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# **The 100% money proposal of the 1930s: An avatar of the Currency School's reform ideas?**

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## **Abstract:**

This paper argues that the 100% money proposal of the 1930s should not (as is often the case) simply be considered as an avatar, extended to deposit currency, of the Currency School's reform prescriptions. The English Bank Charter Act of 1844, indeed, conveyed a double rejection: it not only sought to divorce the issuing from the lending of money, but also to prevent all kind of monetary management, by enacting a specific issuing rule (the "currency principle") into law. The 100% money proposal, in contrast, was designed independently of any monetary policy recommendations, leaving open the debate of "rules versus discretion".

## **Key words:**

100% money, Chicago Plan, Currency School, Bank Charter Act of 1844, Irving Fisher

## **JEL codes:**

B12, B13, B19, B22, B26, E30, E31, E32, E42, E44, E50, E51, E52, E58, G20, G21, G28

## **Introduction**

The 2007-2008 global financial crisis has given rise to renewed concerns about the stability of monetary systems and financial institutions. In this context, discussions have re-emerged about the "100% money" reform idea that was proposed, in the 1930s, by a number of economists including the authors of the "Chicago Plan" of banking reform (a group of University of Chicago economists led by Henry Simons), Lauchlin Currie of Harvard, and

Irving Fisher of Yale<sup>1</sup>. Arguing that the dependence of the money supply upon bank lending activity was a cause of cumulative variations of deposit currency, themselves largely responsible for the severity of booms and depressions, these writers sought to divorce the creation and destruction of money from the expansion and contraction of loans. Under their proposed reform, the power of money creation would exclusively rest with an *ad hoc* monetary authority, issuing lawful money against the purchase of Government bonds, in accordance with a policy objective to be decided by Congress. Cheque banks (or cheque departments within commercial banks) would be charged with the keeping and transferring of chequing deposits, fully covered by reserves in lawful money. Lending institutions, such as loan banks or investment trusts, would serve as financial intermediaries, but without the possibility of creating means of payment.

Of course, this idea of separating the issuing of money from the lending of money was reminiscent of the English Bank Charter Act of 1844 (also known as Peel's Act), which, following the Currency School's recommendations, had divided the Bank of England into an Issue Department, responsible for the issuance of notes, and a Banking Department, dealing with the Bank's lending activities<sup>2</sup>. This resemblance has been duly stressed in the literature, first and foremost by the 100% money authors themselves. According to Fisher *et al.* (1939, p. 34), for instance: "The splitting of the two functions of lending and the creation of money supply would be much like that of 1844 in the Bank of England which separated the Issue Department from the Banking Department"<sup>3</sup>. Some of these authors explicitly traced the

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<sup>1</sup> The Chicago Plan was originally presented in several memoranda circulated in 1933 by a group of University of Chicago economists including Garfield V. Cox, Aaron Director, Paul H. Douglas, Frank H. Knight, Albert G. Hart, Lloyd W. Mints, Henry Schultz and Henry C. Simons—see especially their memoranda of March 1933 (Knight *et al.* [1933] 1995) and November 1933 (Simons *et al.* [1933] 1994). It was further advocated in individual works by Simons (e.g. 1934), Douglas and Mints. Currie's plan was presented in a book chapter (Currie ([1934] 1968, pp. 151-156) and several memoranda. Fisher's plan was detailed in his book *100% Money* ([1935] 1945) and other papers; see also the (very Fisherian-like) "Program for Monetary Reform" which he co-authored with other economists including Douglas (Fisher *et al.* 1939). Yet another proponent was James W. Angell (1935). Phillips (1995) provides a historical account of the 100% plan.

<sup>2</sup> The Currency School comprised a large group of authors, particularly including Robert Torrens, Samuel Jones Loyd (who in 1850 became Lord Overstone) and George Warde Norman (a director of the Bank of England). The Banking School, to which they were opposed, especially included Thomas Tooke, John Fullarton and John Stuart Mill. For general discussions of the controversy between the two schools, one can refer for example to Viner (1937), Wood (1939), Mints (1945), Fetter (1965), O'Brien (1994a, 1994b) or Arnon (2011). The present paper does not discuss this controversy.

<sup>3</sup> See also, for example, Fisher ([1935] 1945, pp. 19, 27, 29; 1936a, p. 412; 1937a, pp. 6-7; 1937b, p. 298) or Graham (1936, p. 431). As Allen noted, "Fisher was to allude many times to the English precedent, partly to emphasize that 'the 100 per cent proposal is the opposite of radical'" (Allen 1993, p. 706, quoting Fisher 1934b, p. 160).

origin of their reform idea to reflections about the English precedent—although, despite numerous references to the Act of 1844 itself, none of them actually referred to the Currency School writings<sup>4</sup>. This similarity has also been stressed in the secondary literature<sup>5</sup>. In this vein, Goodhart and Jensen (2015, p. 20) recently interpreted the post-2008 renewal of interest in the 100% scheme as the sign of an “ongoing confrontation” between the Currency and Banking schools. Beyond this resemblance, however, the Currency School proposals of the 19<sup>th</sup> century (embodied in the English Act of 1844) and the 100% money proposals of the 1930s (which, to this day, have never been experimented yet) present significant differences. Because no detailed comparative analysis of these two sets of proposals can be found in the literature, the present study aims to fill this gap<sup>6</sup>.

This paper is organised as follows. Section 1 stresses the major point of agreement between the Currency School writers and 100% money authors, on the need to divorce the issuing of money from the lending of money. Section 2 covers an initial important difference between them, in relation to monetary policy: while the “currency principle” was an essential part of the Currency School proposals, the 100% scheme was devised independently of any specific policy prescription. Section 3 highlights a second major difference, relating to the scope of their respective reform plans: the Currency School’s proposals only applied to the issuing of bank notes, while the 100% money proposals considered the circulating medium as a whole. Section 4 deals with the question of central banking and its place in a system of separate monetary and banking functions, discussing how this issue was addressed by the two groups of authors.

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<sup>4</sup> Simons commented, in a letter to Fisher: “Your remark about the Bank of England reminds me that I got started toward this scheme of ours about ten years ago, by trying to figure out the possibilities of applying the principle of the English Act of 1844 to the deposits as well as to the notes of private banks. This Act would have been an almost perfect solution to the banking problem, if bank issue could have been confined to notes” (Simons to Fisher, 19 January 1934, Fisher Papers, Yale University Library). Currie ([1931] 2004, pp. 235-238) had briefly discussed the Currency School-Banking School controversy in his PhD thesis, but he did not refer to it in his advocacy of the 100% plan.

<sup>5</sup> See, for example, Hayek (1937, pp. 81-83), Hansen (1938, p. 112), Rist ([1938] 1951, p. 217), Watkins (1938, p. 16), Wood (1939, p. 115), Schumpeter (1954, p. 694), Allen (1993, pp. 704-706), Phillips (1995, p. 3) or De Boyer (2003, p. 128).

<sup>6</sup> A book chapter by Sylvie Diatkine (2002, pp. 133-153), however, discusses their similarity.

## 1. Divorcing the issuing of money from the lending of money: a point of agreement between the Currency School and the 100% money authors

The Currency School generally ascribed monetary instability to two causes: the first related to the intermingling of the money-issuing and money-lending functions (which is the focus of this section), the other to the level of discretion granted to the monetary authority in the absence of an automatic rule of action (which we will deal with in Section 2)<sup>7</sup>. As far as the first of these questions is concerned, a definite similarity with the views of the 100% money authors must be stressed. Both groups held a *monetary* interpretation of business fluctuations, in which the circulation of money played a key role in exacerbating (however not as causing) booms and depressions of trade, and both regarded the linking of the money-issuing and money-lending functions as the key explanatory factor in this connection<sup>8</sup>. The extent of this similarity is limited, of course, by the fact that they disagreed about the scope of the “money” aggregate: while the 100% money authors would include under this term all that constituted the circulating medium, the Currency School writers restricted it to include only coins and notes (as we will see in Section 3)<sup>9</sup>. This major difference notwithstanding, each group argued that the issuance of what they respectively called “money” should be divorced from bank-lending activities.

