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The literature on the Bank of England Charter Act of 1844 commonly adopts the interpretation that it was a crucial step in the construction of central banking in Great Britain and the analytical framework that contrasts rules and discretion. Through examination of the monetary writings of the period and the Bank of England's interest rate policy, and also through the systematic analysis of the financial aspect of the 1844 Act, the paper shows that such an interpretation remains fragile. Hence the present paper rests on the articulation between monetary history and the history of economic analysis and also on the institutional approach to money and banking so as to assess the consequences of the 1844 Act for the liquidity market and the relations between the central bank and finance.

The Bank of England Charter Act of 1844, also known as the Peel Act, was passed by a resounding majority of the House of Commons. The year of the renewal of the Bank of England's charter of incorporation provided the legislature with an opportunity for ambitious reform. The aim was to bolster the convertibility of bank issues into metallic specie and to attenuate commercial crises, notably by enforcing a rule on issuing and by prohibiting the establishment of new banks of issue. Monetary and banking matters had been hotly debated in Great Britain since the 1810 Bullion Report and the return to the gold specie standard in 1821. The 1840 parliamentary enquiry and the 1844 Act revived debates among political economists and even gave a glimpse of a division among directors of the Bank of England. The attitude of the directors shifted gradually from great reluctance to full support for the principles behind the Peel Act. Horsley Palmer, the highly influential director in the 1830s, remained firmly attached to the Bank's old discount policy which prevailed until the early 1840s and voiced his strong reservations about the turning point of 1844. Whereas the directors seemed divided over the question in the 1840s, James Morris finally consented to the Bank's new policy. From the 1850s, Thomson Hankey was whole-hearted and unflagging in his defence of it. Finally, as Newmarch (1866a, p. 131) was able to describe things, the majority of the Bank's directors became staunch defenders of the Peel system.

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In the debates among political economists, the authors of the currency school, including Robert Torrens, Samuel Loyd and George Norman, believed that provincial banks and the Bank of England alike were responsible for inflationary movements and external drains of precious metals. Consequently, they deemed it necessary to have a rule of issue compelling the Bank to purchase metallic reserves whenever bank notes were put into circulation in order to end or limit monetary and commercial crises. Conversely, according to the authors of the banking school, including Thomas Tooke, John Stuart Mill and John Fullarton, the rise in the prices of certain assets and financial crises were not explained *ex ante* by excessive bank issues because of the constraint of convertibility into gold specie. They argued that speculative movements were the outcome of a mimetic process on certain markets—the market for raw materials and the market for railway company stock—and the rise in asset prices then contributed to feed bank credit, whether the banks were issuing banks or not (Le Maux, 2019). This meant that the 1844 Act did not settle anything, on the contrary, it made financial instability even more of a danger.[1] The academic literature generally opposes the currency school and the banking school by fitting into the "rule versus discretion" mould. This paper considers that such a reading misses out on several important institutional aspects and specifically the financial aspect of the Peel system.

In order to grasp what was at stake in the debate, the three aspects of the 1844 Act need to be distinguished, namely: the *monetary* aspect relating to the rule for issuing banknotes, the *regulatory* aspect relating to the gradual creation of a monopoly on note issue, and the *financial* aspect hidden behind the splitting of the Bank of England into two departments, the issue department and the banking department. The reference books (Feavearyear, 1931; Viner, 1937; Fetter, 1965) and more recent studies have looked more especially into the monetary aspect (Smith, 2003; J. H. Wood, 2005) and the regulatory aspect (White, 1984; Broz and Grossman, 2004). No study, however, has systematically examined the financial aspect of the 1844 Act and its impact on the money market. Ralph Hawtrey (1932, pp. 123–4) points out that, because of the separation as from 1844, the banking department of the Bank of England was affected in the same way as commercial banks when tensions arose on the monetary market. Moreover, Charles Goodhart (1988, pp. 45–6) takes the view that the "concept" whereby the Bank should operate freely "just one competitive bank among many" and for the benefit of shareholders was "codified in the 1844 Bank of England Act". Lastly, Wilfred King (1936, pp. 103–12) provides an insightful interpretation, to which we shall return, of the Bank's policy under the Peel system. However, a systematic study of the

[1] The positions of the directors of the Bank of England and the debates among British political economists can be found in the parliamentary inquiries (*Parliamentary Papers*, PP hereafter): PP (1810), PP (1826), PP (1832), PP (1840), PP Commons (1848), PP Lords (1848), and PP (1857). Publications of the currency school are numerous: Samuel J. Loyd (1837, 1844, 1857), George Norman (1838, 1841), Robert Torrens (1837, 1844), William Clay (1844) and Walter Bagehot (1848) can be mentioned. Contributions from the *banking school* are the following: Thomas Tooke (1840, 1844, 1848), John Fullarton (1845), John Stuart Mill (1844, 1848), Thomas Tooke and William Newmarch (1857) and William Newmarch (1866a, 1866b). On the theory of money and central banking in Tooke, Mill and Fullarton, see Skaggs (1991, 1994, 2003), Smith (2003, 2011) and Le Maux (2012, 2019, 2020a).

financial aspect of the Peel Act remains to be written. To this end, this paper revisits the parliamentary enquiries of 1840 and 1858 as well as the writings of Thomas Tooke, John Stuart Mill and John Fullarton on monetary and banking questions.

The literature commonly contends that the banking legislation of 1844 was a major or even decisive stage in the history of central banking in Great Britain. At the very least, the literature takes the view that, while the primary purpose of the legislation was not to consolidate the central bank system, it contributed to it indirectly by granting a monopoly on issuing. In any event, opinion remained favourable to the 1844 Act overall. At most what was thought an overly restrictive rule of issue was amended and the remainder of the bill was largely accepted. However, scrutiny of political speeches, legislative instruments, monetary writings and the Bank of England's policy on the fixing of its interest rate reveals how flimsy such an interpretation is. Reference must be made to all of the contributions from Thomas Tooke, John Stuart Mill and John Fullarton, to the testimony of Horsley Palmer during the parliamentary enquiries and to the very thorough Lords' Report to find a strand of political economy that disapproved of the Peel Act *taken as a whole*. Vice-versa, disapproval of the Peel Act cannot be considered here as a challenge to central banking—quite the contrary. Great Britain had established a central bank before 1844 with an eminent position within the monetary and banking system. The challenge was then to reaffirm the sovereign position of the central bank with respect to the system of banking and finance.

The focus in this paper falls as much on the historical question of the monetary regime then in place as on the theoretical approach to central banking. Analysing the *evolution* of the central banking system is one point to think about (Goodhart, 1988; Aglietta, 1992; Le Maux, 2001). Pondering the institutional *integrity* of the central bank is another point that we look to develop in the context of the metallic regime and that we draw on to examine the 1844 Act. By integrity of the central bank under the metallic regime we mean the principle whereby the central bank *integrates* three functions simultaneously. These are three institutional mechanisms that form a whole, namely (*1*) the centralisation of metallic reserves and the hierarchy of bank issuing, (*2*) the policy of interest rate stabilisation, and (*3*) lending in last resort. The principle of integrity of central banking that we propose follows in the wake of Thomas Tooke. From the early 1840s, Tooke (1840, p. 185; 1844, p. 110) advocated maintaining the Bank of England's *system of union of issuing and banking*. First, analytically the term *union* refers to the integration of the three functions within one and the same institution. Next, historically it corresponds to the Bank's system before 1844 and which Tooke argued should be continued. And finally, politically maintaining the integrity of the central bank meant that no legislative or market provision should break up this block of three functions. Now, this was not always the case. As we shall examine, the Peel Act led indeed to the *dis*-integration of central banking by separating the Bank of England into two departments. The "new" policy that was its corollary turned its back on the fixed interest rate policy that had prevailed since the foundation of the Bank and responded to financial demands within the Bank itself.

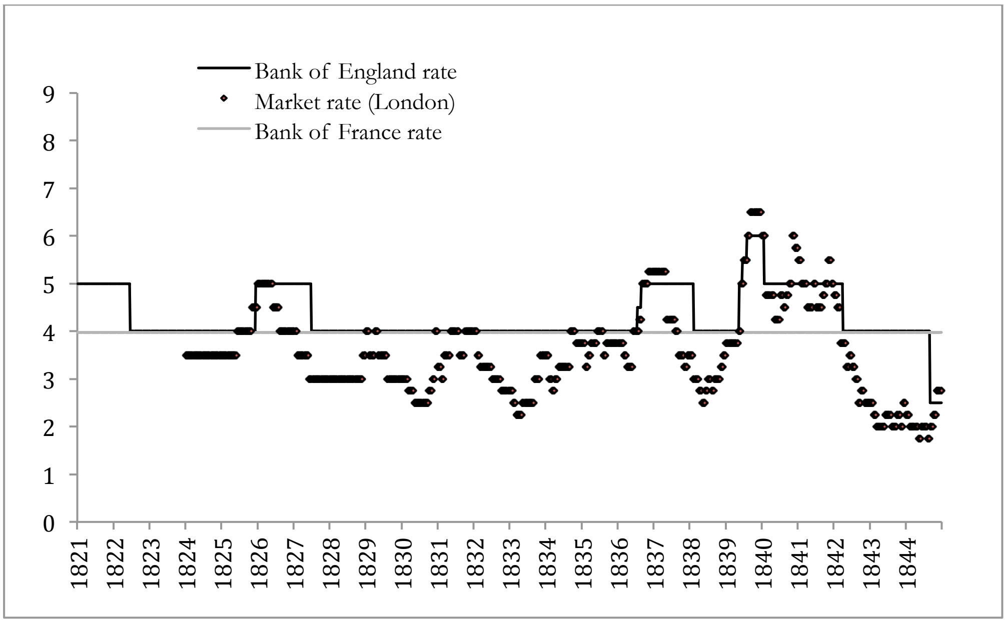
The present article proposes to articulate the history of central banking and the history of monetary analysis so as to examine the financial aspect of the Peel Act, its effects on the money market and ultimately the central bank's relations with finance. First it describes the institutional framework of the monetary and banking system in Great Britain before 1844 and the functions of the central bank under the regime of convertibility into metallic money. Next, a detour by way of the technical aspects of the 1844 Act (the rule of issuing, the concentration of issues, and the separation of the Bank of England into two departments) will bring out "the spirit of the law" (namely, the separation of the Bank). The article thus shows that the splitting of the Bank initiated a major change in its relations with the monetary market and gave rise to a "new" discount rate policy of the Bank and greater instability of the interest rate on the London market. It further shows that the new policy amplified financial crises and made the Bank's handling of them unwieldy. Finally the reasons for the discrepancy between word (rule, monopoly, monetary order) and deed (dis-integration of the central bank) shall be sought both in the financial aspect and in the political feat-of-skill of the 1844 Act. We shall thus highlight several paradoxes.

