and Grossman 2004). As part of the initial bargain, the government authorized the Bank to issue notes in the same amount (Smith 1990 [1936]). The Bank was granted the following characteristics: the right to form a joint-stock company with limited liability, the right by Parliament to conduct a banking business (in the first charter, this was not an exclusive right), and the right to issue notes in the amount of the Bank's capital (Broz 1998). Thus, it was formed as a private corporation with shareholders entitled to dividends from the profits earned through the interest payments on the loans by the government and through the benefits granted by the original charter, which were not substantial until 1697 (V. Smith 1990 [1936]).

All nine bank charters had explicit expiration dates (see Table 1 above) after which Parliament could entirely dissolve the Bank by exercising an option with a one-year notice of repaying its loan in full. Thus, each charter renewal, until 1844, extended the lifespan of the Bank for a limited time only. The fact that these bank bargains were repeatedly made with explicit expiration dates for over 150 years is strong *prima facie* evidence suggesting that neither of the parties involved intended to design a banking institution to provide crucial public goods or financial stability (Paniagua 2017, 2018).

Moreover, the charter renewals occurred at irregular, unpredictable intervals, typically earlier than the original expiration date of each charter. Such timing reflects the necessity of both parties to renegotiate, bargain, and enhance the entanglement among them (see Table 1). Nevertheless, the Bank's charter and operation were never dissolved; they were renewed nine times by Parliament between 1694 and 1844, the date of the last Continuance Act. Hence, unlike what the joint-production literature suggests (e.g., Broz 1998; Giannini 2011), the 'early history of the Bank was a series of exchanges of favours between a needy Government and an accommodating corporation' (Smith 1990 [1936]: p. 12). Importantly, the recurrent bargaining feature within the Bank's early life is what ignited the entanglement process and resulted in institutionally transforming the Bank from a privileged commercial for-profit corporation into a non-profit central bank.

The original bargain culminated in the 1694 Bank charter as an incomplete contract that reflected the relative and initial bargaining power of each party.[12] It was the product of a mutually beneficial exchange between the government and the Bank's shareholders, 'designed to ensure that the parties remained mutual hostages to an initial incomplete contract' (Broz and Grossman 2004: p. 58). This initial contractual relationship created an entangled link between the two organizations. The design included an option clause, offering the possibility to end the charter early; the clause also incentivized both parties to renegotiate sooner, when they needed to improve the incomplete contract, for instance when they faced unforeseen fiscal and war-related events (Broz and Grossman 2004).

The 1694 Bank charter established a form of bargaining *flexibility* in a 'contracting under uncertainty' outlook (Tirole 1999), opening the path for further long-term

[12] For the theory of incomplete contracts, see Hart and Moore (1988) and Tirole (1999).

interactions and deeper entanglement over time while attempting to improve the original contract (Hart and Moore 1988). The British government benefited from the rechartering process and the option to bargain more expediently, adjusting the original agreement according to unexpected changes in its fiscal, war, and political environment (Smith 1990 [1936]). The Bank's managers also used the renegotiations as a mechanism to protect themselves from unfolding competition and uncertainty (Broz and Grossman 2004).

Finally, the original charter did not intend to establish a long-term central bank of any kind (Smith 1990 [1936]) nor aim to substantially affect the form of the entire banking system by concentrating reserves into a monocentric structure. Indeed, the Bank 'received no exclusive privileges in its initial 1694 charter beyond making the notes of the Bank assignable by law' (Broz and Grossman 2004: p. 55). However, the first charter established a flexible bargaining mechanism that set in motion the process of renegotiating renewals among the involved parties, ultimately enabling entanglement to unfold. The first charter established the pathway between the polity and economic organizations, by which the polity's characteristics could be transmitted to the Bank, and later throughout the system.