For the Currency School, this referred to the issuing of bank notes, which they regarded as problematic not only when exercised by the country banks (and Scottish banks), but also by

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<sup>7</sup> Loyd (1840a, p. 85) actually distinguished three causes, the first two of which referred to the dependence of note circulation on the bank-lending activity (source of a perverse causality running from prices to money), and the third to the absence of a strict policy rule: “The improper fluctuations in the amount of the paper currency of England arise from three circumstances. First, That currency is issued under the influence of competition, which necessarily tends to produce excess. Second, It is issued in the form of advances for commercial purposes. A rise of prices is therefore accompanied by an increase of issues, and a fall of prices by a diminution of issues; and thus greater fluctuations take place than would occur with a metallic currency. Third, The issuers generally are not placed under a direct obligation to provide themselves with the gold requisite to meet the demands upon them, and therefore have no sufficient inducement to look to the state of the exchanges in regulating the amount of their issues.”

<sup>8</sup> Neither the Currency School nor the 100% money authors claimed that their respective proposals would do away with trade (or business) cycles altogether; they only claimed that such cycles would no longer be aggravated by the over-expansions or contractions of bank-created money. Loyd ([1840a] 1857, p. 167) put much emphasis on this point: “Fluctuations in the amount of the currency are seldom, if ever, the original and exciting cause of fluctuations in prices and in the state of trade. . . . The management of the currency is a subordinate agent; it seldom originates, but it may, and often does, exert a considerable influence in restraining or augmenting the violence of commercial oscillations”. See also Norman (1838, pp. 39-40). Fisher ([1935] 1945, p. 134) also conceded that his proposed plan would only make booms and depressions “vastly less severe”.

<sup>9</sup> Some 100% money writers—Simons and Mints in particular—even extended the “money” concept to include liquid assets not usable as means of payment, such as non-transferable savings deposits.

the Bank of England itself, insofar as it was conducting a profit-oriented banking business. They drew a sharp distinction between the *monetary* and *banking* functions exercised by these institutions. The *issuing* of money, on the one hand, was viewed as a non-profit oriented function to be performed by a dedicated body—that of providing the economic community with the means of payment needed to perform its transactions:

A Bank of Issue is entrusted with the *creation* of the circulating medium. . . . [Its] sole duty . . . is to take efficient means for issuing its paper money upon good security, and regulating the amount of it by one fixed rule. (Loyd 1837, p. 43, italics in original)

The *lending* of money, on the other hand, was viewed as a profit-oriented activity to be performed by private banking businesses—that of serving as intermediary between savers-lenders and enterprisers-borrowers:

A Bank of Deposit and Discount is concerned only with the *use, distribution, or application* of that circulating medium. . . . [Its] principal object and business . . . is to obtain the command of as large a proportion as possible of the existing circulating medium, and to distribute it in such manner as shall combine security for repayment with the highest rate of profit. (Loyd 1837, p. 43, italics in original)

Echoing a famous statement made by David Ricardo in his *Plan for the Establishment of a National Bank*<sup>10</sup>, Loyd (1837, p. 43) argued that these two functions were “perfectly separate and distinct” and that there was “no connexion between them which render[ed] it necessary that they should be administered by the same parties”. Whereas Ricardo sought to make the state the sole beneficiary of the seigniorage profit stemming from paper money issuance, Loyd (1837, p. 44) insisted that the issuing and the lending of notes were “conflicting duties” leading to monetary instability. A banker himself, he held that the banks *could not help*, even if they wanted to, issuing notes when prices and profits were rising, and destroying notes when they were falling—thereby feeding the trade cycle. After summarising the cyclical stages of the state of trade—“quiescence, — next improvement, — growing confidence, — prosperity, — excitement, — overtrading, — convulsion, — pressure, — stagnation, — distress, — ending again in quiescence” (Loyd 1837, p. 44)—, he thus explained:

Now during the progress of trade through this circular course, what is the necessary situation and the inevitable conduct of the Banker? . . . When confidence is increasing, . . . when prices are rising, profits increasing, and every merchant or tradesman . . . is desirous of extending his operations,—the Banker is looked to by his customers to act in concert with them . . . It would be difficult to show that it is not his duty, properly understood, to obey this call, and to assist the expanding energies of

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<sup>10</sup> “The Bank of England performs two operations of banking, which are quite distinct, and have no necessary connection with each other: it issues a paper currency as a substitute for a metallic one; and it advances money in the way of loan, to merchants and others” (Ricardo [1824] 1951, Vol. 4, p. 276).

trade; at all events it would be practically impossible for him to act otherwise . . . A Banker cannot contract his accommodation at a period when the whole trading and mercantile world are acting under one common impetus of expansion. If under these circumstances the Banker, in addition to what may be properly called his ordinary and legitimate resources, is also entrusted with the power of issuing paper-money *ad libitum*; is it not inevitable that he should abuse that power? (Loyd 1837, pp. 44-46)<sup>11</sup>

He concluded:

The effect, of course, of such an application by the Banker of his power to issue will be to give a further stimulus to the existing tendencies of the trading world, and ultimately to aggravate the convulsion to which they must lead. Such we conceive to be the inevitable consequence of combining the issue of paper money with ordinary banking functions; and probably much of the intensity which characterises the commercial convulsions of this country may be justly attributed to this cause. (Loyd 1837, pp. 46-47)

Norman (1841, pp. 19-31, 71-72) argued, along the same lines, that such perverse expansions or contractions of the circulating medium were bound to continue as long as the issuing of money (supposed to follow “currency principles”) was linked to the lending of money (supposed to follow “banking” principles)<sup>12</sup>.

Loyd and Norman’s analysis rested on the observation that, from the moment that money was issued through loans, the causality running from money to prices would be coupled with a reverse causality running from prices to bank-created money, conferring upon the latter a perverse pro-cyclical behaviour<sup>13</sup>. One reason for separating money-issuing from banking was thus to prevent this feedback loop from occurring. As Loyd ([1840b] 1857, p. 222, italics added) put it: “Now this is the vital objection to our country issues, that they expand and

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<sup>11</sup> To compare with Fisher ([1935] 1945, p. 78, italics in original): “And the banks cannot help it. The public is quite wrong when, in the depression, they blame the individual bankers. It is the banking system—the 10% system—which is at fault. *Under this system, the bankers cannot help destroying money when it should be created, namely in a depression; while in a boom they create money when it should be destroyed.*”

<sup>12</sup> Of course, the Currency School writers had one very specific currency principle in mind, which would become known as “*the* currency principle”, as we will see in Section 2.

<sup>13</sup> See also Clay (1844, pp. 34, 40, 55). Torrens, however, does not seem to have shared this aspect of Loyd and Norman’s analysis. He only ascribed monetary instability to the mismanagement of their issues by the directors of the Bank of England (as Schwartz [1987] 2008, p. 7, also noted). As he put it: “When they cease to inflict disease, they will no longer be required to administer remedies” (Torrens 1837, p. 44; see also 1840, p. 31). Loyd and Norman also blamed the Bank directors (as we will see in Section 2), but this was not their sole argument for splitting the Bank into two departments.

contract *with prices*, contrary to what ought to be the result upon sound principles, and would be the result with a metallic circulation”<sup>14</sup>.

The reciprocal causality (and cumulative interplay) between bank-created money and prices had already been noted by Henry Thornton as early as 1802 (see Thornton [1802] 1939, pp. 198, 237-238, 256, 336-337, 342). It would then be more fully described by late 19<sup>th</sup> and early 20<sup>th</sup> century neoclassical economists such as Marshall, Wicksell and Fisher (see Laidler 1991). The latter, contrary to the Currency School, included chequable bank deposits in their analyses. But, despite the fact that their respective cycle theories all rested on the creation of money through loans, these authors usually did *not* (or did not yet, in Fisher’s case) call for a separation between the money-issuing and money-lending functions. A notable exception among neoclassical economists, however, was Léon Walras, who insisted that no money should be created out of loans, whether in the form of bank notes ([1879] 1898b, pp. 373-374; [1885] 1898b, pp. 46-48) or chequable deposits ([1898a] 1898b, pp. 378-380)<sup>15</sup>. Then, among Austrian economists, Ludwig von Mises, building upon Wicksell’s distinction between the natural and money rates of interest, proposed to extend the provisions of the English Act of 1844 to deposits subject to cheque, particularly so as to prevent any gap between these two rates from appearing (see Mises [1912] 1953, pp. 407-408; [1928] 1978, p. 150). But, apart from these and a few other precursors of the 100% money scheme, the idea of such a separation of functions would only re-emerge in the context of the U.S. Great Depression of the 1930s<sup>16</sup>. It was precisely to put an end to the cumulative interplay at work between the volume of loans, the volume and velocity of money, and the levels of prices and profits, that such authors as Simons, Currie and Fisher came to propose divorcing the creation of money from the extension of loans<sup>17</sup>.