THE BANK OF ENGLAND SYSTEM PRIOR TO 1844

Great Britain adopted the gold monometallic regime in 1819 and then in 1821 it reinstated the convertibility of bank issues into specie at sight and at par that had been suspended in 1797. By the end of the eighteenth century, the Bank of England had acquired a central position in the British banking system. This position was strengthened in the 1820s and 1830s and rested on three functions: centralisation of the metallic reserves, stabilisation of the interest rates, and lending in last resort. Firstly, the Bank centralised a significant proportion of reserves in the form of specie and bullion and the deposits by London and provincial banks at the Bank accentuated the process. Like notes issued by the Bank, these deposits were widely used by banking and financial institutions as a means of interbank settlement in lieu of specie or bullion (Clapham, 1944, vol. 2, pp. 120–2). The centralisation of the metallic reserves and the issuance of high-powered money by the Bank determined the hierarchical architecture of the banking system and consolidated the other two functions of the central bank.

Through the second function, the Bank of England, prior to September 1844, practised a "fixed and uniform" rate policy (Lords' Report, 1848, pp. xxxiii–xxxiv). As Graph I shows, the Bank kept its distance from the discount market. The rate was fixed in that it never fell below 4 per cent and, less noteworthy, it was uniform in that it did not differ with the type of eligible bills discounted (the Bank's instrument in normal times was possibly the amount of bills discounted and the reduction in their maturity). The crucial result of the fixed rate policy was that the Bank rate always stood above the market rate in normal times and below it in difficult times (Tooke, 1840, p. 86). During periods of prosperity, as the Bank rate was higher than the market rate, the Bank had a relatively calm discount activity but accumulated metallic reserves, which allowed it to deal with any external drains. In contrast, during periods of crisis, the Bank rate remained below the market rate. In 1825, the Bank raised its rate to 5 per cent, which was the maximum legal rate for discount operations at the time. After the law of 1833 had repealed the usury rate, the Bank rate was raised to 5 per cent in 1837 and 6 per cent in 1839, during periods of intense external drains, but it still remained below the market rate (Clapham, 1944, vol. 2, pp. 157–8, 167–8). The Bank rate policy was contra-cyclical and aimed at smoothing the financial cycle in the context of the metallic regime.[2] According to Palgrave (1880, pp. 45, 49), "the Bank was entirely 'out of the market'": an "ancient prestige" which "enabled the Bank to take a position which gave its announcement as to a rate of interest a great if not a preponderating weight." Such a remark echoes Newmarch (PP 1857, q. 1364), who emphasises the "moral prestige" associated with the Bank of England—at least before 1844.

Graph 1 – Bank of England rate (weekly), market rate in London (monthly), and Bank of France rate (weekly), per cent, , 1821–1844



[2] Retrospectively, political economist Thomas Tooke and Bank director Horsley Palmer were the most convincing advocates of the fixed rate at 4 per cent. On the Bank rate policy before 1844, see Tooke (1840, p. 189), Fullarton (1845, pp. 149–50), Tooke (1848, p. 383), Tooke (PP Commons 1848, qs. 5310–5313, 5348–5352), Tooke and Newmarch (1857, p. 599), Mill (PP 1857, qs. 2015, 2032, 2071), Newmarch (PP 1857, qs. 1359–1363, 1447, 1494, 1885). On Palmer's policy, see also King (1936, pp. 78–81) and Horsefield (1949). Today, contra-cyclical policy in the tradition of Tooke and Palmer would mean lowering the interest rate in times of crisis and raising it in times of recovery—something similar to the principle of leaning against the wind (Le Maux, 2020a). In the classical period, the metallic regime did not allow central banks to lower interest rates during times of financial distress and external drains. All they were able to do was to keep their rates as stable as possible.

With regard to the third function, the policy stabilising the interest rates during financial crises was coupled with the policy of lending in last resort. In this respect, the resolution of the crisis of 1825 is instructive. During the 1832 parliamentary inquiry, director J. Harman (PP 1832, q. 2217) described the Bank policy resulting from the decision of 13 December 1825: "We lent [our assistance] by every possible means, and in modes that we never had adopted before; we took in stock as security; we purchased Exchequer bills; we made advances on Exchequer bills; we not only discounted outright, but we made advances on deposit of bills of exchange to an immense amount; in short by every possible means consistent with the safety of the Bank; and we were not upon some occasions over nice; seeing the dreadful state in which the public were, we rendered every assistance in our power." Thus, in addition to the stable rate policy, which kept the Bank rate below the market rate in times of crisis, the Bank of England significantly increased advances, widened the range of eligible securities, and even extended the maturity of some of them (Clapham, 1944, vol. 2, pp. 99–100). The stability of the Bank rate *and* the injection of interbank liquidity helped to dampen the volatility in the price of liquidity in the money market and the effects of financial difficulties on the supply of credit. The Bank's note issues increased by 47 per cent between late November and late December 1825, the increase in commercial paper held by the Bank was 110 per cent between 1824 and 1825 (PP 1832, app. 13 and 19), despite an interest ceiling of 5 per cent. Beforehand, the metallic reserve held by the Bank had declined steadily from £12 million in June 1824 to £1 million in December 1825, bringing the reserve-to-banknotes ratio down to just 5 per cent. Nevertheless, the Bank at the same time, performed the *tour de force* of not suspending its payment at par into specie and hence consolidated its *prestige*.[3]

The interventions of the Bank of England during the crises of 1837 and 1839 exhibited similar features (PP 1840, pp. 12; PP 1841, app. 6; PP Commons 1848, part 2, app. 8). Before the Bank increased the amount of discounted bills, the level of its metallic reserve had fallen significantly: by 52 per cent between March 1836 and January 1837 and by 75 per cent between December 1838 and September 1839. Then, the increase in the amount of discount bills held by the Bank was very substantial, rising by 160 per cent between September 1836 and April 1837 and by 150 per cent between April and December 1839. Since its discount rate was lower than the market rate, the massive provision of liquidity funding (due to discount operations) and of market liquidity (due to the change in the structure of the asset side of the Bank's balance sheet) cast doubt on the idea that rationing of the supply

[3] The day after the Bank's intervention of 14 December "proved a day of comparative tranquillity in the city" (*Times*, 16 December 1825), then "the run on all the London banking-houses has ceased (*Times*, 19 December 1825). Thus, "the worst is over", "public confidence is on the return in the metropolis, and things are resuming their usual course" (*Courier*, 16 and 17 December, cited by Macleod, 1866, vol. 2, p. 97). See also Tooke's description (1848, pp. 343–4). After the intervention on 14 December and the beginning of the lull in London, the Bank of England and the Bank of France exchanged gold for silver on 19 December and £400,000 worth of gold was shipped to London (Palmer, PP 1832, qs. 800–802; Richards, PP 1832, q. 5010). This sequence shows that the sovereignty of the Bank of England was not altered: its intervention in the London money market and the subsequent recovery of confidence pre-dated the exchange agreement with the Bank of France.

of credit would have been in operation during financial crises prior to 1844. In fact, the Bank helped to stabilise the interbank market in two ways: (*i*) by setting a moderate interest rate on the one hand, (*ii*) and by significantly increasing the amount of discounting and broadening the range of collateral on the other. Clapham (1944, vol. 2, pp. 157–8, 167–8) expounds a similar view. (*i*) The Bank rate remained below the market rate: "Because market rates of discount were tending to rise faster than Bank rates, and so discounters were being driven on to the Bank. In the end the market got to 6½ while the Bank stopped at its 'unexampled' 6. For the whole year, average market rate was a shade above average Bank rate." (*ii*) The amount of discounted bills at the Bank's desk increased in consequence: "There had been £1,500,000 of discounts in 1838: there were £15,100,000 in 1839."

Until the end of the 1830s, the Bank of England's directors adapted their attitude in the institutional realm described above and they serenely assumed the three functions of the central bank. The most representative of them, Horsley Palmer, provided important elements for reflection during the 1832 parliamentary inquiry. First, Palmer (PP 1832, qs. 89, 171–172) recognised that, when the market rate was low, the Bank discounted relatively little commercial bills and thus accumulated a significant level of metallic reserve. Second, Palmer (PP 1832, qs. 477, 559) believed that competition with private banks in the London discount market was unsavoury and even "objectionable": the Bank had a duty to discount any eligible security at a fixed or stable rate. In a premonitory manner, Palmer (PP 1832, qs. 170–172) spoke against a frequent variation of the Bank rate in accordance with the market rate: "it is not desirable frequently to vary the Bank's public rate of interest; I should deem it to be preferable that the Bank's public rate of interest should be generally above the market rate, and thereby not interfere with the employment of money actually in existence" within the market. Third, Palmer (PP 1832, qs. 164, 177, 198, 553, 583) approved the principle of the Bank's intervention in last resort through discount operations or repurchase agreements and pointed out that, during the 1825 crisis, advances were made significantly and against securities, "provided they were deemed to be eventually secure".

Ultimately, the architecture of the central bank integrated three functions: centralisation of metallic reserves, interest rate stabilisation, and lending in last resort. The hierarchical shape of the banking system stemmed precisely from this threefold function, and the practices of the central banker moved within this institutional design. As we shall see now, this unitary architecture was dislocated with the implementation of the Peel Act of 1844.

THE BANK CHARTER ACT OF 1844 AND THE PEEL SYSTEM

In order to identify the salient and decisive elements of the "Peel system", let us first describe the three components of the 1844 Act. The first component relates to the *monetary* aspect and defines the rule of issue that the Bank of England should comply with. This is the most commonly mentioned component in the literature. According to Article 2 of the Act, the Bank could only put notes into circulation in exchange for gold coin, or gold and silver bullion received or purchased by the issue department. This is the currency principle or the rule of one-hundred per cent reserve at margin: any increase/decrease in the issues of the Bank had to be covered by a similar increase/decrease in its metallic reserve; this rule applied at margin, for each change in the circulation of Bank notes, the amount of Bank's portfolio previously held being frozen. The 1844 Act did not contain a clause under which the rule of issue could be suspended.[4] While suspension was not contemplated *de jure*, it was *de facto* considered during the crises of 1847, 1857 and 1866 as an instrument at the disposal of the government for resolving commercial crises. Such a suspension did relate to the *rule of issue* of Bank notes and by no means to the *convertibility* of Bank notes into gold specie and at par. Unfortunately, confusion between the principle of issuing covered by metallic reserves on the one hand, and the principle of convertibility into metallic money on the other, became quite common. Robert Peel and the promoters of the currency principle had in fact perpetuated this confusion, which was tantamount to associating the rule of issue proposed by the currency school with the system of convertibility into metallic money. Nonetheless, what they were proposing was only one of several possible institutional arrangements within the metallic regime.