3.2 Rechartering and further entanglement (1697–1708)

The two subsequent charter renewals in 1697 and 1708 resulted in further entanglement. Two main sources drove the charters: the increases in the government's budget deficit due to war financing and competitive banking pressures from the market ordering (Broz and Grossman 2004). The major extension of monopolistic and nonmarket characteristics mainly came from the 1697 and 1708 charter renewals, which were used as mechanisms to adjust the original 1694 incomplete contract in the face of unfolding war, political, and market uncertainties—further exacerbating the system's entanglement. Indeed, the distinct monopoly privileges granted to the Bank came only with the 1697 and 1708 recharters (Broz 1998; Selgin 1988). The original charter made the involved parties mutual 'contracting hostages', which served as the catalyst for continuous entanglement (Broz and Grossman 2004: p. 58). The contractual situation led the parties to collaborate in 1697 with the first Continuance Act.

The British monarchy needed to negotiate the first renewal in 1697, much earlier than anticipated, since war pressures had increased the budget deficit (Broz 1998). Moreover, there were further market contestability pressures from the upcoming chartering of the Land Bank (Andréadès 1966; Clapham 1944). These pushed the BoE to pursue further entanglement earlier since they were seeking legal barriers to entry for potential newly chartered banks.[13] The BoE's original charter did

[13] In 1695, Parliament chartered a rival bank called the Land Bank, which very much concerned the BoE since the legal precedent challenged the Bank's profitability and its preferred political position. It pushed the Bank's managers to seek to renegotiate the bargain earlier than expected since they wanted the recharter to ensure legal exclusivity to prevent future 'Land Banks cases' that could challenge the Bank's hegemonic position (Clapham 1944: p. 47).

not limit the Parliament's ability to charter other competing banks. However, soon after Parliament did so in 1695—when it attempted to charter the Land Bank—the BoE demanded an earlier renegotiation so the government could commit itself to enforcing a legal BoE chartered monopoly (p. 48). The objective was to use the flexible bargains to update the existent incomplete contract, adapting to new unfolding contingencies.

The 1697 rechartering increased the Bank's nonmarket and polity characteristics—e.g., by increasing its note-issuance capacity and giving it a monopoly over managing government accounts and balances. The latter was 'a provision that added considerably to its prestige' (Smith 1990 [1936]: p. 12). Even more importantly, in response to the Land Bank charter threat, the Continuance Act stated that 'no other Bank or Constitution in the nature of a bank [shall] be erected or established, permitted or allowed by Act of Parliament during the Continuance of the Bank of England.'

The first renewal also stated that the Bank's profits were exempt from taxation, and it gave the Bank the nationwide legal monopoly on using limited liability in banking. This latter feature was a new and special nonmarket privilege denied to competing banks for one and a half centuries (Selgin 1988). Hence, when market and political forces threatened the Bank's position and expected profitability, its managers sought ways to amend the contract.

A second crucial example of how the banking contract was 'improved' and as such increased entanglement, came with the second recharter in 1708. During that time, the joint-stock-company business model was spreading through different markets (Calomiris and Haber 2014; Glasner 1989). This new business model clearly challenged the Bank's financial position because of the innovation in corporate governance that would have made it possible for original owners to employ less personal capital, establish banks faster, and disperse risk among more shareholders. The joint-stock-company business model innovation could have increased the degree of contestability and competition in banking, while keeping systemic risk contained (Dowd 1993).

During the War of the Spanish Succession (1701–1714), the British government sought to again extend its loans and credit capacity, given its rising financial needs (Andréadès 1966; North and Weingast 1989). In exchange, the government offered the possibility of a second recharter. The 1708 recharter aimed to restrict banking competition by limiting the capacity to use the joint-stock-company business model when opening competing banks. The accumulated privileges had already given the Bank a unique position of prestige, which other banks found difficult to compete with, especially in the Bank's core lines of business in London (Smith 1990 [1936]). Given the pressure of potential financial competition, the BoE sought to move further away from the competitive market order, since it realized that the 1697 recharter had failed to foresee business innovations such as unincorporated private competitors.

Thus, the second recharter in 1708 gave the Bank a *quasi*-monopoly by prohibiting other firms and banks from forming shareholders' associations of more than six partners to conduct banking businesses in England and by reaffirming all previous prohibitions (Broz 1998). The restriction on the maximum number of partners severely raised capital risks and barriers to entry and lowered competition and contestability in the banking system (Selgin 1988). The de facto monopoly over joint-stock banking and the severe limits on note issuance and other banking activities by partnerships of more than six partners—a monopoly and limit later reaffirmed and strengthened in 1742—severely undermined banking competition for over a century (Dowd 1993; Fetter 1965).