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<sup>14</sup> The only causal relationship from prices to money which the Currency School accepted as natural was that of the price-specie flow mechanism, by which an *increase* in prices led, through an outflow of bullion, to a *decrease* in the money supply, and conversely in the opposite case. This they regarded as an equilibrating, not a perverse, mechanism.

<sup>15</sup> Walras argued that “ownership titles to the circulating capital should not serve as money” ([1885] 1898b, p. 47, my translation [“il ne faut pas que les titres de propriété du capital circulant servent de monnaie”]), and condemned the issuing of means of payment out of bank loans, on the ground that it would disturb the ratio between consumer goods and new capital goods, increase the general level of prices, and ultimately bring about monetary and financial crises.

<sup>16</sup> Among the other forerunners of the 100% money idea, one may in particular mention Charles H. Carroll (1964) in the United States, writing between 1855 and 1879, and Frederick Soddy ([1926] 1933) in England, who directly anticipated the U.S. proposals of the 1930s.

<sup>17</sup> See in particular Simons *et al.* ([1933] 1994, pp. 31, 46-47), Currie ([1934] 1968, pp. 40-42, 131), and Fisher ([1935] 1945, pp. 78, 181). Their respective analyses of monetary instability, with relevant quotations, are discussed in Demeulemeester (2018, pp. 365-370).



The 100% money authors thus agreed with the Currency School that, more than *banking practices*, it was above all the *monetary system* (intertwined as it was with the banking system) which was at fault. Both groups therefore called for a separation of the two conflicting functions of issuing and lending money. Their *institutional* reform proposals—to be distinguished from their *policy* reform proposals, which will be covered in Section 2—showed some considerable resemblance.

Insofar as the *issuing function* was concerned, the Currency School proposed, firstly, gradually replacing the note circulation of country banks by Bank of England notes, so as to eventually confer an issuing monopoly to the latter establishment<sup>18</sup>. They further proposed dividing the Bank of England itself into two departments, one of which—the Issue Department—would be exclusively tasked with issuing notes<sup>19</sup>. Both suggestions would be implemented by the Bank Charter Act of 1844. Under the 100% money proposals, the privilege of issuing means of payment (under whatever form) would lie exclusively with a dedicated state-owned monetary authority (the “Currency Commission” in Fisher’s plan), independent both from the banks and from the Government<sup>20</sup>.

The *lending function* would, under all proposals, be left to profit-guided businesses. Under the Currency School proposals (and, again, as actually implemented under Peel’s Act), a Banking Department, within the Bank of England, would compete with other private banks in providing money-lending services, but without the possibility of issuing *notes* (it could still, however, like other banks, create transferable deposits—as we will see in Section 3). Under the 100% money proposals, financial institutions (whether in the form of loan banks or investment trusts) would collect savings and make loans and investments, but without the possibility of issuing any kinds of means of payment whatsoever.

To some extent, the Currency School and 100% money authors thus used a similar argument for divorcing money from loans. In the case of the Currency School, however, the

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<sup>18</sup> Torrens (1837, pp. 44-55), however, at first considered that country bank notes would usually be kept in a fixed ratio to Bank of England notes, making it unnecessary to restrict their issue. On this point he was explicitly refuted by Loyd (1840a, pp. 63-69), whose position he would subsequently adopt (see Torrens 1844, pp. 38-43).

<sup>19</sup> The Issue Department, under the Act of 1844, remained part of the privately-owned Bank of England. However, as Fetter (1965) notes, Torrens favoured “a State Bank as the sole note issuer” (p. 157), while Loyd “had no objection to separating the Issue Department from the Bank and making it a State agency. This he felt would make no substantive change as the Issue Department ‘is nothing more than a department of the State, worked mechanically and clerically by the clerks of the Bank of England; but it is essentially a department of the State’” (p. 254, quoting Loyd [1857] 1858, p. 13).

<sup>20</sup> The only exception here was Currie ([1934] 1968, pp. 151-156), who would have entrusted this function to a Government-dependent agency.

separation of functions rested on further grounds: it was also—and perhaps mainly—a precondition for implementing their prescribed policy rule, the “currency principle”.

## **2. The “currency principle” as an automatic policy rule: a specificity of the Currency School**

The second major cause of monetary instability, for the Currency School, related to the conduct of monetary policy. In their view, no adequate regulation of the money supply could possibly be achieved, as long as the Bank of England was left with any kind of discretionary power in the exercise of its issuing function. To this end, they had a very specific policy rule in mind, as we will now see.

At the time of the Currency School writings, gold (or silver as a possible alternative) was still largely believed to offer the best practical standard for regulating the value of money. Since the crisis of 1825, however—which had followed shortly after the resumption of cash payments by the Bank of England in 1821—, it had become increasingly clear that the simple convertibility of bank money into gold was not a sufficient condition of monetary stability. For this reason, many had become convinced of the need to submit the issue of bank money to a definite principle of action. This led to the formulating of the “currency principle”, according to which the total volume of a mixed monetary circulation, comprising both metallic currency and bank money, should behave exactly as a purely metallic circulation under similar circumstances would, expanding or contracting to the same extent as the monetary metal would flow into or out of the country<sup>21</sup>.

A first attempt at implementing this principle was made with the “Palmer rule”, adopted by the Bank of England in 1827, and first explained by its governor, John Horsley Palmer, in 1832 (see Viner 1937, p. 224; Fetter 1965, p. 132). This rule, according to Fetter (1965, pp. 132-133), “was that the Bank, when the circulation was ‘full’—that is, when the exchanges were just on the point of becoming unfavorable—should have a specie reserve equal to about one third of notes and deposits”, and “starting from this situation all fluctuations in the Bank’s notes and deposits should, ‘excepting under special conditions’, be equal to the changes in the

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<sup>21</sup> The “currency principle” can be found in the writings of Thomas Joplin (1823, p. 264), Henry Drummond (1826, p. 47) and James Pennington (see his 1827 memorandum to Huskisson, reprinted in Pennington 1840, pp. 85-88). Pennington, who is usually considered the first to have stated this principle in a clear and organised manner (see Fetter 1965, p. 130, and O’Brien 1994a, p. xxi), would have applied it to all bank liabilities, comprising both notes and deposits (see Viner 1937, p. 226). As we will see, this was similar to the Palmer rule, which, according to Viner (1937, p. 224), was adopted “[a]t the same time, although apparently wholly independently”.

Bank's holding of specie". In other words, this amounted to subjecting both the notes *and* deposits of the Bank of England to a marginal 100% reserve requirement. If applied to *all* deposits of the Bank, however, the Palmer rule would have placed a drastic restriction not only upon its money-issuing, but also upon its money-lending activity. Probably for this reason, the rule was never really followed in practice. And, also for this reason—as we will see in Section 3—the Currency School authors rejected it.

They thus proposed applying the “currency principle” solely to *paper* money. Loyd (1844, pp. 20-21) insisted that following this rule was a condition of monetary stability:

Without this rule, all must be left to the irregularity and uncertainty of individual discretion. The manager of the circulation must undertake to foresee and to anticipate events, instead of merely making his measures conform to a self-acting test.

In the exercise of such a discretion, the manager of the circulation . . . will, in nine cases out of ten, fall into error; whilst the interests of the whole community, and the fate of all mercantile calculations, will be dependent upon the sound or unsound discretion of some individual or body; instead of depending upon their own prudence and judgment, exercised under the operation of a fixed and invariable law, the nature and provisions of which are equally known to every body.