The second component of the 1844 Act relates to its *regulatory* aspect and determines both the legal constraints and the quantitative restrictions on provincial bank issues. The assertion that the 1844 banking legislation established a monopoly schematises what was in fact a process of concentration of banknote issuance (Horsefield, 1944, p. 187; Clapham, 1944, vol. 2, p. 250). The banking legislation of 1844 (for England and Wales) and of 1845 (for Scotland) prohibited new banks from entering the market of banknote issuing. It stipulated that provincial banks could continue to issue banknotes by complying either with an issue ceiling (in the case of English and Welsh banks) or with the rule of one-hundred per cent reserve at margin (in the case of Scottish banks). If a commercial bank ceased to put its notes into circulation or to redeem them at its desk, it lost its issuing privilege. Under Article 5, the issue department of the Bank of England was then authorised to increase the amount of its circulation and that of securities in its portfolio, but the increase should not exceed two-thirds of the provincial banknotes then withdrawn.

These first two components of the banking legislation rested on a definition of currency proposed by the authors of the currency school and in particular by Loyd (PP 1840, qs. 2654–2656). In his memorandum and his speech to Parliament, Peel (1844a, p. 136; 1844b, p. 22) designated by "the word money, […] the coin of the realm, and promissory notes payable to bearer on demand". The Peel Act was silent about regulation of the demand deposits issued by the Bank of England and the commercial banks in London and the provinces. At the upper tier of the banking

[4] Lords' Report (PP Lords 1848, p. xi). The currency principle had been repeated "*usque ad nauseam*" (Tooke and Newmarch , 1857, p. 532) in various publications in the 1830s and 1840s and before the Parliamentary Inquiries Committees of 1832 and 1840. Tooke (PP Lords 1848, q. 3065) underlined how "the inflexibility of the Act was considered its perfection […]. There was the greatest possible alarm expressed by the parties who supported the Act of 1844 lest any provision having the effect of a relaxing clause should be introduced into it."

system, the Bank remained free to issue demand deposits and in particular deposits held by London and provincial banks. At the lower level, the commercial banks were still free to issue demand debts in the form of deposits and they adapted to regulatory constraints in banknotes precisely by developing the supply of checkable accounts. Such a *quid pro quo* regarding the measurement of the monetary aggregate calls for several comments. First, from an institutional standpoint, the British banking system remained structurally hierarchical, contrary to the normative framework that the theoretical principle guiding the legislature was supposed to achieve. Second, from the analytical viewpoint, whereas the academic literature insists that the authors of the currency school endorsed the fallacy failing to include bank deposits in the definition of the monetary *aggregate*, the theoretical mistake consisted instead in putting metallic money and convertible banknotes on the same institutional *level*. Finally, from a political standpoint, the error of the defenders of the 1844 Act regarding the measurement of the monetary aggregate was perhaps not so innocent and, as we shall see later, was even a necessary device for the desired objective—the separation of the Bank of England.

In contrast to these first two components, the theorists of the banking school, notably Tooke (1844, pp. 23–4, 155–6), Newmarch and Tooke (1857, p. 517), did not focus on the question of the monopoly of banknote issue, because the convertibility into gold specie applied to all banks, both the Bank of England and the commercial banks, and was in both cases effective. In other words, the three functions of the central bank could operate independently of the process of concentration of banknote issuance. While the monopoly on convertible banknote issue remained secondary, both in theory and in practice, under the metallic regime, the integrity of the central bank was far more crucial and was defeated by the third component of the banking law.

The third component, enshrined in Article 1 of the 1844 Act, established the separation of the Bank of England into two departments, the issue department (monetary department) and the discount department (banking department). The issue department held the *metallic reserve* and put Bank notes into circulation in accordance with the rule laid down in Article 2. The discount department held a part of the *banking reserve* in the form of Bank notes, held banking claims like any other commercial bank, and managed deposits on behalf of its customers. Importantly, the discount department was responsible for setting the Bank rate, the issue department being, according to the rule of issue, mainly a safe deposit box.[5] The separation of the Bank is generally considered to be merely a technical matter so as to apply the previous two components of the Peel Act and to separate the Bank's note-issuing activity from its discounting activity. However, more than a technical aspect, the separation of the Bank refers to the *financial* aspect of the system established in 1844 and was, in Tooke's words (1848, p. 333), the "spirit of the law".

[5] In the annex of the present paper, Table 1 shows the Bank of England's balance sheet prior to 1844 and Table 2 the balance sheet of the Bank's two departments after 1844. The separation into two departments proposed by Loyd (1837), Torrens (1837) and Norman (PP 1840) was made within the Bank's walls. On its own initiative, the Bank had drafted a separation of its accounts in 1840 (Morris, PP Commons 1848, q. 3690). Thus, before its institutionalisation in 1844, Tooke (1840, pp. 174–5, 180–2; PP 1840, q. 3746) could start to foresee and analyse the Bank's separation. Horsefield (1944) describes how the principle of separation developed.

Before analysing the financial aspect of the Peel system, it is necessary to clarify how, on several levels, the separation of the Bank of England led to a *dis*-integration of the central bank in the context of the metallic regime. The first level concerned the way in which banknotes were put into circulation (hand-to-hand currency). Ever since the Bank of England was first founded, the issuance of Bank notes was a direct outcome of a discount operation. In this way, the increase in demand debts in the form of Bank notes was concomitant with the increase in the amount of securities in its portfolio. Now, under the Peel system, the issue of Bank notes was separated from the discount operation: the issue of Bank notes depended first on the metallic reserves; then, there was a transfer of Bank notes from the issue department to the discount department; finally, the latter put them into circulation through discounting. Therefore, the discount operation was such that a decrease in the amount of Bank notes in the assets of the discount department was accompanied by a concomitant increase in the amount of securities.

The second level of the separation concerned the way in which the Bank of England issues high-powered means of payment (high-powered medium). Under the system prevailing before 1844, where the Bank of England was an integrated central bank, there was only one procedure for issuing high-powered medium—regardless of the form of the high-powered medium—namely the joint increase of demand debts and asset holdings. Now, under the Peel system, the Bank could carry out credit or discount operations either by transferring Bank notes held by the discount department to the money market, or by issuing demand deposits on the liability side of the discount department. In this way, there were two procedures for issuing high-powered medium, which then took two forms: on the one hand, the transfer of high-powered medium in the form of hand-to-hand currency via the discount department (decrease in banking reserves and increase in securities holding); on the other hand, the issuance of high-powered medium in scriptural form directly by the discount department (increase in demand deposits and increase in security holdings).

The third level of separation concerned the Bank's reserve(s). Under the integrated system prevailing before 1844, the Bank of England held only one reserve: the metallic reserve. Now, under the Peel system, the Bank held two types of reserve: the *metallic reserve* in the form of gold specie and bullion held by the issue department and the *banking reserve* in the form of Bank notes held by the discount department.[6] In practice, this caused a *quid pro quo* regarding the "Bank's reserve", that is, a confusion between the metallic reserve of the issue department and the banking reserve of the discount department. The ambiguity became paralysing during tensions in the money market. Like any other commercial bank the Bank's

[6] Given that some Bank notes put into circulation by the issue department were located in the banking reserve of the Bank's discount department, the term "Bank notes in circulation" no longer meant simply Bank notes in circulation outside the Bank, but also those in reserve inside the Bank, that is, in its discount department (Norman, PP 1840, q. 2548; Loyd, PP 1840, q. 3481; Loyd, PP 1857, qs. 3891–3893; Morris, PP Commons 1848, qs. 3529–3532). Tooke (PP Commons 1848, q. 5394) underlined how astonishing such an arrangement might appear to contemporaries: "Nobody till 1844 imagined any possible amount of its own notes that was in a bank of issue, could be considered as part of the circulation". See also Tooke (PP Lords 1848, qs. 3078–3079), Tooke and Newmarch (1857, p. 541).

discount department could suffer from a worrisome decline in its Bank note reserve, and such a situation might have suggested to public opinion that "the Bank" was in trouble and could eventually "suspend its payment" (in Bank notes? in gold specie?). But these difficulties could concern the discount department only, and not the issue department. The paradox was at its height when the issue department held a comfortable level of metallic reserves, while the discount department was in great danger. As Tooke (1840, p. 178–9; 1844, pp. 109–10), Mill (1844, p. 596) and Fullarton (1845, p. 191) had worried since the early 1840s, the separation would greatly expose the Bank's discount department, like any other commercial bank, to liquidity risk. In the aftermath of the 1847 crisis, Tooke (1848, p. 318) came to the view that the "banking department being compelled to stop payment" might be witnessed "as a not improbable effect of the act" and even a "lamentable catastrophe".[7] To avoid any *quid pro quo* and any pitfall, they advocated an unambiguous central bank architecture: the central bank should be *integrated* and hold a *single* reserve. In the formula of Tooke and Newmarch (1857, p. 570): "It is a reserve in all its purposes and functions, a reserve of bullion."

Last but not least, the separation into two departments involved a major transformation of the Bank of England and of its interest rate policy. The discount department aligned the Bank rate with the financial logic of any competing commercial bank or discount house. Peel's speech (1844b, pp. 36–8) left no doubt on this point: "With respect to the banking business of the Bank, I propose that it should be governed on precisely the same principles as would regulate any other body dealing with Bank of England notes. […] The principle of competition, though unsafe in our opinion when applied to issue, ought, we think, to govern the business of banking" i.e. the business of the Bank. Thus, the corollary of the separation of the Bank was to place the discount department on the same footing as the commercial banks, so that it could compete with them without constraints in the discount market. Again, it is not without concern that Tooke (1848, pp. 294, 333) wrote: "The Directors thus entered into direct competition with bankers and money dealers; and in so doing, they acted strictly in the spirit of the bill" of the 1844. In the same vein, Fullarton (1845, p. 196) pointed out "the very objectionable and injurious position in which the banking department of the Bank of England [is] placed by the operation of the new system" enacted in 1844: "It is the avowed result of the scheme, that the banking department, from the moment of the separation, is to be relieved from all charge of the public interests, and to be at perfect liberty to employ to its own advantage the funds intrusted to it, just as any private baker would do." Accordingly, Tooke and Newmarch (1857, p. 544) deplored that, henceforth, there was no more institution "wholly distinct from other banking

[7] Tooke (1848, pp. 291, 318), Lords' Report (PP Lords 1848, p. xiv), Mill (PP 1857, qs. 2026–2033, 2297), Newmarch (1866a, pp. 132–3; 1866b, p. 235) noted retrospectively the relevance of their analysis. We shall come back to it when we examine the financial crises of 1847, 1857 and 1866: the difficulties encountered by the Bank did not so much concern the *metallic reserve* of the issue department as the *banking reserve* of the discount department; difficulties encountered by the latter even grew from 1847 to 1866. In the annex, Table 3 shows the peaks and troughs of the metallic reserve of the issue department and those of the banking reserve of the discount department during the years of financial crisis.

business", nor was there an institution that could intervene "for the support of credit in an emergency, or in periods of commercial distress".[8]

The separation into different departments complicated the Bank of England's work as a central bank. Moreover, the opportunity offered by the separation of the Bank allowed it to pursue the main objective relating to the financial aspect of the Peel Act namely, the improvement of profitability at Threadneedle Street, which induced a new discount policy. In turn, as we shall see, the Bank's new policy had dramatic consequences both inside and outside the British monetary and financial system.