To conclude, the systemic unintended consequences of this early entanglement process (1694–1708) was obvious to other for-profit commercial banks; they understood the depth of entanglement since the Bank of England has obtained special political and economic prestige (Fetter 1950, 1965). The Bank's nonmarket and polity characteristics undermined banking system competitiveness so much so that, by the early eighteenth-century, other London commercial banks were either pushed out of the banking business or succumbed to the BoE's strategic and dominant position (V. Smith 1990 [1936]).

4 The birth of central banks (1797–1866)

The final step of understanding how the Bank transitioned from a for-profit banker's bank to a central bank resides in how entanglement (captured in charter privileges and legal precedents) incentivized additional dynamics of the banking system's concentration of reserves (Bagehot 1873). The aforementioned privileges led to the Bank's notes becoming the principal reserve medium (Clapham 1944). Through entanglement, the Bank gained a unique intangible and nonmarket asset: other banks' recognition that the BoE held unique extra-market and hegemonic properties. Such recognition added to the Bank's prestige, security, and value, which lowered its cost of funding below market levels and its perceived riskiness (Broz 1998). Its unique financial and political position incentivized smaller banks to keep their balances and reserves in the BoE, leading to gradually concentrating all the banking system's reserves. Its hegemonic position was hardly involuntary. This early development was driven by the Bank's desire to maintain and strengthen its market position, which unwittingly led to becoming a banker's bank (Andréadès 1966; Clapham 1944).

Being the monopolistic London issuer of notes, the Bank gained hegemony over the English currency system (Selgin 1988). The extra-market sphere gave the BoE the possibility to expand its business, increasing in size and financial security. This added an extra-market advantage to its notes, as compared to privately-ordered bank notes outside of London (Dowd 1993: p. 222). Competitive banks acknowledged the BoE's new relevance and extra-market structure and started treating the Bank's notes as their new reserve medium instead of gold (Broz 1998).[14] These alternative reserve activities were more convenient and safer for other banks, since leaving part of their gold reserves with a single entity, isolated from market pressure and

[14] As compared to gold, the BoE's notes were safer and less costly to store and move, so commercial banks' customers and investors also preferred BoE notes as reserves of their own bank deposits.

economic crisis, reduced operational and banking risk and economized the use of reserves at a low cost and with lower political risk (Dowd 1993).

The Bank's monopoly over London's note issuance business remained unaltered for an extensive period (Calomiris and Haber 2014: p. 85). Regarding the dynamics of concentration of the reserves, the key factor was precisely the BoE's practical, statutory monopoly of note issue in the greater London area. This compelled other banks to treat its notes, and its deposit liabilities, as cash reserves—superior to gold itself. Due to the Bank's monopoly of note issue in London, other banks had to rely on their reserves of Bank notes to supply depositors' currency requirements (Selgin 1988: p. 119). London banks were prohibited from issuing their own notes to meet the public's relative demand for currency. This compelled them to rely on BoE notes to meet increased currency demand, leading Bank notes to unintendedly occupy a privileged position in banks' portfolios (p. 120).

In consequence, the Bank's position compelled other London banks to use its notes as their cash reserves and to keep balances and gold reserves with it, which caused the English system's reserves to gradually concentrate (Bagehot 1873). Additionally, the country banks' economic rationale to start recognizing the Bank's hegemony is crucial for understanding the entanglement's unintended and systemic effects: it affected the other banks' incentive structures and financial decisions to put most of their reserves within the BoE. This gradual process of specie and reserve convergence into the Bank was further reinforced with key legal episodes and political decisions enacted between 1797 and 1821, known as the Restriction Period.

4.1 The suspension period (1797–1821)

After the Bank became entangled with the government, at certain times Parliament also suspended gold payments. Legal precedents were accumulated and established for the de facto legal tender status of the Bank's notes; furthermore, in 1812 those notes were explicitly declared legal tender for all payments (V. Smith 1990 [1936]). This suspension period (1797–1821) allowed for sending political signals and accumulating legal precedents that secured the Bank's status and banknotes, which could be guaranteed to be accepted throughout the country as a medium of exchange and of final payments. Hence, the entanglement via *both* rechartering monopoly powers and the political signals and precedents during the suspension period led the Bank to increase in size, prestige, and uncompetitive powers that set it apart from the competitive market ordering.