The desire to suppress all discretion in regard to note-issues was thus a *further* reason why the Currency School wanted to divide the Bank of England into two departments. While the first reason—putting an end to the pro-cyclical behaviour of bank money (see Section 1)—called for a division of functions as an end in itself, the separation, this time, was viewed as an institutional prerequisite to a specific policy objective: putting the “currency principle” effectively into practice. The Currency School tended to treat these two issues as joint matters, as did the Bank Charter Act of 1844: on the one hand, the Bank of England was divided in two departments (Title 1 of the Act), and, on the other, the Issue Department was subjected to a strict policy rule, aiming to apply the “currency principle” to bank notes (Title 2). It was stipulated that, beyond a fixed fiduciary issue of notes of £14 million, made against the purchase of Government debt, all additional note issues should be made only against the receipt or purchase of gold coin or bullion (or silver bullion)—which effectively amounted to a 100% marginal reserve requirement for notes<sup>22</sup>.

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<sup>22</sup> This 100% marginal reserve requirement applying to the note issues of the Issue Department, however, should not be likened to the 100% reserve requirement applying, under the 100% money proposal, to the cheque departments of commercial banks. In the latter case, the 100% reserve requirement aims at making *the cheque departments of the banks* (which, as appears in Appendix 1, had no equivalent under the 1844 reform) mere “warehouses” for depositors’ money, but the monetary authority itself would be subjected to no kind of reserve requirement at all. In the former case, in contrast, the marginal reserve requirement aimed to constrain *the monetary authority itself* (the Issue Department) in its issuing activity. Confusion between these two kinds of reserve requirements seems

In contrast, the 100% money authors would treat the questions related to the monetary *system* and to monetary *policy* as separate rather than joint matters. As Fisher ([1935] 1945, p. 96) stated, “the 100% system is, theoretically, entirely independent of any particular monetary policy”. The Chicagoans also clearly separated the two matters<sup>23</sup>. The adoption of a monetary policy criterion, under all 100% plans, was to be decided by Congress independently from the proposed institutional reform. This, in itself, was a major difference with the English Act of 1844, which had jointly enacted both an institutional reform and a specific policy rule.

For sure, this did not prevent the 100% money authors from expressing their own preferences regarding monetary policy objectives. In this respect, it is of course largely irrelevant to compare their views with those of the Currency School writers, considering how much the state of monetary economics had evolved between the two periods. Advances had been made, for example, in credit cycle analysis, in “the refinement of the quantity theory” (Laidler 1991, p. 2) and in the practice of measuring the purchasing power of money through index numbers of prices (see Laidler 1991, pp. 172-178). These, combined with historical events which had allowed new experiences of inconvertible currencies to take place, had led to the “eventual destruction” of the gold standard and the increased acceptance of “the notion of a managed money . . . capable of producing a better economic environment than one tied to gold” (Laidler 1991, p. 20). By the 1930s, more and more economists—and this was clearly the case of the 100% money authors—held that priority should be given to the internal stabilisation of money in terms of domestic purchasing power, over the “minor problem” (Fisher 1934a, p. 396) of its external stabilisation in terms of foreign exchange. This was of course at odds with any gold-based rule such as the “currency principle”<sup>24</sup>.

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to explain why the 100% money system is sometimes mistakenly likened to a “currency board” (see, for example, Diatkine 2002, p. 151). Fisher himself undeniably caused confusion by over-emphasising the resemblance between the Act of 1844 and his own reform plan.

<sup>23</sup> The Chicago memorandum of November 1933 thus stated: “While we have rather strong convictions as to the relative merits of different rules for long-run monetary policy, it is the purpose of this memorandum to propose a solution of the banking problem; and it seems best to present one thing at a time. Our banking proposals we believe to be sound, with reference to any sensible scheme of monetary policy” (Simons *et al.* [1933] 1994, p. 35). See also Simons (1936, p. 5n3), who insisted that these two aspects were “clearly separable, each calling for appraisal on its merits”.

<sup>24</sup> As Robbins (1958, p. 252n1, italics in original) commented: “It is perhaps tempting to see in the Currency School the forerunners of the talented advocates in our own day of 100 per cent. money. But the likeness does not go very far. . . . The Currency School were concerned to preserve convertibility by maintaining *external* equilibrium. The advocates of 100 per cent money are hardly concerned with external equilibrium at all. Their main object is to prevent the annihilation or creation of internal purchasing power by internal banking operations. In so far as they have interested themselves in considerations of external balance they have tended to recommend equilibration by means of a floating rate—which . . . is a very long way from the position of the Currency School.” Robbins, however,

Beyond this consensus, however, the 100% authors differed as to which specific criterion, or criteria, they personally favoured. The Chicago economists generally shared the Currency School's preference for an automatic rule, leaving no place for discretion whatsoever. The early versions of the Chicago Plan argued that the criterion of price-level stabilisation should be retained "as a short-run expedient" (Knight *et al.*, [1995] 1933, pp. 197-198), but favoured a more automatic rule—such as fixing the money supply—for the long run (Simons *et al.*, [1933] 1994, p. 37)<sup>25</sup>. However, there was no consensus among the Chicagoans on this point<sup>26</sup>. Fisher, in line with his previous monetary writings, favoured stabilising a price-level index, although he considered other possible criteria as well (Fisher [1935] 1945, pp. 26-27, 96-99; see also Fisher *et al.* 1939, pp. 10-16)<sup>27</sup>. Simons (1936, p. 21) himself would later come to recommend price-level stabilisation as the best feasible (although not ideal) monetary policy objective. As for Currie ([1934] 1968, p. 154), he did not specify what kind of policy he would have favoured, but price-level stabilisation was clearly a consideration. In any case, as stated above, the 100% money proposal was designed independently of any monetary policy recommendations, and left open the debate of whether rules or discretion should be preferred. It is noteworthy that even the Chicago Plan authors, most of whom favoured an automatic rule to prevent the shortcomings of discretionary management, did *not* use this argument (explicitly, at least) in support of their 100% reserve proposal<sup>28</sup>. This important difference with the Act of 1844—one explicit argument of which, as we saw, was to do away

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might have somewhat underestimated the similarity between the two groups of authors, as at no point did he discuss Loyd and Norman's analysis of the pro-cyclical behaviour of bank-created money, which we discussed in Section 1. This might be explained by the fact that his own study focused on Torrens, who, as we already noted, held no such argumentation.

<sup>25</sup> Angell (1935, p. 26) also argued that the quantity of money should be held "substantially constant". Hansen (1938, p. 115) would severely criticise Simons' and Angell's proposals on the ground that they would "place the community in a monetary strait jacket".

<sup>26</sup> Douglas (e.g. 1935, p. 208), for example, favoured the criterion of a stable general price level. His disagreements with the rest of the Chicago group are discussed by Tavlas (2019).

<sup>27</sup> Fisher ([1935] 1945, pp. 24, 100-101, 177-181, 186, 214), in sharp contrast to Simons, repeatedly insisted on the need for active monetary management and elasticity. Referring to the automatic policy rule "proposed by these economists at Chicago", he commented: "Personally, I would prefer to have some discretion enter in order to get a higher degree of stabilization. This is like running your automobile with a robot instead of with a chauffeur. I would rather have a chauffeur and give him a little discretion, although he would be told where he is to go" (Fisher 1935a, p. 542). On the differences between Fisher and the Chicagoans on this matter, see also Tavlas (2020).

<sup>28</sup> This is what Milton Friedman, however, would later do in his 1948 proposal of a "Fiscal and Monetary Framework for Economic Stability", insisting that the adoption of 100% reserves was "essential" to make this framework "entirely automatic" (Friedman 1948, pp. 247-248n3). In other writings he advocated 100% reserves so as to prevent governmental intervention in lending and investing activities, and to put an end to the "inherent instability" of fractional-reserve banking (see Friedman 1951, pp. 211-213; [1960] 1992, pp. 65-76).

with any kind of monetary management—was expressly noted by Hart (1935, p. 104n3), one of the co-signers of the March 1933 Chicago memorandum. Fisher (1937b, p. 298), however, clearly forced the resemblance between his own proposal and the English reform, when arguing that “[t]he 100 per cent. plan would do for deposits, or cheque-book money, exactly what the Bank Act of 1844 did for Bank of England notes, pocket-book money”. He overlooked the fact that the Act of 1844 was not only about institutional reform, but further contained, with the “currency principle”, a specific note-issuing rule.