THE BANK OF ENGLAND'S NEW POLICY

The Peel Act came into force on 2 September 1844 and three days later the Bank of England slashed its rate from 4 to 2.5 per cent. It was a historical cut given that the Bank had never lowered its rate below 4 per cent since it was first founded. The rate set on 5 September corresponded to what had been the discount market rate for about two years. In this respect, King (1936, p. 130) referred to a comment in the October 1844 issue of *Bankers' Magazine* (vol. 2, p. 57): "Notwithstanding the well founded predictions of many, [the Bank's] recent proceedings have taken the monetary world entirely by surprise". Further on in that same issue of *Bankers' Magazine* (ibid, pp. 3–4), we can read a review of the first edition of John Fullarton's *On the Regulation of the Currencies* (1844) one of the conclusions of which is summarised in this way: "The separation of the departments of Banking and Issue as at the Bank of England, [Mr. Fullarton] shows, will free the Bank Directors from any scruples as to interfering and *competing* with other banks for business. […] This is Mr. Fullarton's view of the alterations. We hope the recent reduction of the rate of discount by the Bank *immediately* on the change coming into operation, may not be regarded as the first step in the course which is thus predicted" (original emphasis).

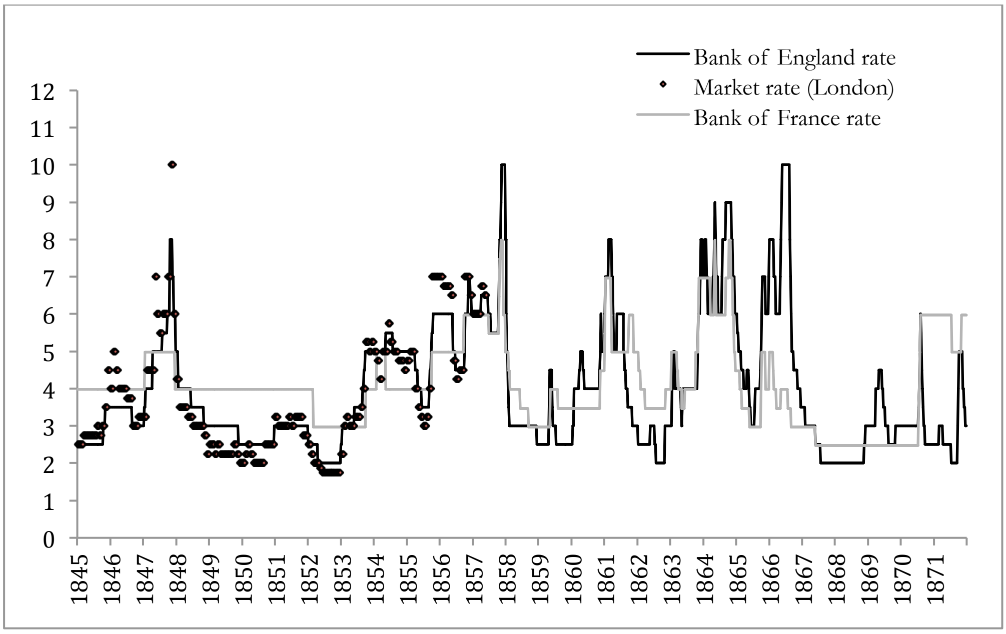
[8] See also J. S. Mill (PP 1857, q. 2032), Newmarch (PP 1857, qs. 1359, 1366), Tooke and Newmarch (1857, pp. 499, 529, 546–9, 636–7) and Newmarch (1866a, pp. 130, 135, 137). Tooke and Newmarch (1857, pp. 547) summed up: "It is the height of inconsistency to restrict the [Issue Department], and to leave the [Banking Department] wholly at the discretion of the Directors". Aligning the discount department's policy with the business of the other banking and financial institutions was precisely what the authors of the currency school and the Bank directors were calling for in supporting the 1844 Act. For Loyd (PP 1857, qs. 3895, 4149; idem, PP Lords 1848, q. 1414), "the Bank of England is nothing more than a banker upon a large scale", which is desirous "to meet the wants of his customers. […] That is the natural and obvious course of things." Norman (PP Lords 1848, q. 2715; idem, PP 1840, q. 2164; PP 1857, q. 2964) thought that "the position of the banking department [is] simply that of any other large Bank, and that, therefore, it [is] injudicious to maintain a regulation which in some degree shut[s] out the Bank from competing with other money dealers in the discount market". For Cotton (PP Commons 1848, q. 4416), a Bank director, the discount department "is very much in the same position as a private bank, and if a private bank does not act liberally and fairly towards its costumers, it may do itself a present good, but an ultimate mischief".

The hopes of *Banker's Magazine* proved vain and Fullarton's prediction accurate. The Lords' Report from the 1848 parliamentary enquiry (PP Lords 1848, pp. xxxiii–xxxvi) indicated that the Bank of England's new policy was characterised by a "competitive" discount policy and an active manipulation of the discount rate, which put a definite end to the old "fixed" interest rate policy.[9] As graph II illustrates, the Bank thenceforth aligned its rate on the market rate. It tracked it both downwards, so as to remain competitive with other banks and increase the volume of its discount business, and upwards, so as to increase its income substantially through the discounting price. Director James Morris (PP Commons 1848, q. 2641) affirmed this *a contrario* considering that the method prior to 1844 "caused a loss to the Bank". Another director, William Cotton (PP Lords 1848, q. 3214) similarly took the view that "if [the Bank] keeps up a high rate of interest, it will lead to an influx of the precious metals, and it will lose its discount business". So, thanks to the 1844 Act and as Morris (PP Commons 1848, qs. 3011–3013) emphasised, the Bank became "entirely" free to set its discount rate and could vary it often and suddenly so that, like any other private bank, it could take every opportunity to increase its income from its discount business. To the question whether the Bank directors looked at the money market rate before setting the Bank rate, Morris (PP Lords 1848, qs. 487–490) answered that they did. He even stated that since the passage of the 1844 Act a special committee was appointed for studying the Bank's discounts and summarised its recommendations thus: "a reference should be made to the market rate of interest", and "the Bank should assimilate its rate to the market rate".[10]

[9] A few months later, the Bank also abandoned the "uniform" rate policy and then fixed a minimum rate and variable rates. The minimum rate applied to prime quality securities with maturity less than 95 days, and variable rates were set according to the quality and term of eligible securities (King, 1936, pp. 109–12). It could be noted that, while the abandonment of the fixed rate rule (for a given quality and maturity) reflected the spirit of the Peel system, the variable rate rule (depending on the quality and term of the securities) was independent of the Peel system and could have been adopted during the pre-1844 period, without the banking legislation of 1844 (Morris, PP Commons 1848, q. 483).

[10] Morris (PP Lords 1848, qs. 487–490). Later on, in response to Hankey's question (PP 1857, q. 1259)—"Is there not a resolution of the Court of Directors that the rate of interest shall at all times be kept at a rate approximate to the current rate of interest out of the Bank?"—directors T. Weguelin and S. Neave answered in the affirmative. Again, this was precisely what the authors of the currency school, Loyd (PP 1857, q. 3808) and Norman (PP 1857, q. 2995), recommended: the Bank rate "must conform" to the market rate.

Graph II – *Rates of the Bank of England (weekly), the London money market (monthly), and the Bank of France (weekly) as percentages, 1845–1871*



The idea that the Bank of England's discount rate should be aligned on that of the market and finally be assimilated to the market sphere had been expounded previously by Ricardo (1817, p. 364) who compared the Bank to an establishment supplying "wool" and its interest rate to the price of the said commodity. Later, Loyd (PP 1832, q. 3319) was "not aware of any inconvenience" with the Bank following the market discount rate and he stated that such a discount policy "seems to be the obvious common sense plan". Accordingly the Bank rate was never viewed by the proponents of the 1844 Act as an instrument of the monetary policy and stabilising metallic reserves, or as an instrument of the policy of financial stability and lending of last resort, but essentially as a commercial policy instrument. Only the rule of issue designed to vary the quantity of banknotes with the metallic reserves was contemplated and it alone was supposed to ensure both monetary stability and financial stability. In the year of the Act, Loyd (1844, pp. 4–5, 8–12) thought the new system would ensure a more stable monetary system, Clay (1844, p. 71) announced that interest rate and price movements would be smaller because the rule of issue made it possible to contract bank issuing at the appropriate moment and Torrens (1844, pp. 29, 97) took the view that fluctuations in the interest rate and credit would be attenuated.

However, the immediate consequence of this new policy was the extreme instability of the Bank of England's rate compared with the earlier period. The series in graphs I and II illustrate the change in the Bank rate policy.[11] As Tooke (1848, p. 397) put it, variations in the Bank rate became "at least as frequent, as abrupt, and as violent, as might have been found to be necessary". And what Tooke and Newmarch (1857, p. 568) described as "a zig-zag course" clearly reflects the uncertainty emanating from the Bank and the lack of landmarks for the participants on the money market. The Bank now followed the market, which in return guided the Bank rate, and so on. This circularity intensified both the instability of the Bank rate and the instability of the market rate. Tooke and Newmarch (1857, p. 544) concluded that no individual bank had as much power as the Bank to provisionally influence the course of the market rate and the Bank did not so much influence the direction of the market interest rate as its volatility.[12] True to his position set out in the 1830s and referred to above (PP 1832, qs. 170–172), Palmer (PP Lords 1848, qs. 917–919) held that "one of the objections to the Act of 1844, in the working of the banking department, has been the frequent fluctuations, or rather reduction, in the rate of interest" and the fact that the Bank employed "a given portion of the reserve in the banking department for the benefit of the proprietors". Palmer (PP Commons 1848, qs. 2102, 2206; PP Lords 1848, q. 1010) reaffirmed that "the [Bank] rate of interest should never go below a certain point, 4 per cent".