This process undermined the profitability of competitor banks and incentivized them to accept the BoE's new political-economic hegemony through using the Bank's notes as the main reserve medium to reissue their own country notes, which of course reinforced the concentration of reserves and furthered entanglement of the English banking system. Consequently, the events between 1797 and 1821 played a significant role in the process since the government actions and legal precedents *after* the original bargains continued to enhance entanglement. This period shed light on how the BoE became the bankers' bank by significantly accumulating reserves.

By the outset of the Napoleonic Wars in early 1797, and because of excessive government borrowing and persistent fears of a French invasion, the Bank had come under severe economic pressure for its reserve positions.[15] During the Napoleonic Wars, the British government released an Order of Council that prohibited the Bank from redeeming notes in gold in order to finance the war—thus prohibiting the Bank from issuing, or redeeming, more specie in exchange for its notes (Broz 1998). This led Parliament to pass an act on May 3, 1797, known as the Bank Restriction Act, that allowed the suspension of payment in specie of the Bank's notes, de facto legalizing a form of Bank's bankruptcy (Dowd 1993). This extraordinary exemption from redeeming the Bank's notes in specie was to be repeatedly renewed throughout the Napoleonic Wars and for several years afterward.

The political obligation of the Bank's charter to provide government financing in time of crisis overrode the Bank's original commercial commitment to maintaining specie convertibility of its notes (Capie et al. 1994: p. 8). The loss of the Bank's specie and gold reserves and its incapacity to maintain convertibility of its notes clearly paralleled wartime uncertainties and the government's volatile and growing fiscal pressure. The Bank's managers faced also strong incentives to urge the government to relinquish the original commercial obligation of converting the Bank's notes into specie for customers. Making the Bank's notes de facto legal tender instituted a *cours forcé* for the banking system (p. 9). As such, the Napoleonic Wars between 1792 and 1815 instigated the suspension period. Such events, 'reinforced the tendency for the other commercial banks to hold central bank liabilities, notes and deposits, as their main reserves, rather than holding their own stocks of specie in coin or bar,' and consequently, 'granting legal tender status to the notes of the central bank did bolster its primacy among other commercial banks, since their notes were not given similar status' (Capie et al. 1994: p. 8).

4.2 The legal tender of 1812

The 1797 Bank Restriction Act created a crucial legal precedent by which the public and competitive banks started to expect that the government would continue to give BoE notes a special status. Indeed, after the pound severely depreciated after 1800, and of the Bank's notes in 1809 and 1810, the government declared the notes official legal tender in 1812 via Lord Stanhope's Act, which further reinforced the entanglement process through the concentration of reserves (V. Smith 1990 [1936]). All these precedents had severe unintended institutional implications since they also changed the legal and financial (risk-adjusted) status of the Bank's notes throughout the country. Therefore, 'country banks began to look on [BoE notes] as backing their own note issues' (V. Smith 1990 [1936]: p. 16).[16] The Bank's hegemonic position in

[16] The 1821 Act eliminated the 1812 exemption of the Bank notes' legal tender status, reestablishing specie payments and convertibility. However, the accumulated legal precedents and signals had already skewed expectations that the British government would again behave in such an entangled manner—indeed, in 1833, the Bank's notes again became legal tender.

[15] Given the Bank's endangered reserve position, the government declared a suspension of payments in specie for the Bank's notes. The 1797 suspension was declared to meet a critical situation in which the Bank was faced with an incipient bank run. This was a signal of entanglement that, 'amounted to a legislation of the Bank's bankruptcy of the Bank, and it created a precedent which led the public in future always to expect the Government to come to the aid of the Bank' (V. Smith 1990 [1936]: p. 15).

the system was bolstered by the fact that country banks started to hold reserves in the form of deposits within London banks. In turn, London banks held their reserves in the form of BoE liabilities. This placed the BoE at the core of the system as the repository of the gold reserves of the whole English system (Laidler 2002).