Let us now turn to yet another point of divergence between the Currency School and 100% money writers, relating to the scope of their respective separation plans.

### **3. Applying the separation of functions to the circulating medium as a whole: a specificity of the 100% money proposal**

The Currency School only sought to insulate *part* of the circulating medium—bank notes—from the money-lending business. They were of course perfectly aware that bank deposits, as well as other credit instruments such as cheques or bills of exchange, insofar as they were endorsable, could also serve as means of payment for the settlement of transactions. But, for different reasons, they refused to treat them in the same way as notes.

Loyd and Norman, on the one hand, forcefully denied such instruments the qualification of money. In a somewhat contradictory manner, they argued at the same time that deposits were an “auxiliary currency” (Loyd [1840b] 1857, p. 201) performing “monetary functions” (Norman 1841, pp. 51, 67), but that they should only be regarded as “banking expedients for economizing currency” (Norman 1841, p. 47; see also Loyd 1840b, p. 281). According to Loyd ([1840b] 1857, p. 201):

Deposits, debts owing, indeed Credit in any form, may be made the means of purchasing and paying, of adjusting transactions; and they may therefore, in one sense, be considered as forming a part of what has been called “Auxiliary Currency”. But the whole superstructure of “Auxiliary Currency” forms a subject, distinct from that of the management of the circulation.

Asked by a parliamentary committee why he did not include deposits in his definition of the circulation, Loyd started to explain why he regarded bank notes as money:

The precious metals, converted into coin, constitute the money of each country. That coin circulates sometimes in kind; but in highly advanced countries it is *represented*, to a certain extent, by paper notes, promising to pay the coin to bearer on demand; *those notes being of such a nature, in principle, that the increase of them supplants coin to an equal amount*. Where those notes are in use, the metallic coin, together with

those notes, constitutes the money or currency of that country. (Loyd 1840b, p. 212, italics added)

He then added:

Now, I conceive, that neither deposits nor bills of exchange in any way whatever possess [the] qualities [of money]. In the first place, the amount of them is not determined by the laws which determine the amount of the precious metals in each country; in the second place, they will in no respect serve as a common measure of value, or a standard by reference to which we can measure the relative values of all other things; and in the next place, they do not possess that power of universal exchangeability which belongs to the money of the country. (Loyd 1840b, p. 212)

He thus seemed to hold the view that bank notes were to serve as certificates of deposits, representing coins kept in custody and circulating in their place, rather than as credit instruments, used to acknowledge receipt of savings intended to finance loans and investments. Only under such conditions could notes be regarded as obeying the same laws as precious metals. But this, of course, was a prescriptive approach indicating what bank notes *should be*, not a descriptive one indicating what they actually were. The very same point could have been made in regard to deposit balances, which in practice served similar functions to notes. Loyd's last argument—that deposits, contrary to notes, were not *universally* accepted as a means of payment—was not very convincing either. Norman (1840, p. 143), asked a similar question by the same committee, provided a similar answer (see also Norman 1841, pp. 35, 54, 58). These explanations didn't weigh much in face of the Banking School's argument that, because bank deposits (and bills of exchange) performed essentially the same functions as bank notes, there was no justification for treating them any differently (see for example Tooke 1844, pp. 17-33).

Torrens (1837, pp. 6-12), on the other hand, insisted at first that bank deposits subject to cheque *were* money<sup>29</sup>. He also argued, at some point, that these deposits could be subject to unwanted expansions or contractions<sup>30</sup>. But in the rest of his work, for some reason, he then seemed to suppose the existence of a fixed reserve-deposit ratio (just like he also supposed, as we saw, the existence of a fixed ratio between Bank of England notes and country bank

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<sup>29</sup> “To a merchant who has, in a solvent bank, a deposit against which he can draw his checks, that deposit is *money*” (Torrens 1837, p. 7, italics in original).

<sup>30</sup> “In periods of confidence and high commercial credit, a small amount in coin and bank notes, may serve as the basis of a large amount of bank deposits. It follows, that in such periods, the circulating medium may expand, without any increase in the amount, either of coin or of bank notes; and that, while the amount of coin and notes remains undiminished, the circulating medium may suffer contraction” (Torrens 1837, pp. 11-12).

notes)<sup>31</sup>. In his view, therefore, any given variation in the monetary base (made of metallic and paper money) would normally produce an exactly proportional variation in the volume of bank deposits, making it unnecessary to include them in the separation plan. Torrens thus focused his criticism on the mismanagement of Bank of England notes exclusively. Only in his later writings would he fully acknowledge the inherent instability of the reserve-deposit ratio (Torrens 1858, pp. 267, 271-276). However, at the same time, yielding to Loyd's insistence (as explained by O'Brien 1994a, pp. viii-ix), he now refused to regard deposits as money (Torrens 1858, pp. 264-266). This in fact prevented him from having to recognise that the "money" supply remained subject to sharp fluctuations under the workings of the Bank Charter Act.

The Currency School, as a matter of fact, was at a loss to explain why deposits should be treated any differently than bank notes<sup>32</sup>. It appears that the only alternative they contemplated was either to include *all* bank deposits in the reform, or to include *none* of them at all—the latter option being of course much more preferable and also more applicable than the former. To prevent the banks, already deprived of the right to issue notes, from issuing liabilities in the form of deposits, would have meant nothing less than the end of banking<sup>33</sup>. This is precisely the reason why Loyd rejected the Palmer rule. This rule, as we saw, would have severely restricted the Bank of England's ability to issue promises to pay both in the form of notes *and* deposits. Loyd, who argued that the issuing of notes should be divorced from banking and submitted to the "currency principle", strongly opposed any similar treatment for deposits:

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<sup>31</sup> See, for example, Torrens (1837, pp. 19-21), and the comments by O'Brien (1994a, p. ix). James Pennington (in Tooke 1838, p. 369) pointed out this flaw in Torrens' analysis: "It never occurred to me, as appears to have been supposed by Colonel Torrens, that every million of notes issued by the Bank of England forms the basis of five millions of deposits; and that every million withdrawn from circulation, by the Bank, occasions a five-fold diminution of those deposits. . . . Colonel Torrens . . . appears to have fallen into some misapprehension on this head."

<sup>32</sup> Among the Currency School members, only Sir William Clay, who regarded transferable deposits as money, admitted that he had no solution to offer in their respect: "Of the constituent portions . . . of our paper money . . . there is one and that the larger portion, namely, banking deposits, which I fear we must admit at once to be beyond the reach of direct legal control; I know not by what principles any legislative interference with this important element of our monetary system could be guided, or if such could be found, by what species of supervision their practical operation could be insured" (Clay 1844, p. 26).

<sup>33</sup> As Robbins (1958, p. 141) commented, "an extension of the Currency principle from notes to deposits—i.e. what has come to be called 100 per cent banking" would be in fact "the extinction of banking as we know it". He was certainly right in this assertion—although, as we will see, bank lending would still exist under most versions of the 100% money proposal.