The analysis proposed by Tooke, the policy recommended by Palmer and the diagnosis in the Lords' Report have all called for several commentaries. In particular, E. Wood (1939, pp. 90–104, 142–48) formed the view that Tooke and Palmer, like Hawtrey (1932, pp. 138–9) and King (1936, pp. 78–80, 106–9) later, attached too much importance to the change in the Bank's discount policy as from 1844. However, the evidence E. Wood provided was threadbare. For one thing, he considered that before 1844 the Bank could grant what were termed "temporary loans" at below 4 per cent. Now, among these temporary loans, a mere twenty-nine were granted at rates below 4 per cent and going as low as 3 per cent, and they came to just £85,800 as an annual average (PP 1832, app. 27; PP Commons 1848, app. 9). For another thing, E. Wood thought that the significant policy change after 1844 was the Bank's capacity to acquire better quality securities when the market rate was low. Now, the acquisition of better quality securities after 1844 simply replaced the increase in the Bank's metallic reserves before 1844. In short, E. Wood failed to see that the instability of rates after 1844 stemmed from a significant change in the

[11] The series of the market rates used for Graphs I and II were brought to the attention of the 1857 parliamentary inquiry by D. Chapman (PP 1857, q. 4876). As Boyer-Xambeu, Deleplace and Gillard (2001, p. 120) point out, among the available series, Chapman's series is, for a given quality of securities (prime bills), the longest (from 1824 to 1857) and the densest (monthly). It corresponds to the average of the rates recorded by a major London discount house, the Gurney Overend. The *Bank rate* averaged 4.33 per cent with a standard deviation of 0.71 over the period 1821–1844, while it averaged 3.93 per cent with a standard deviation of 1.70 over the period 1844–1871. The *market rate* averaged 3.59 per cent with a standard deviation of 0.96 over the period 1821–1844, and it averaged 3.77 per cent with a standard deviation of 1.60 over the period 1844–1871. The means and standard deviations are significantly different (at 1 per cent threshold) between the two periods.

[12] On the transmission of instability from the Bank rate to the market rate, see also Fullarton (1845, p. 199), Tooke (PP Commons 1848, q. 5350; PP Lords 1848, qs. 3010, 3133), Brown (PP Lords 1848, q. 2308) and Mill (PP 1857, q. 2027). At the height of the 1847 crisis, Baring (1847, p. 6) worried about an alarming and unprecedented fact: the market rate on prime bills rose from 3 per cent to 10 per cent and even to 12 per cent in a very short time.

Bank rate policy. With greater nuance, King (1936, pp. 161–6) voiced doubts at the idea that the Bank had maintained an aggressive commercial policy after 1847, based on the observation that the Bank rate tended to remain above (below) the market rate in normal times (times of crisis). Even so, as the high volatility of the Bank rate in the period 1848–1866 illustrated, the characteristics of the new policy were very much present: a marked rise in times of crisis (up to 10 per cent) and a marked fall in times of optimism (down to 2 per cent). Moreover, graph II shows that after 1847 the Bank rate and market rate continued to rise and fall in tandem.

How, then, can one explain the high volatility of interest rates, both the Bank's and the market's, after the passage of the Peel Act? One could not see it as a consequence of the change in the monetary *regime* inasmuch as the British gold specie standard remained the same before and after 1844. One could focus on the outcome of the Bank of England's monetary *policy*. The volatility of interest rate would then be a consequence of the rigidity of the supply of Bank notes due to the rule of issue, that is, the currency principle: since the adjustment could no longer be made by changing the quantity of liquidity, it could be concluded that the adjustment was now made by changing the price of liquidity. Nonetheless, in order to discern correctly the type of rigidity we are dealing with, we must first distinguish between two types of liquidity: hand-to-hand liquidity (banknotes, or currency) and interbank liquidity (high-powered medium, or monetary base). Respectively, two types of interpretation can then be discerned.

The first interpretation relates to the rigidity of the provision of banknotes and refers to the *regulatory* aspect of the Peel Act. The quantitative constraints imposed on the Bank's issue department and the provincial issuing banks created rigidity of supply relative to demand for hand-to-hand means of payment and, in turn a volatility in the market interest rate—mostly seasonal volatility. However, this interpretation remains limited. Actually, the growing supply of checkable accounts by commercial banks in London and the provinces during the second half of the nineteenth century gradually offset the rigidity of the hand-to-hand means of payment. In addition, and more crucially, the volatility of the *Bank rate* was by no means seasonal, but was essentially monetary and financial in nature.

The second interpretation relates to the rigidity of the monetary base and refers to the *monetary* aspect of the 1844 Act—by extension, to the currency board system. The rule of one-hundred per cent reserve at margin imposed on the issue department triggered rigidity of the supply of interbank liquidity so that any tension on the money market was reflected in market rate volatility. More generally, a monetary policy whose sole instrument is the monetary base is such that the interest rate becomes the adjustment variable. However, this interpretation remains incomplete. In fact, as previously seen, the separation of the Bank created two modes of issue of high-powered medium, or interbank liquidity. As a consequence, the Peel system was quite different from a currency board arrangement. Under a currency board, *all* liabilities of the issuing institution, both hand-to-hand and interbank means of payment, are subject to the rule of one-hundred per cent reserve at margin. In contrast, under the Peel system, while the issue department could only put into circulation Bank notes in accordance with the currency principle, the discount department remained entirely free to issue demand deposits (especially those held by commercial banks as interbank liquidity) through discount operations. And the Bank rate was precisely set by the Bank's discount department, whose liabilities could vary at its own discretion.

Conclusively, the instability of the rate set by the Bank of England's discount department cannot be explained by the rule of issue alone. What was going on relied on the *financial* aspect of the Peel Act and in point of fact on the commercial logic of the discount department? Abandoning the convention of a fixed discount rate as of September 1844 meant the Bank could follow the market rate in order to be competitive and raise its income and its dividends. It mimicked the market: the Bank aligned its rate on the market, the market took its lead from the Bank, and so on, and this imitation game ultimately led to an unstable trajectory for interest rates. The Bank was no longer the outside mediator that eased tension in the money market by dint of the fixed rate convention. By practising a new competitive policy and merging with the market, the Bank shifted from external mediation to internal mediation and so eroded its former *prestige*.

FINANCIAL CRISES UNDER THE PEEL SYSTEM

The crisis of 1847 quickly revealed the Bank of England's new relationship with the financial sphere. One of its origins lay in the speculative movement in the railway stock market. As a result of the new competition policy, the Bank of England was suspected of taking part in, and even amplifying, the speculation insofar as it kept its rate very low from September 1844 and held a large quantity of private securities.[13] The crisis escalated in two stages: the first took shape from January until May and pushed the Bank to raise its discount rate to 5 per cent; the second started in August, bringing the crisis to a climax in late October. Demands for discount converged on the Bank and growing pressure suggested that a suspension of the rule of issue was quite possible (Tooke, 1848, p. 315–9). The letter from the Chancellor of the Exchequer dated 25 October addressed to the Bank finally gave it permission to increase its issues without limit a priori and on condition that the rate on discount operations was set at 8 per cent—and the Bank maintained for four weeks its rate at 8 per cent. An unprecedented rise that the House of Lords committee (PP Lords 1848, q. 534) considered "exorbitant".[14] In the aftermath of the 1847 crisis, Tooke (1848, p. 354, 402) came to the following conclusion about the 1844 Act: "I am entitled to express myself freely upon it, and I therefore venture to say that it is, in my opinion,

[13] The figure of a total advance of £2,481,000 on railway securities was brought to the attention of the House of Lords Committee (Lords' Report, PP Lords 1848, p. xxxvi; Morris, PP Lords 1848, q. 397). See also Tooke (1848, pp. 294–5), Tooke (PP Lords 1848, qs. 3086–3089) and Tooke and Newmarch (1857, p. 557).

[14] Like any rate announced by the Bank since September 1844, this was the minimum rate on prime bills (Morris, PP Lords 1848, q. 536). Although it had the power to do so, the Bank did not exceed the statutory limit during the 1847 crisis (Morris, PP Commons 1848, qs. 3365–3368). The Chancellor's letter had had the effect of easing tensions in the money market (Lords' Report, PP Lords 1848, p. xii; Tooke, 1848, pp. 319–20).

one of the most wanton, ill-advised, pedantic, and rash pieces of legislation that has ever come within my observation […] *a lamentable failure*" (original emphasis).

However, neither the serious dysfunctions revealed in the 1847 crisis, nor the high quality of the debates during the 1848 parliamentary inquiry, nor the arguments expressed against the 1844 Act shook it: no relaxation was introduced by the legislator. The report of the House of Commons remained quite succinct and spoke against any form of alteration (PP Commons 1848, p. ix). In contrast, the report of the House of Lords (Lords' Report) was far more exhaustive. It mentioned the two suggestions made at the inquiry—namely, the complete repeal supported by Tooke (PP Lords 1848, qs. 3064–3068) and the partial alteration initiated by the Chancellor's letter (ibid, p. x)—and finally came out in favour of relaxing the 1844 Act (ibid, p. xlv). Notwithstanding such a consensual proposal, it did not have a majority in the House of Lords and was not suggested in the House of Commons (Tooke and Newmarch, 1857, pp. 487–500).

Thus, the text was maintained as it stood, and the spirit of the law remained firmly rooted in the Bank's practice for several decades. Once the 1847 crisis was over, the Bank of England resumed its competitive discount policy. An unprecedented cut in the Bank rate was recorded when it was set as low as 2 per cent in 1852–53 for 37 weeks. Some advances were even made at 1.5 per cent in July 1852 (Tooke and Newmarch, 1857, p. 559). Later the Bank lowered its rate again to 2 per cent in 1867–1868 for a longer period of 69 weeks. It may seem surprising that, despite the constraint of convertibility into metallic money and despite the very restrictive rule of note issue, the Bank was able to pursue a very low interest rate policy in this way. If the issue department could not at its discretion change the monetary base in the form of Bank notes to lower the interest rate, then the crucial point had to lie elsewhere. The reason was that the discount department behaved like any other commercial bank with respect to the banking reserve and was equally free to set its rate for profitability motives. Thus, in normal times, the discount department attempted to limit the opportunity cost of holding banking reserves and lowered its rate so as to be competitive and hence align it with the market rate. When the financial cycle turned around, the discount department was in a similar situation to competing banks, behaved in the same feverish manner, and abruptly raised its rate so as to maintain its banking reserve.