These precedents and political signals between 1797 and 1812 further exported additional nonmarket characteristics to the Bank and gradually throughout the banking system. Suspending payments during the Restriction Period and the transitory legal tender status of its notes eliminated competitive banking and customer pressures for the Bank; it also freed them from the obligation to redeem their notes in gold, increasing its nonmarket sources of profitability. The additional combination of monopoly powers and extra-market characteristics (gained through charter renewals) increased the Bank's hegemony, financial security, and political power, making it the dominant bankers' bank within the system. Indeed, given this uncompetitive situation, David Ricardo (1887 [1815]: p. 89) considered the Bank as, 'an unnecessary establishment, getting rich by those profits which fairly belong to the public'. Consequently, the strong and quite evident entanglement between the Bank and the government *politically conditioned* the centripetal forces of the concentration of reserves of the entire system, guiding them toward such unique banking entity.[17]

In other words, the intrinsic and economizing reserve tendencies of the banking system, usually shaped economically by economies of scale in reserve holding along private banking networks and clearinghouses—in order to privately reduce transaction costs and solve network externalities (Dowd 1994; Timberlake 1984)—were, in this particular British case, altered by the entanglement between the Bank and government. This political process reshaped the normal banking and reserves' dynamics from a network of private banks with branches and clearinghouses, toward a hegemonic monocentric structure (Paniagua 2017; Salter and Young 2018). Given payment suspensions, de facto legal tender status, other political signals, and the Bank's hegemonic position, it is no wonder that the normal process of concentrating reserves in private banking networks—normally to reduce commercial banks' operational and clearing costs (Dowd 1994; Selgin 1988)—was here heavily conditioned by the BoE as a unique and hegemonic entity.

The signals between 1797 and 1812 incentivized commercial country banks to economize on gold reserves and specie, and to treat the Bank's notes as if they were *as good as gold*, motivating them to issue their own notes and to park their gold reserves with the bankers' bank.[18] The entanglement's unintended outcome was that commercial and country banks in England gradually accepted the Bank's liabilities, instead of gold, as their medium of reserves. The scenario led the

[17] The Bank acquired its nickname 'The Old Lady of Threadneedle Street' after a cartoon made in 1797 by James Gillray portraying Prime Minister William Pitt 'ravishing' an old lady dressed in bank notes. The cartoon was entitled 'Political Ravishment', thus conveying the entanglement.

[18] As Dowd (1993) acknowledges, it would have been inefficient for a competitive bank to redeem its liabilities in gold if it could, by law, use the Bank's notes of the same nominal value, sold at a discount against gold. The suspension period led to the Bank's notes to depreciate vis-à-vis gold, but their de facto legal tender status generated a Gresham's-law process driving gold out of circulation, leaving it operating under a de facto inconvertible system (p. 225).

Bank—unintendedly and unwillingly—to gain control and responsibility over the system's total level of reserves (Dowd 1993).

This process of the gradual concentration of reserves inevitably associated the Bank's unilateral monetary and credit policies with the commercial banks' capacity to further expand credit and their own note issuance, thus unintendedly giving the Bank of England indirect power and some control over the level of liquidity in the system (Capie et al. 1994: p. 63). Accordingly, approximately 120 years after the Bank's provisional founding, the English system depended on the signals that the BoE's monetary actions generated. With everyone within the system using the Bank's liabilities as reserves meant that the Bank had to assume a new central liquidity position.

4.3 The final step: the lender of last resort debates (1847–1866)

The reviewed process led the Bank to finally become mostly a political, non-profit-oriented entity, placing it in an unintended and unwanted position as a hybrid between a commercial and central bank at the center of the English system: a bankers' bank. This hybrid and contradictory position created problems for the Bank since it now had to manage monetary policy, total levels of reserves, and liquidity, while also supervising competitor banks. Due to public–private conflicts of interest, the Bank could not effectively complete such a plethora of tasks within its for-profit private banking structure (Goodhart, 1988). Indeed, 'for the first three quarters of the nineteenth century, the Bank of England was a privately owned joint-stock company whose directors usually did not understand, or were unwilling to acknowledge, that the institution played any special role in the monetary system' (Laidler 2002: p. 15).