But when the same rule is further applied to the regulation of its conduct as a banking concern, it is necessarily found to be wholly impracticable. It is in the nature of banking business that the amount of its deposits should vary with a variety of circumstances; and as its amount of deposits varies, the amount of that in which those deposits are invested (viz. the securities) must vary also. It is therefore quite absurd to talk of the Bank, in its character of a banking concern, keeping the amount of its securities invariable. The reverse must necessarily be the case. (Loyd 1837, p. 11)

The 100% money writers of the 1930s would find other ways of dealing with these difficulties. The Chicago Plan authors would have replaced lending banks (working with deposits) by investment trusts (working with equity shares)<sup>34</sup>. Currie and Fisher fully differentiated between two kinds of deposits: (*transferable*) *chequing deposits*, fulfilling a payment function, and (*non-transferable*) *savings deposits*, fulfilling an investment function<sup>35</sup>. Under their proposed plans, only chequing deposits would be separated from bank-lending activities: they would be fully covered by reserves in lawful money, so that only the monetary authority would be allowed to increase or decrease the circulating medium in amount. Savings deposits could still be freely multiplied by the banks in the process of collecting savings and making loans, as long as they could not be used as means of payment. To this end, in addition to separating the issuing of money (entrusted with an independent monetary authority) from the lending of money (left with the banks), these authors proposed a further separation, within the banks, between a *cheque department* dealing with the keeping and transferring of chequing deposits (subject to a 100% reserve requirement), and a *loan department* dealing with the collecting and lending out of savings deposits (only fractionally covered by reserves). Such a separation had no equivalent in the Currency School reform proposals<sup>36</sup>.

Possibly because they never came up with a similar distinction, the Currency School writers were not able to solve the delicate question of bank deposits, and chose not to include

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<sup>34</sup> According to Simons's analysis, the variations in the velocity of circulation of money ( $V$ ) were a key independent factor of instability, which the very existence of fractional-reserve banking (even if conducted with non-transferable savings deposits) would greatly exacerbate. For this reason, he insisted that the lending function should be entirely taken away from the banks, and performed instead by investment trusts, working with their own capital exclusively. On the differences between Fisher and Simons in this respect, see Demeulemeester (2018).

<sup>35</sup> The distinction between transferable and non-transferable deposits is, of course, not the same as the distinction between demand deposits (payable immediately) and time deposits (payable at a later date, or after notice). Some deposits may be convertible "on demand" without being, at the same time, transferable by cheque. The 100% money authors were aware that the two distinctions did not necessarily overlap (see, for instance, Currie [1934] 1968, p. 14). However, they unfortunately showed a lack of rigor in the terminology they employed, sometimes speaking of *demand* and *time* deposits when they obviously meant to distinguish between *chequing* and *savings* deposits. This, of course, inevitably led to some confusion.

<sup>36</sup> A comparative presentation of the monetary and banking systems under the respective Currency School and 100% money proposals (exemplified by Fisher's plan) is provided in Appendix 1.

them within the scope of their separation plan at all<sup>37</sup>. As such, under the Act of 1844, the Issue Department of the Bank of England was only vested with the privilege of issuing notes; no such provision was made for the issuing of deposits subject to cheque. This Act therefore rendered *paper money* independent of the bank-lending activity, and fully secured its convertibility into gold. But, because other means of payment were left out of the reform, the Act did not put an end to the dependence of the circulating medium *as a whole* upon banking activity<sup>38</sup>. It was thus all the more important that some kind of public responsibility remain exerted in this matter, which now leads us to the question of central banking.

#### 4. Central banking's place within a system of separate monetary and banking functions

The Currency School writers, believing that their reform plan would completely divorce the issuing from the lending of money, argued that lending could—and should—be left “perfectly free” (Norman 1838, p. 34)<sup>39</sup>. However, they went so far as to apply this reasoning to the Banking Department of the Bank of England itself, which they argued was “only an ordinary banking concern on a large scale; its business must be conducted and regulated upon ordinary banking principles” (Loyd [1857] 1858, p. 219)<sup>40</sup>. They did recognise that part of the “true

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<sup>37</sup> Fisher, observing that the Act of 1844 “overlooked the fact that bank deposits could be used as money” (1936a, p. 412), argued that the 100% plan was “merely to finish the job undertaken by Sir Robert Peel” (1937a, p. 293). At no point did he notice, however, that the distinction between chequing deposits and savings deposits, which was so central to his own proposal (and so obvious to him), needed to be established first, if the provisions of the Act of 1844 were to be extended to deposit currency. Among the Currency School writers, Clay (1844, p. 19) did argue that only transferable deposits should be regarded as money; but he did not suggest treating them any differently than other deposits.

<sup>38</sup> Pennington (1840, p. 211)—described by O’Brien (1994a, p. xxiii) as “a ‘semi-detached member’ of the Currency School”—, at least, was aware of this limitation: “But in all this, the operation and influence on the prices of commodities, and on the foreign exchange, of that medium of interchange—call it credit, auxiliary currency, or by any other name—which is so largely employed in this country, in addition to bank notes and the coin of the realm, is wholly overlooked. The promissory note circulation may indeed be limited in the way proposed, but such a limitation of the paper would not alone be sufficient to put an end to those alternations of excitement and depression which it is so desirable, if possible, to prevent, or at least mitigate.”

<sup>39</sup> One would usually find the same argument expressed by the 100% money authors. See, for example, Fisher (1936a, p. 412, italics in original): “The Government should take away from the banks all control over *money*, but should leave the *lending* of money to bankers. We could leave the banks free, or at any rate far freer than they are now, to lend money as they please, provided we no longer allowed them to manufacture the money which they lend.” See also Fisher ([1935] 1945, p. 171).

<sup>40</sup> References to this and other similar statements by Loyd and Norman are provided by Le Maux (2018, p. 552n9). Fisher ([1935] 1945, p. 159) would not go this far: “Any private-profit motive in central banking is always a source of danger. This is especially true under a 10% system. A central bank, in order to serve other banks, must often take a course exactly opposite to that which would be

business of a banker” was to keep “a fund ultimately available in cases of unusual emergency”, and that “[i]f this [was] the case with respect to bankers generally, it [was] so in a much greater degree with regard to the Bank of England” (Loyd [1840b] 1857, p. 225; see also Torrens [1848] 1857, pp. 77-78). But this did not seem to imply that the Bank should keep more than ordinary reserves:

One difficulty will probably be anticipated as likely to arise from the diminished power which the Bank under this arrangement will possess of relieving commercial pressure and extending support to public credit. This evil, however, will probably prove to be much less than many persons apprehend. . . . We may further observe that the banking resources of the Bank will remain unimpaired and unfettered; and the only respect in which the Bank will be restricted . . . will be in the exercise of her improper and dangerous power of creating money beyond the amount which ought to exist. (Loyd 1840a, pp. 113-114)

They did anticipate that, should such reserves prove insufficient, the note-issuing restrictions applying to the Issue Department could be temporarily suspended, allowing it to come to the Banking Department’s rescue<sup>41</sup>. However, convinced as they were that their reform plan would efficiently put an end to monetary and banking instability, they did *not* develop any theory of central banking, by which the Banking Department could be made to behave as a *non-profit oriented* lender of last resort<sup>42</sup>.

Not surprisingly, after the Act of 1844 was passed, the Banking Department, relieved from any duty in respect to note-issues, was to behave as if it no longer bore any public responsibility whatsoever<sup>43</sup>. The crisis of 1847 that followed soon after was so severe that the

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the most profitable one for itself. The private-profit motive of central banks has, consequently, become subordinate, even in the Bank of England, which ostensibly has always been a private bank entitled to private profits.”

<sup>41</sup> According to Fetter (1965, p. 276), “Norman had suggested a provision, rejected by Peel, that on the authority of three ministers the [Issue Department] could exceed the fiduciary issue set in the act.” See also Loyd (1844, p. 53), who recognised that emergency would justify the Government “exercising special interference” in that regard.

<sup>42</sup> According to Fetter (1965, p. 205): “The supporters of the act in large part had disposed of the problem of the Bank’s responsibility by assuming that it would no longer arise under the new legislative dispensation”. This confidence clearly appeared, for example, in Torrens’ *Letter to Thomas Tooke* (Torrens 1840, p. 10): “The difference between us is this: you contend that the proposed separation of the business of the Bank into two distinct departments, would check overtrading in the department of issue, but would not check overtrading in the department of deposit; while I maintain, on the contrary, that the proposed separation would check overtrading in both departments.” Torrens (1858, pp. 275-281), however, would hold a diametrically opposed position many years later, after the Act of 1844 had to be suspended for a second time in 1857. But, by that time, as we mentioned already, he had ceased to regard deposits as money.