Just before the turmoil, during the 1857 parliamentary inquiry, Loyd (PP 1857, q. 4189) considered it sufficient to say "that by strict and prompt adherence to the principles of the 1844 Act, everything has passed off with regularity and ease, the monetary system is safe and unshaken, the prosperity of the country is undisputed, the public confidence in the wisdom of the Act of 1844 is daily gaining strength". Three months after this declaration, the money market collapsed and, in a letter dated 12 November, the Chancellor of the Exchequer once again authorised the Bank of England to suspend the rule of issue. Domestically, the issue department put £1,000,000 worth of bank notes into circulation in excess of the regulatory limits (PP 1858, p. viii–xii). Internationally, the banking department, through successive increases in the discount rate, competed with the Bank of France to capture metallic reserves. The Bank of England was the first to initiate a series of rises of its rate until it climbed to 10 per cent for 6 weeks. The Bank of France could not help but follow and raised its rate to 8 per cent. An unprecedented increase on both sides of the Channel.[15]

The crisis of 1866 did not repeat such an escalation. It mainly affected Britain and partly had its origin in the development of financial companies adopting limited liability made possible by the 1862 enactment (Newmarch, 1866a, pp. 126–7; 1866b, pp. 230–2). On 10 May, the Bank of England refused to give its assistance to the discount house Overend, Gurney and Company, which was forced into bankruptcy, precipitating a panic in London. The Bank, while raising its rate to 9 per cent, advanced a total of £4,000,000 without successfully ending the panic (King, 1936, p. 243). The Chancellor of the Exchequer drafted a new letter of authorisation to suspend the rule of issue on the condition that the Bank rate was at least 10 per cent. From 12 May, the Bank maintained its rate at 10 per cent for 12 weeks—an unprecedented length of time for such a rate. At the same period, the Bank of France's discount rate was just 4 per cent due to a comfortable level of metallic reserves and a favourable exchange rate in Paris (Plessis, 1985, p. 307–8). Although the rate differential largely covered the exchange rate risk against the pound, it did not significantly attract metallic reserves to London. As Newmarch points out (1866a, pp. 132–3; 1866b, pp. 230, 239), the dramatic rise in the Bank and market rate in London was sending a negative signal across the Channel and betrayed the very delicate position in which the Bank of England found itself. Moreover, foreign financial centres did not always perceive the difference between the suspension of the rule of banknote issue and the suspension of the convertibility into gold specie.[16] More than any other crisis, the 1866 crisis illustrated the dangers of the separation of the Bank and its two-reserves system: the metallic reserve of the issue department was maintained at a level of £11,858,000, while the banking reserve of the discount department was reduced to £415,000 on 30 May—a situation close to the suspension of payment in Bank notes, close to the "lamentable catastrophe" in Tooke's words (1848, p. 318).

One interpretation is that the policy of a very high interest rate tended to stabilise the interbank market during crises insofar as the Bank of England no longer had to ration credit or tighten conditions for eligibility (Bignon, Flandreau and Ugolini, 2012). This interpretation prompts three remarks. First, under the system prior to 1844, the Bank lent at a moderate interest rate *and* it significantly increased the quantity of discount and broadened the terms of eligibility. Second, under the post-1844 system, the very high interest rate practised by the Bank led to a copy-cat rise in the discount market rate. Chapman's series shows that, under conditions of pressure on liquidity, the market rate was higher during the period

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[15] As an extension, research work aims to show that the Bank of England's discount policy from 1844 onwards tends to explain the Bank of France's abandonment of its 4 per cent fixed rate policy and hence the instability of the interest rates of Banks of Issue in London and Paris (Le Maux, 2018). Among other references, see Plessis (1985) on the Bank of France's operations in the 1840s and 1850s and Boyer-Xambeu, Deleplace and Gillard (2001) on the links between the Paris and London financial centres from the 1830s to the 1870s.

[16] On this point, see Newmarch (1866b, p. 242), Bagehot (1873, p. 33) and Hawtrey (1938, p. 86). The minutes of the Bank of England shareholders' meeting (Bank of England, 1866, p. 1106) worried about such confusion and about "such erroneous notions as that which lately prevailed on the Continent, that the Bank was about to suspend specie payments."

after 1844: the market rate rose above 7 per cent several times between 1844 and 1857, and reached 10 per cent in 1847, whereas it had never exceed 7 per cent between 1833 and 1844. Therefore, the Bank's very high interest rate tended to intensify instability on the interbank market, and even to transform liquidity problems into solvency problems. These first two remarks should, though, be supplemented by a third and final remark. Assuming a *moderate* interest rate policy *with* credit rationing, the discount volume would increase in a lesser proportion than the discount volume wanted by the commercial banks that go to the central bank's desk. This phenomenon would *a contrario* argue in favour of a policy of a *high* interest rate *without* rationing, even if it cannot be identified in a time series of the volume of credit granted by the central bank. In any event, it is instructive to compare the discount volume granted during financial crises in the periods before and after 1844. According to the series of the British parliamentary enquiries, the rise in private securities held by the Bank through its discount operations (commercial paper, discount bills) was 110 per cent between 1824 and 1825, 160 per cent between September 1836 and April 1837, and 150 per cent between April and December 1839. Subsequently, the rise in private securities discounted by the banking department (securities, bills discounted) was 75 per cent between February 1847 and February 1848, 130 per cent between September and December 1857, and 145 per cent between March and May 1866.[17] Therefore, the rise in private securities discounted during crises after 1844 (with a very high interest rate of 8 and then 10 per cent) tended to be *lower* than the rise during crises before 1844 (with a moderate interest rate of 5 and then 6 per cent). The foregoing suggests, then, that during financial crises the Bank stabilised the interbank market more effectively before 1844 than it did after that date: the Bank rate was below the market rate, the discount level was as high if not higher, and the market rate was less upwardly volatile.

THE REASONS FOR THE CENTRAL BANK'S DIS-INTEGRATION

The frequent sudden variations in the Bank of England's discount rate under the Peel system were a constant source of anxiety on the monetary and financial markets, in the banking and merchant sphere, both in London and in the provinces. "Of this", Tooke and Newmarch (1857, p. 557) pointed out, "there can be no better proof than the anxiety manifested on the Stock Exchange and by the money dealers, on every occasion when a change [in the Bank rate] is expected, to learn the determination come to at the breaking up of the weekly meeting of the Court of Directors on the Thursday." Bankers did not only feel anxiety, but they expressed scepticism about the Bank's new policy. For George C. Glyn (PP Lords 1848, q. 1782), a London banker, the method of deciding the rate was itself shaky, often

[17] See PP (1832, app. 13 and 19), PP (1840, app. 12), PP (1841, app. 6), PP (Commons 1848, part 2, app. 8) regarding the crises of 1825, 1837 and 1839, and PP (Commons 1848, part 2, app. 8), PP (1857, part 2, app. 12), PP (1873, app. 13) concerning the crises of 1847, 1857 and 1866. Not surprisingly, with regard to the 1847 crisis, Anson et al. (2019) find that the Bank of England's response corresponded to credit rationing.

relying on a small majority: "In point of fact there may be a majority one week which may be a minority the next, and the principle of the system may be upset by an adverse vote". James A. Anderson (PP Commons 1848, q. 6357), the director of the Union Bank of Scotland, thought that the policy of the Bank directors before 1844 aiming to keep the Bank rate above the London market rate in normal times "was a sound practice for a bank in the position of the Bank of England", and that "they must revert the idea of regulating the money market generally, […] and not so with a view to their dividend", as had been the case since 1844. As an aside, it may be noted that the London discount houses were highly leveraged (King, 1935, pp. 322–4), so that a sharp rise in the Bank rate and, in turn, in the market rate could quickly get them into trouble. All things considered, the Peel Act and the ensuing Bank policy did not respond to demands from the British financial sphere in general, but to interests within the Bank in particular.

Beyond the legislative aspects of the Peel system, and despite the financial concerns of participants in the London money market, several reasons explain the upheaval in the Bank of England's discount policy from September 1844 onwards. The first reason is to be found in the Joint-Stock Banking Act of 1833, which authorised London bankers to adopt the status of joint-stock companies. London commercial banks, which were now financially bigger than the former private bankers, could significantly expand their discount and credit activities (Collins, 1978, p. 384). The concern of the Bank's directors over joint-stock banks could be detected a few years later, at the time the Banking Co-Partnership Act of 1826 was being prepared, which then concerned the provincial banks only. The Bank directors set out the benefits that the Bank could derive from the establishment of provincial branches in England, and among these benefits was protection against competition from "large banking companies" (Minutes of the Court of Directors, cited by Neal, 1998, p. 72). Alongside commercial concerns, however, there were public considerations such as the possibility of providing a safe investment in the form of deposits and the ability to transmit liquidity more easily "in every quarter of the Kingdom", so that "disasters arising from the sudden expansion and contraction of the currency would not so often occur" (ibid). Such discussions revealed the ambiguity of the Bank's position and the Joint-Stock Banking Act of 1833 heightened the anxiety of the Bank's directors and shareholders. So, from the 1840s onwards, their concern was specifically with the Bank's profitability. Observing that, around 1844, the dividend on the stock of the Bank of England was lower than that on shares in the London and Westminster Bank, Bagehot (1873, p. 38) came to the following view: "That the Bank proprietors should not like to see other companies getting richer than their company is only natural. Some part of the lowness of the Bank dividend, and of the consequent small value of Bank stock, is undoubtedly caused by the magnitude of the Bank capital; but much of it is also due to the great amount of unproductive cash—of cash which yields no interest—that the banking department of the Bank of England keeps lying idle". The author of *Lombard Street* was thus describing the attitude of the Bank's shareholders and testifying to the financial practice of benchmarking. In order to align the Bank's profitability with that of London commercial banks, the Bank's directors needed the ability to set at their discretion the Bank rate—a discretion that they enjoyed under the Act of 1844.

The second reason ensuing from the first one relates to the institutional support of the claims from the Bank's shareholders. The report of the 1848 House of Commons Committee (PP Commons 1848, p. iv), which supported both the letter and the spirit of the Peel Act, relied explicitly on the "opinion" that "appears to have been entertained by some persons, though not by the Governor and Deputy-Governor of the Bank of England", according to whom "the Bank is released by the Act of 1844 from any obligation, except that of consulting the pecuniary interests of its proprietors". Director James Morris (PP Commons 1848, qs. 2653, 2845) repeated that "the banking department was bound to act in the same way as any other banking company, […] to be managed in the same was as any other private bank"—even if it had to deal with Government deposits. Morris (PP Commons 1848, qs. 3008, 3014) argued to throw out the fixed rate policy practiced by the Bank since its foundation: "when the rate of interest out of doors was 1.5 or 2 per cent, if the Bank pretended to act as discounters, it was absurd to attempt to keep their rate of discount at 4 per cent". Before the House of Lords, which was sceptical if not critical of the Peel system, Morris (PP Lords 1848, q. 625), not without contradiction, declared: "I do not think it is desirable that the Bank should run into competition with other parties with regard to the rate of interest." Beyond the contradiction or mere rhetoric, one can feel embarrassment: as directors in Threadneedle Street, they could be attached to the collective dimension of the Bank; as agents of shareholders, they could not be deaf to claims related to the Bank's profitability—which finally prevailed from 1844 onwards. Tooke and Newmarch (1857, p. 549) concluded that "the Directors had nothing to do but to consider the interest of their proprietors".[18]

As a third insight regarding the Bank of England's new policy, the rule imposed on the issue department provided a twofold advantage for the Bank's directors. On the one hand, directors Cotton (PP Commons 1848, q. 4410) and Morris (PP Commons 1848, qs. 2652–2653) argued that the automaticity and remedy provided by the rule of issue led them to consider themselves as "entirely" relieved of any responsibility of the circulation and even the convertibility of banknotes.[19] As a result, the Bank directors' attention could be given over to the competitive discount activity. This was precisely what the Lord's Report (1848, p. xxxiii) worried about: "the issue department [is] regulated by a self-acting invariable principle, and in the banking department the Directors [are] to be left free to use their full discretion like