Given its changing role, the Bank had to disregard its original private and commercial orientation. The Bank's ambiguous position created intense debates during the banking crises of 1847, 1857, and 1866 between the Bank's shareholders and managers, on the one hand, and the public need for overall banking stability and last-resort lending, on the other.[19] Hence, during the mid-nineteenth century, it appeared that, 'the Bank was something other than a private profit maximizing institution' (Capie et al. 1994: p. 5).

This entanglement culminated in the transformation of the BoE from a largely for-profit and private institution in 1694 to a fully-fledged, noncompetitive, and politically oriented central bank by the late 1800s. During the Baring crisis in the 1890s, the Bank finally admitted its role as *proto*–central bank at the core of the banking network, putting its shareholders' profitability and economic interests aside, to provide financial stability and last-resort lending to endangered commercial banks (Fetter 1965; Laidler 2002). The final step toward self-recognition of the Bank's publicness involved the intense debates about its public and financial role as

[19] During the period of suspension and the Peel Act of 1844, there were intense debates over the stability role of the Bank, which led to a 'Rules versus Discretion' debate between Thornton and Ricardo (Laidler 2002). The 1844 Act, 'imposed restrictions on commercial banks to ensure that the Bank of England became effectively the sole source of notes for the entire economy' (p. 18).

managing the system's reserves—along with also being the nonprofit lender of last resort—which replaced its original for-profit orientation (Capie et al. 1994). Ultimately, by the 1890s, it 'had become the bankers' bank, a role enhanced by withdrawing from commercial rivalry' (p. 15).

5 Concluding remarks

This article has provided an alternative understanding of how central banks could evolve. It has also illuminated how bank and political bargains ignite the entanglement process of banking systems and its dynamics, without necessarily relying on traditional 'public choice' accounts of direct government supervision, regulation, or financial crises as catalysts for entanglement (Salter 2014; Smith et al. 2011). According to the proposed framework, the entanglement process can upsurge through renegotiations (bank bargains), which allow polity organizations to frequently transmit some of their nonmarket features to banking organizations.

Contrary to what Congdon (1981) and Goodhart (1988) claim, the Bank's evolution was *politically conditioned* and thus a highly unnatural example of emergent unintended consequences of entanglement in banking, initiated by a process of bargains and incomplete contracts. This article clarifies and extends Bagehot's (1873) intuitions about the Bank's unintended institutional change. Its gradual changes are better characterized by the political and highly contextualized institutional phenomena stemming from the entanglement process through gradually transmitting nonmarket characteristics, leading to a politically heightened process of concentrating reserves within a monocentric structure. As Ugolini (2017: p. 271) recognizes, the development of central banking, 'is deeply rooted in the economic and political context in which it happens to operate, and that the evolution of the former closely depends on the evolution of the latter'. Thus, this institutional development stemming from ad hoc political bargains lies far from being a 'natural' or 'inherent' banking phenomena.

Unlike what Goodhart (1988) and Giannini (2011) also suggest, this article has critically indicated that crucial banking functions—such as the lender of last resort and banking regulation—and central banks' early establishment are not natural or intrinsic institutional tendencies or inherent developments of competitive banking (see also Paniagua 2018, 2020). Instead, early central banks, their nonmarket characteristics, and their hierarchical functions were established as unintended and *politically conditioned* phenomena originating during the entanglement initiated by bank bargains. Consequently, the institutional rationale of early central banks is far from 'natural' and 'rational' developments inherent within the normal and competitive dynamics of banking. These conclusions seem to also support Calomiris and Haber's (2014) conjecture that banking's institutional fragilities and systemic instabilities are rooted not in weaknesses *inherent* to commercial banking, but rather in dynamic bargains between governments and various interest groups; thus, these bargains alter the institutional evolution of banking, steering them toward developing fragilities (see also Selgin 2015).

Moving forward, given the plausible non-inherent and politically driven evolution of central banks, perhaps looking instead for polycentric institutional alternatives is warranted, if our intention is to promote sound reforms and robust changes to increasingly fragile and highly politicized banking systems (Paniagua 2016a, b, 2020; Salter and Tarko 2019).

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Declarations

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