<sup>43</sup> According to Viner (1937, p. 255): “When the Act of 1844 came into effect, the Bank at once proceeded to act as if the freedom from external control which the act left to the banking department

provision of the Act of 1844 had to be suspended. As Fetter (1965, p. 201) notes: “However, the developments that culminated in that crisis had their origin not in any specific provision of the act of 1844, but in the apparent belief of the Bank management that the act had freed them from certain restrictions which public opinion had previously imposed on them”. He further commented: “The Bank of England certainly was less a central bank in 1845 than it had been in 1825, and probably less than it had been in 1793” (Fetter 1965, p. 258). The Act would again have to be suspended during the crises of 1857 and 1866<sup>44</sup>. It is true, as some commentators have noted, that “the freedom which the Act left to the Bank in the conduct of its banking business included the freedom to conduct it as a central bank”, as it had sometime done in the past (Whale 1944, p. 109; see also Viner 1937, pp. 263-264, and Fetter 1965, p. 205). But for the Banking Department to fully accept lender of last resort responsibility, one would have to wait for the “victory of the Bagehot principle” in the 1870s (Fetter 1965, p. 257). As Laidler (1991, p. 36) commented:

[T]he 1850s and 1860s saw the slow but sure re-establishment of the predominance of the Banking School view that the Bank of England had a special position in the monetary system; and the publication of Bagehot's *Lombard Street* in 1873 completed the edifice of classical monetary economics with a theory of central banking.

However, if the *banking* functions exerted by the Banking Department now included *central banking* responsibilities, the dividing line with the *monetary functions* exerted by the Issue Department was maintained<sup>45</sup>. Or, to put it perhaps more appropriately, the division was maintained between the explicit and acknowledged money-issuing function performed by the Issue Department (insofar as paper money was concerned) and the implicit and less

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had also rendered unnecessary any internal control”. On the consequences of the Act of 1844 for the money market and the financial sphere, see Le Maux (2018).

<sup>44</sup> Fisher (1937a, p. 294) would provide the following interpretation of the suspension procedure: “[T]he deposit currency, wholly overlooked in the law of 1844, soon began to make trouble. In 1847 . . . the ‘Banking Department’ . . . was confronted with a run . . . With the approval of the Government . . . it borrowed cash of the Issue Department. This cash was new money, specially manufactured for the purpose . . . This ‘Suspension of the Bank Act’ as it is misleadingly called . . . has been followed in subsequent crises. Its success has been so invariable that its essential nature has been little analyzed. It is a further step toward the 100% plan. Both the permanent set-up of the Issue Department and the emergency set-up of the Banking Department are plans to strengthen reserves, one reserve being gold (now Government paper) behind the Bank’s note liabilities, the other reserve being notes behind the Bank’s deposit liabilities.” See also Fisher *et al.* (1939, pp. 34-36).

<sup>45</sup> As Diatkine and De Boyer (2008, p. 205) explain: “According to Bagehot, it was the Bank of England’s Banking Department that was the lender of last resort, not its Issue Department. The lender of last resort would lend money exogenous to it—a loan of last resort did not equate to an issue of money”. This, of course, did not preclude the important (but not always recognised) fact that, besides lending these exogenous notes, the Banking Department could also—like any other bank—issue monetary liabilities in the form of its own deposit balances (*ibid.*, p. 206).

acknowledged money-issuing function still performed by the banking sector at large (insofar as cheque-book money was concerned), the latter being increasingly placed under the responsibility of the Banking Department, acting therefore in the dual role of (explicit) central bank and (implicit) monetary authority. Despite the three temporary suspensions of the Act, at no point was the monetary system inherited from 1844 brought into question, nor was its obvious inconsistency resolved: the note-issuing monopoly of the Issue Department was *not* to be extended to the circulating medium as a whole. As Fetter (1965, p. 212) commented:

From the point of view of modern banking theory and practice the case for treating all of the Bank's liabilities alike . . . is so strong that it is hard, without sensing the crosscurrents of opinion of the time, to understand why no change was made.<sup>46</sup>

He further added (*ibid.*, p. 224):

The apparent understanding . . . that the question of the control of deposit banking was taboo resulted in a theoretical sterility in much of the discussion. The more firmly the Government stated the principle of the absolute right of the State over the note issue, the more completely it seemed to abdicate any claim to regulate, or even to ask for information about, deposits.

One possible answer to this puzzle, as we have suggested already, was the lack, in 19<sup>th</sup> century British discussions, of any conceptual distinction between deposits fulfilling a monetary function as compared with those fulfilling an investment function, a distinction which, as we saw, would be central to many versions of the 100% money proposal in the 1930s.

What was not always clear with the 100% money proposals, however, was whether or not—and, if so, how—this division of functions would result, at the top, in a distinction between the functions of a *monetary authority*, in charge of issuing money and regulating its supply, and those of a *central bank*, in charge of providing centralising and rediscounting facilities to lending institutions. With the cheque departments of banks (or cheque banks) holding 100% reserves, the *payment* system, for sure, would be perfectly safe, but the lending institutions, comprising the *financial* system, would remain at risk. Even if the total separation between the lending and the issuing of money were to result in greater stability, this would not necessarily do away with the case for centralising reserves—if only for consideration of

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<sup>46</sup> As Laidler (1988, p. 100n28) also commented: “Though the suppression of a competitive note issue, along with the maintenance of competition in deposit banking made sense in terms of Currency School doctrine, which attached undue significance to notes *per se*, it is hard to defend those writers such as Jevons who supported the Bank of England's note issue monopoly while simultaneously recognising the importance of competitively provided deposits in the circulating medium.”

economies of scale<sup>47</sup>—, nor would it necessarily obviate the need for a lender of last resort in times of crisis. In this respect, different kinds of solutions were offered. The Chicago Plan authors, on the one hand, clearly did not envision any central bank acting as a lender of last resort<sup>48</sup>. To deal with financial instability, they rather proposed a drastic reform of financial institutions, under which (as mentioned already) lending banks would be replaced by equity-financed investment trusts. Simons and Mints, in their individual writings, would have further eliminated all kinds of short-term debt contracts (see Simons 1936, pp. 16, 30; 1944, p. 361; 1946, pp. 85, 89; and Mints 1945, pp. 222, 262, 270). Currie and Fisher, on the other hand, would have kept financial institutions mostly unchanged, with the loan departments of banks (or loan banks) lending money out of fractionally-covered savings deposits—provided only that cheques could not be drawn against them. Only Fisher, however, offered any discussion of central banking functions as distinct from monetary authority functions. Under his proposed plan, while the Currency Commission would be vested with a money-issuing monopoly, the twelve U.S. Federal Reserve Banks would be maintained as *non-issuing* central banks—comparable, in some respect, to the Banking Department of the Bank of England. In addition to serving as an intermediary between the Currency Commission and the banks’ cheque departments for the administering of chequing accounts (Fisher [1935] 1945, pp. 61-65), these Reserve Banks would provide the banks’ loan departments with rediscounting facilities (Fisher [1935] 1945, pp. pp. 82-89, 141-142). And so could, possibly, the Currency Commission itself, even though it would, “if rediscounting were allowed at all, function chiefly as a safety valve in cases in which the banks could not themselves readily afford accommodation in sufficient volume or with sufficient promptness” (*ibid.*, p. 88, see also p. 202)<sup>49</sup>. These considerations notwithstanding<sup>49</sup>, the questions of central banking and of the need

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<sup>47</sup> This aspect of the reasoning for a central bank, according to Laidler (1991, pp. 184-185), was missing from Bagehot’s analysis, which gap was to be filled by Edgeworth’s “Mathematical theory of banking” (1888).

<sup>48</sup> Under the Chicago Plan, the Federal Reserve Banks would be nationalised and charged, under supervision of the Federal Reserve Board, of the issuing of money (Simons *et al.* [1933] 1994, pp. 32-33). They would thus solely fulfil the role of monetary authority, with no lender of last resort responsibility.