[18] The Lords' Report (PP Lords 1848, p. xxxvi): "The management of the discounts and business of the Bank seems to have been profitable, as dividends, which had been reduced from eight to seven per cent, have risen in the present year to nine per cent, including two bonuses of one per cent each. The effect of a low rate of interest could not fail to give a great additional stimulus to speculation of all kinds". The Bank directors (Morris and Prescott, PP Commons 1848, qs. 2920–2924) believed that profits had not increased significantly since 1844. However, half-yearly dividends on Bank shares averaged 3.96 per cent over the period 1821–1844, 4.48 per cent over the period 1844–1871, and 4.87 per cent over the period 1871–1900 (Clapham, 1944, vol. 2, app. A, p. 426). It should be noted that these figures do not take into account the degree of competition in the London discount market during the different periods

[19] Even Bagehot (1873, pp. 161–2), a supporter of the Peel Act, stated that "by that Act the currency manages itself; the entire working is automatic. The Bank of England plainly does not manage—cannot even be said to manage—the currency anymore. And naturally, […] it was inferred by many that the Bank had no responsibility."

any ordinary trading company acting for the profit of its proprietors". And this is the reason why the question of whether or not to include deposits in the monetary aggregate was so crucial during parliamentary inquiries and debates. This question was submitted to the directors of the Bank and the supporters of the 1844 Act. A wise director of the Bank in the 1830s, Horsley Palmer (PP 1832, qs. 74–76) was well aware that deposits on the liabilities side of the Bank's balance sheet performed the same functions as Bank notes and were included in its "liabilities to pay on demand". Therefore, any rule of conduct should be applied to all forms of demand liabilities, whether in the form of notes or deposits. The framers of the 1844 Act vehemently rejected such a view. Loyd (PP 1840, qs. 2655–2656, 3092–3110, 3451–3456) was insistent that under no circumstances should deposits on the liabilities side of the Bank be considered as "currency", unlike Bank notes. Consistent with this definition of the monetary aggregate, Peel (1844a, p. 136; 1844b, p. 22) completely ignored in his speech the issuance of deposits on the liabilities side of the Bank's discount department. In fact, if the rule of issue had been applied to deposits as it had to Bank notes, the Bank would have been, by construction, unable to expand its discount and credit business and the separation of the Bank into two departments would have lost its *raison d'être*. But it was precisely the discount activity that the directors and shareholders intended to develop, in particular by fixing the Bank rate in line with the market rate, and the separation of the Bank was necessary to fulfil the financial component of the Peel Act.

The separation of the Bank of England was also necessary from the political viewpoint. Indeed, the discount department could conduct a competitive policy concerning the supply of deposits and aimed at limiting the holding of reserves of banknotes at the risk of exposing the discount department to the impossibility of *converting its deposits into Bank notes*. Had there been no separation, the competitive policy of the Bank would have concerned the supply of deposits like the supply of notes and would have sought to limit the holding of metallic reserves at the risk of further exposing the Bank to the impossibility of *converting its notes and deposits into metallic specie*. In other words, if the convertibility of discount department deposits into notes could be compromised under the Peel system with separation of the Bank, the convertibility of the Bank notes into metallic specie would have been threatened under a Peel system with no separation. The absence of separation made the conduct of a competitive rate policy politically dangerous and even unthinkable. In order to make the Peel system politically acceptable, an interface was required between the discount department's deposits and the metallic reserves: such an interface was provided by the Bank notes fully covered at the margin by metallic reserves and put into circulation by the issue department. Ultimately it was crucial, and this reinforced the reason for the separation, to distinguish between the notes and the sight deposits issued by the Bank. The separation was not due to a simple misunderstanding over the monetary aggregate but ultimately from a political and financial construction.

The foregoing highlights the feat-of-skill of the 1844 legislative arrangement and the coherence of its monetary, regulatory and financial aspects. Concerning the issuing of the Bank note, the issue department applied a strict quantitative rule; regarding the issuing of deposits, the discount department competed with the other banks in the London market. Thus, the Bank could not be suspected of conducting a bad policy to the extent that it followed *both the rule and the market*. Such an arrangement was, however, a two-fold negation of central banking: first, the issue department no longer had discretionary power over issuing interbank liquidity; second, the discount department blended with the market. Another element of the political feat-of-skill was that the rule of issue gave the Bank a strict guarantee and the monopoly on issue gave it the seal of the state. All these virtues were useful to the Bank's directors in that they could engage in a new discount policy that was hardly recommendable at least for an institution that had little by little built up *prestige* within the British banking system.

A final—and this time unintentional—reason for the new policy stemmed from the failure of the rule of issue and the necessity of practising a very high interest rate policy in periods of external drains on metallic reserves. The crisis of 1847 provided a further reason for the Bank's active discount policy, which was upwards in the case in point. The Bank's directors observed that, contrary to the doctrine guiding the Peel Act, the rule of issue and the strict separation between the note issue function and the bills discount function were not enough to defend the metallic reserves; in other words, it was difficult to dissociate fundamentally the reserve protection instrument from the interest rate. Accordingly the Bank rate became also an instrument for consolidating the reserves of both departments in times of crisis, with the result that it was no longer just an instrument in the service of the discount department's commercial activity. Director James Morris (PP Commons 1848, qs. 2816, 2840) acknowledged that a high interest rate contained external drains and drew in precious metals from abroad. And Morris (PP Lords 1848, q. 493) specified: "The putting up or the lowering of the rate would be guided by the state of the reserve, reference being also had to the rate of interest in the market". Another director, Thomas Weguelin (PP 1857, qs. 476, 487), offered a similar description: the Bank "invariably follow[s] in a decline of the rate of discount, and […] practically follow[s] in a rise", and "when the reserve is considerably reduced, or begins to be reduced, [the Bank] raises the rate". This statement shows that, under the Peel system, the Bank reacted asymmetrically to changes in the market rate and the level of reserves: it raised its rate as a function of the rise in the market rate and the fall in reserves, and it reduced it primarily as a function of the fall in the market rate.[20]

The reasons for the change in the policy of the Bank of England raised the question of its status and its position with respect to market logic. An article in the *Morning Chronicle* (29 December 1847, cited by Tooke, 1848, p. 392) expressed this clearly in the aftermath of the 1847 crisis: "It is of course natural to expect that the Bank of England should be unwilling to hold an excessive proportion of its capital in a form generally unprofitable, and its readiness, if not impatience, to get rid of its gold on some remarkable occasions, however injurious to the public, cannot be

[20] Davutyan and Parke's (1995, pp. 1107, 1110) study of the period 1890–1908 confirms that the Bank's rate policy was asymmetric and that the Bank's response to changes in the market rate was significant: the "asymmetric response to market rates is quite consistent with the Bank's commercial motives" and with "a concern for profitability". Brunet and Le Maux (2019) find similar results for the period 1844–1856.

considered surprising in a commercial corporation. But if the management of this vast central hoard of bullion, being as it is a national reserve for certain great emergencies, were viewed in its true light, as an object of primary national importance, we do not believe that there would be any serious difficulty about the cost of keeping it up". For it to maintain both its institutional integrity and its fixed rate policy, Tooke (1840, p. 197; PP 1848, q. 5354), Fullarton (1845, p. 229) and Tooke and Newmarch (1857, pp. 600–1) recommended a fiscal arrangement enabling the Bank to be compensated for opportunity costs related to the immobilisation of large metallic reserves in normal times. It might be thought that the monopoly on issue that the Bank enjoyed at the time, in London and in Britain, was itself a privilege and the source of compensatory income. In any event, the benchmarking practice of the Bank's directors could not settle for a simple compensatory mechanism: what mattered was not so much the additional income related to such or such a privilege as the alignment of the Bank's profitability on the reference profitability, that of the competing commercial banks.

PARADOXES

The analysis of the Peel Act proposed here challenges two types of interpretation in the recent literature. The first interpretation by the legal restrictions theory or the free banking theory holds that the monopoly on issuing lies behind the rise in the Bank of England's profits. However, it is noteworthy that the issuing of notes was in stiff competition with sight deposits and made up a dwindling share of sight debts in circulation as a whole. Consequently, the increase in the Bank's revenues and dividends can be explained otherwise and particularly by the end of the fixed rate policy and the introduction of a competitive policy by the discount department. In other words, it was by giving the Bank the chance to compete with London banks on the discount market, and not by granting it an additional privilege, that the 1844 Act enabled the Bank to seize every opportunity to make a profit through quantities (extension of discount in normal times) or prices (very high rates in times of crisis). Accordingly the analysis should not be restricted to the regulatory aspect but extended to the financial aspect of the Peel system.

The second interpretation, from both the chartalist approach and the monetarist approach, is symmetrical to the first in that it considers that the monopoly of issue given to the Bank of England in 1844 was supposedly a decisive move in consolidating the central bank system in Great Britain. However, following the principle of Thomas Tooke and Horsley Palmer that the central bank should not systematically attempt to improve its revenues related to the discount activity and consequently to determine its discount policy in terms of competition in the money market, but on the contrary maintain a distance with it, this then leads to the conclusion that the Bank was more of a central bank before—and not after—the 1844 Act. Despite the monopoly and despite the rule of issue, the Peel Act was less than a step backwards—and by no means a step forwards—in the institutional history of central banking in Great Britain. King (1936, p. 103) also comes to this conclusion: "yet, paradoxical as it must seem to-day, the first effect of the Act was to make the Bank less of a central bank than it had been previously."

We can besides make out three other paradoxes. First, although the 1847 crisis very soon discredited them, the rule of issue and the new discount policy were long fixed fast in people's minds. Thomson Hankey's book is emblematic in this respect.[21] Hankey (1873, p. viii) reaffirmed the Bank's market character not without some vehemence: "as it was most clearly laid down by Sir Robert Peel in 1844 that it was the duty of the Bank of England to conduct its banking business on the same principles as those adopted by any other banking establishment in England". Hankey (1873, pp. v–vi) had not the slightest doubt that the principles behind the 1844 Act were "perfectly sound" and that "they have been proved to be of the greatest value as affecting the interests of all classes of the community". The literature on the lender of last resort commonly sets Bagehot against Hankey. This should not be taken too far, however, for two reasons. First, both meant to keep the Peel system intact and the difference between them was merely Bagehot's wish (1873, p. 332) to supply a few "palliatives". Second and above all, by formulating the famous arrangement for lending at a "very high rate" during banking panics, Bagehot's *Lombard Street* was merely describing and legitimating the Bank's practice under the Peel system since the 1847 crisis.

This remark leads us to mention another paradox related to the Peel system: whereas a rise in the Bank rate to 6 per cent had been considered a failure during the 1839 crisis, a rise to 8 and then 10 per cent during the crises that followed the 1844 Act were then held to be normal or even desirable under the new discount policy, a mere "rule of the game" of the gold specie standard regime, an inescapable paradigm of which Bagehot sang the praises. And this paradox means the following distinction can be emphasised: the rise in the rate to 6 per cent in 1839 was related to a very specific set of circumstances, namely the occurrence of two crises that were very close together in time, whereas the series of eleven rises to 6 per cent from 1844 until the early 1870s reflected a change in structure concerning the discount rate policy.

The last but not the least of the paradoxes is that what was subsequently held to be an inescapable instrument of the rule of the game of the metallic regime, namely active manipulation of the Bank's discount rate, was actually the consequence of the Bank's commercial policy and the financial demands of its shareholders and not the outcome of a practice tried and tested by the former directors and the enforcement of principles derived from political economy. Here again, and although the monetary regime of his time was quite different from that of the classical period, we come back to King's analysis (1936, pp. 111–2): "The Bank weapon of to-day—the central bank weapon *par excellence*—was in fact chiefly forged in these years after 1844, when the Bank's aim was not a paternal control, but active competition. That is an interesting paradox."

[21] Thomson Hankey was director of the Bank between 1851 and 1853 and a member of the 1857 Parliamentary Committee of the House of Commons. During the 1857 parliamentary inquiry, the atmosphere, polite though it could be, became tense when Hankey and John Stuart Mill (PP 1857, qs. 2228 ff.) engaged in a direct discussion about whether the Bank should behave like any other bank and bring its rate into line with the market rate.

Having highlighted these paradoxes, we return now to the architecture of the central bank organised around the three functions we have reviewed—namely, centralisation of reserves, stabilisation of the interest rate and lender of last resort. The financial rationale behind the 1844 Act undermined this architecture by inducing a process of dis-integration of the central bank. As regards the first function, the rule of one-hundred per cent reserve made it pointless to centralise metallic reserves. Indeed, for its followers, it could be applied equally well by several commercial banks holding reserves in their own strong-rooms as by a single issuing bank centralising metallic reserves. For that matter, Peel (1844b, p. 47) argued for decentralising reserves and was even against the Legal Tender Clause for the Bank of England banknote—the clause that authorised commercial banks to reimburse their own issues in the Bank notes—"considering it to be at variance with the principle of immediate convertibility [in coin]". Bagehot (1873, p. 66) also advocated decentralising reserves asserting that "the system of entrusting all our reserve to a single board, like that of the Bank directors, is very anomalous; that it is very dangerous*"*. Ideally, Bagehot (1873, p. 104) would have preferred a "natural system" based on numerous reserves held by each individual bank.[22]

As to the second of the central bank's functions, the interest rate stabilisation policy came apart from September 1844. Further to the abandoning of the fixed rate convention, the Bank of England tracked the market rate, which engaged a circular process between the Bank and the money market and so engendered interest rate instability. The Bank directors repeated that in normal times it was ruinous not to lower the Bank rate to the market rate and that in times of crisis they could not do otherwise than set the Bank rate at a high level. As is well known, Bagehot (1873, p. 56–7) argued that setting the Bank rate at a "very high" level was the "best remedy" against both internal and external drains on reserves.[23]

For the third function, lending in last resort in the form of Bank note issues was in principle impossible to implement because of the rule of one-hundred per cent reserve. Peel (1844b, p. 75) saw no inconvenience to diminish the possibility of the Bank of England to support credit in large extent during periods of financial difficulty: "All who are possessed of unemployed capital, whether bankers or not, and who can gain an adequate return by the advance of capital, are enabled to afford, and do afford, that aid which it is supposed by some that banks alone are enabled to afford." Peel did not acknowledge the Bank's specificity as lender of last resort any more than he saw that "unemployed capital" was, not the solution, as he claimed, but the symptom of the financial crisis. Dismissal of the principle of

[22] Bagehot (PP 1875, q. 8099) repeated that "if we were starting *de novo*, I should like to see a large number of banks each holding its own reserve". It should be noted in passing that Peel and Bagehot's arguments ignored the fact that multilateral clearing, which is basically based on centralisation of reserves, allowed savings in the use of these reserves. On this point, see also Laidler (1991, pp. 184–7).

[23] There is no space here to present a systematic analysis of Bagehot's rule of a very high interest rate. Moreover, Bagehot's doctrine was expressed in the late 1860s and early 1870s, well after the passage of the 1844 Act. The present paper discusses the reasons for the introduction of the Peel system and its consequences, not how the Peel system was legitimised by Bagehot. On Bagehot's doctrine, see among several references, Humphrey and Keleher (1984), de Boyer des Roches and Solis Rosales (2003), Laidler (2003), Martin (2009), Castiglionesi and Wagner (2012), and Le Maux (2020b).

lending in last resort was expressed both by members of the currency school and by directors of the Bank (Norman, PP Lords 1848, q. 2746; Morris, PP Commons 1848, qs. 3224–3225; Cotton, PP Commons 1848, qs. 4410–4415). Subsequently it fell to Bagehot (1873, p. 332) to provide "palliatives" to the Peel system and to reconcile it with the practice of lending in last resort.

In the meantime, the battering-ram blows governed by financial logic of the Peel system did not completely bring down the collective logic emanating from the central bank. The process of dis-integration that we have examined analytically should be nuanced empirically. Two of the central bank's functions remained more or less in place despite the statements and speeches of the political and monetary authorities. First the centralisation of reserves: further to the 1844 Act, transfers of coins from the vaults of the Bank of England to those of provincial banks were comparatively limited; moreover, commercial banks holding deposits with the Bank maintained the centralisation of metallic reserves. Next lending in last resort: the Bank was authorised to issue notes beyond the statutory constraints during three banking crises; moreover it intervened above all via the issuing of deposits held by banking and financial institutions with the discount department. The report of the 1858 parliamentary enquiry (PP 1858, p. viii) recognised that the Bank of England was "the bank of last resort at a time of panic". However, arrangements for lending in last resort were different from those that had prevailed before 1844 in two ways. First in terms of the issuing of interbank liquidity: previously the Bank had been able to issue notes or deposits at its discretion; from now on, the discount department could only do so for issuing deposits and, should it wish to meet demand for notes, it was compelled to draw on its reserves and increase its vulnerability to liquidity risk. Second, in terms of interest rates: previously the Bank lent at a "moderate" interest rate, as Tooke (PP Commons 1848, q. 5310) saw and recommended; henceforth, the discount department granted advances "at a very high rate of interest", as Bagehot (1873, p. 197) described it and sought to justify.

Ultimately, under the Peel system, the Bank of England maintained a very ambivalent attitude towards finance. While, on the one hand, its new policy was a response to a financial logic, on the other hand, its institutional position led it to extricate itself temporarily from the money market to lend it assistance. This tension was reflected by instability in the Bank rate and very high rises in crisis times. The absence of integration of all of the functions of the central bank made the Bank's interventions more uncomfortable both in terms of liquidity management and in terms of setting its discount rate. Thomas Tooke had worried as early as 1840 about the plan to separate the Bank of England into two departments and argued in favour of maintaining the integrity of the central bank—the system of union of issuing and banking. Should the Bank be split into two departments, he anticipated "the transition from a low to a high rate of interest might be more abrupt, and to a higher rate, and consequently a revulsion of credit, if there had been previous overtrading, would be more sudden, and more severely felt" (Tooke, 1840, pp. 180, 253).

CONCLUDING REMARKS

At the request of Robert Peel, William Cotton, director of the Bank of England between 1842 and 1845, submitted a report in January 1844 entitled *A sketch of the division of the Bank*. In February, W. Cotton and J. Heath sent Peel a longer *memorandum* which formed, for Clapham (1944, vol. 2, pp. 178–9), the "skeleton" of the text Peel presented in May to the British Parliament and that served for the drafting of the Bank Charter Act passed in June. Thomas Tooke, who was probably familiar with the *memorandum*, published his *Inquiry into the Currency Principle* in March 1844. He stated in it "[t]hat a total separation of the business of issue from that of banking is calculated to produce greater and more abrupt transitions in the rate of interest, and in the state of credit, than the present system of union of the departments" of the Bank of England (Tooke, 1844, p. 124). Not for nothing was this passage cited in the ensuing volumes of his *History of Prices* (Tooke, 1848, pp. 400–1; Tooke and Newmarch, 1857, pp. 598, 637), which relentlessly condemned the Peel Act *taken as a whole*.

This challenge to legislation that was commonly thought primordial in the history of central banking in Great Britain might seem iconoclastic or even suspicious at first glance. However, as this study shows, the analysis by Tooke, Mill and Fullarton in no way contested the legitimacy of the central bank; on the contrary that legitimacy underpinned the principle of institutional *integrity* of the central bank and its sovereignty with respect to the banking and financial system. To merely assert that "central bank is the State" does not provide an adequate theoretical framework for interpreting the monetary phenomenon in general and the British monetary experience in particular. Because, a Parliament that founds a monetary institution, the Bank of England, to finance military spending related to the Glorious Revolution could, a century and a half later, destabilise the collective dimension which that same institution had in the meantime impressed on the banking and financial system. The State thus became the transmission belt for financial demands which, through a process of capture, challenged a line of development of the central bank and a firmly anchored convention.

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ANNEX

Table 1: Balance sheet of the Bank of England (£), February 29, 1832

Bank of England			
Assets		Liabilities	
Metallic reserve	5,293,150	Capital	14,553,000
Government debts	14,686,800	*Rest*	2,637,760
Public securities	4,134,940	Notes	18,051,710
Private securities	10,897,880	Public deposits	3,198,730
Other securities	9,166,860	Private deposits	5,738,430

Source: Parliamentary Papers (PP 1832, appendix n°13)

Table 2: Balance sheet of the issue department and the discount department of the Bank of England (£), September 7, 1844

Issue department			
Assets		Liabilities	
Government debts	11 015 100	Notes	28,351,295
Securities	2 984 900		
Gold and silver reserve (**Metallic reserve**)	14 351 295		
Discount department			
Assets		Liabilities	
Public securities	14,554,834	Capital	14,553,000
Other securities	7,835,616	Rest	3,564,729
Gold and silver specie	857,765	Public deposits	3,630,809
Notes in "reserve"	8,175,025	Other deposits	8,644,348
(**Banking reserve**)		Short run debts	1,030,354

Source: Parliamentary Papers (PP 1857, part 2, appendix n°12)

Table 3: Metallic reserve in the issue department and banking reserve in the discount department, peak and valley during years of financial crisis, £ millions

Year	*Metallic reserve in the issue department*		*Banking reserve in the discount department*	
	Max *(Date)*	Min *(Date)*	Max *(Date)*	Min *(Date)*
1847	14,26 *(2 January)*	7,86 *(23 October)*	8,92 *(2 January)*	1,61 *(30 October)*
1857	11,50 *(29 August)*	6,48 *(18 November)*	6,19 *(1st September)*	0,96 *(11 November)*
1866	14,46 *(21 March)*	11,86 *(23 May)*	7,92 *(21 March)*	0,41 *(30 May)*

Source: Parliamentary Papers (PP Commons 1848, part. 2, annex 8; PP 1857, part. 2, annex 12; PP 1873, annex 13).