<sup>49</sup> Fisher ([1935] 1945, p. 89), however, preferred to have the monetary authority resort to open-market operations rather than rediscounting: “For myself, I would prefer not to endow the Currency Commission with any rediscount power whatever. We could accomplish substantially the same purpose simply by buying and selling Government bonds”. He also made it clear that such central banking operations needed not interfere with monetary considerations. As he specified with respect to rediscounting: “evidently this would not necessarily require any increase in circulating medium; for as fast as the Currency Commission rediscounted, i.e. bought promissory notes, it could, if it wished, sell bonds. The buying of one and the selling of the other would offset each other so far as affecting the volume of money is concerned. Thus, the compulsory exercise of its rediscount function need not

for a lender of last resort under a 100% system were little addressed by the 100% money writers, thus leaving another whole range of issues open to discussion.

## Conclusion

The 19<sup>th</sup> century Currency School writers and the 100% money authors of the 1930s agreed on one major point: that the intermingling of the issuing of money and the lending of money was a major source of instability, imparting on bank-created money an inherently pro-cyclical behaviour (explained by the reciprocal causality relationship, under such system, between bank money and prices). In their views, this required a separation of these two functions. The similarity between the two groups, however, does not go much further. The separation plan of the Currency School was motivated by an additional reason, entirely extraneous to the 100% plan *per se*: that of putting a specific policy rule, the “currency principle”, effectively into practice, by subjecting the monetary authority *itself* to a 100% marginal reserve requirement. The 100% money scheme, on the contrary, was put forward only as an *institutional* reform plan, independently from any specific *policy* consideration (thus leaving open the debate of “rules versus discretion”), and would *not* have required any kind of reserve requirement for the monetary authority itself. Another major difference related to the scope of the respective reform plans: while the Currency School only sought to insulate *part* of the circulating medium (bank notes) from the lending of money, the 100% money authors would have insulated the circulating medium *as a whole*. The 100% plan, however, did not imply extending the separation of functions to “deposits” in general. Many of its proponents offered, in this regard, a distinction between two kinds of deposits: *chequing deposits*, serving as a means of payment, and *savings deposits*, serving as credit instruments. They would place the former only under the issuing monopoly of the monetary authority, leaving the latter at the free disposal of the banks (with the exception, be it recalled, of the Chicago Plan authors, who would have replaced lending banks with investment trusts). The lack of any similar distinction in the Currency School writings might help explain why these authors left deposits entirely out of the scope of their reform plans. The English Act of 1844 only dealt with bank notes, leaving deposit currency dependent upon the business of banking. It was thus all the more important that the Bank of England remain ready to exert central banking responsibility when

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interfere with its function of controlling the volume of money” (Fisher ([1935] 1945, p. 203n1). Obviously, a simpler solution than such sterilization operations would have been to split the Currency Commission itself into an Issue Department and a Lending (or Central Banking) Department; but Fisher did not make any such suggestion.

needed, a role it would come to fully endorse by the 1870s. In contrast, under a 100% money system, the banks would be left with no money-issuing power whatsoever. All these reasons lead us to conclude that the 100% money proposal of the 1930s cannot (as is often the case) simply be regarded as an avatar, extended to deposits, of the Currency School reform proposals as embodied in the English Act of 1844. Nor should the recently renewed interest in the 100% money idea merely be read, in our view, as a revival of the confrontation between the Currency School and the Banking School.

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**Appendix 1. The monetary and banking systems under the respective Currency School and 100% money proposals**

**Figure 1. The English system under the Bank Charter Act of 1844 (embodying the Currency School proposals):**

<p><b>Royal Mint:</b></p> <p>Free coinage of <b><u>metallic currency</u></b></p>	<p style="text-align: center;"><b>Issue Department of the Bank of England (BoE):</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">Assets</th> <th style="width: 50%; text-align: center;">Liabilities</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">Government securities (in fixed amount)</td> <td rowspan="2" style="vertical-align: top;"><b><u>Bank notes</u></b>, to be <i>automatically regulated</i> by the variations in the metallic reserve (“currency principle”)</td> </tr> <tr> <td style="vertical-align: top;">100% marginal metallic reserve</td> </tr> </tbody> </table>	Assets	Liabilities	Government securities (in fixed amount)	<b><u>Bank notes</u></b> , to be <i>automatically regulated</i> by the variations in the metallic reserve (“currency principle”)	100% marginal metallic reserve	<p style="text-align: center;"><b>Banks (including the Banking Department of the BoE):</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">Assets</th> <th style="width: 50%; text-align: center;">Liabilities</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">(Fractional) reserves</td> <td style="vertical-align: top;">Equity</td> </tr> <tr> <td style="vertical-align: top;">Loans &amp; investments</td> <td style="vertical-align: top;">Deposits (including <b><u>transferable deposits</u></b>)<sup>50</sup></td> </tr> </tbody> </table>	Assets	Liabilities	(Fractional) reserves	Equity	Loans & investments	Deposits (including <b><u>transferable deposits</u></b> ) <sup>50</sup>
Assets	Liabilities												
Government securities (in fixed amount)	<b><u>Bank notes</u></b> , to be <i>automatically regulated</i> by the variations in the metallic reserve (“currency principle”)												
100% marginal metallic reserve													
Assets	Liabilities												
(Fractional) reserves	Equity												
Loans & investments	Deposits (including <b><u>transferable deposits</u></b> ) <sup>50</sup>												

The items underlined in bold indicate the locations of the power of creating means of payment. Under the English Act of 1844 (Figure 1), this power was shared between the Mint, the Issue Department of the Bank of England, and the banks (including the Banking Department of the Bank of England). Under Fisher’s 100% money proposal (Figure 2), on the other hand, this power would be fully concentrated in the hands of the Currency Commission.

**Figure 2. The proposed U.S. system according to Fisher’s version of the 100% money proposal<sup>51</sup>:**

<p style="text-align: center;"><b>Currency Commission (CC):</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">Assets</th> <th style="width: 50%; text-align: center;">Liabilities</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">Government bonds</td> <td style="vertical-align: top;"><b><u>Lawful money</u></b> (CC notes &amp; deposits), to be <i>managed</i> according to a policy criterion (to be decided by Congress)</td> </tr> </tbody> </table>	Assets	Liabilities	Government bonds	<b><u>Lawful money</u></b> (CC notes & deposits), to be <i>managed</i> according to a policy criterion (to be decided by Congress)	<p style="text-align: center;"><b>Banks<sup>52</sup></b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;"><i>Cheque department:</i></th> <th colspan="2" style="text-align: center;"><i>Loan department:</i></th> </tr> <tr> <th style="width: 25%; text-align: center;">Lawful money in custody</th> <th style="width: 25%;"></th> <th style="width: 25%; text-align: center;">Assets</th> <th style="width: 25%; text-align: center;">Liabilities</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">100% reserves in lawful money</td> <td style="vertical-align: top;">Transferable (“chequing”) deposits</td> <td style="vertical-align: top;">(Fractional) reserves</td> <td style="vertical-align: top;">Equity</td> </tr> <tr> <td></td> <td></td> <td style="vertical-align: top;">Loans &amp; investments</td> <td style="vertical-align: top;">Non-transferable (“savings”) deposits</td> </tr> </tbody> </table>	<i>Cheque department:</i>		<i>Loan department:</i>		Lawful money in custody		Assets	Liabilities	100% reserves in lawful money	Transferable (“chequing”) deposits	(Fractional) reserves	Equity			Loans & investments	Non-transferable (“savings”) deposits
Assets	Liabilities																				
Government bonds	<b><u>Lawful money</u></b> (CC notes & deposits), to be <i>managed</i> according to a policy criterion (to be decided by Congress)																				
<i>Cheque department:</i>		<i>Loan department:</i>																			
Lawful money in custody		Assets	Liabilities																		
100% reserves in lawful money	Transferable (“chequing”) deposits	(Fractional) reserves	Equity																		
		Loans & investments	Non-transferable (“savings”) deposits																		

<sup>50</sup> To be more complete, Figure 1 should also include country bank notes, which, although increasingly restricted by legislation, still formed part of the monetary circulation at the time—as did bills of exchange and cheques, to the extent that they circulated by endorsement.

<sup>51</sup> These balance sheets are adapted from the ones presented in Fisher’s book (see Fisher [1935] 1945, pp. 63-67).

<sup>52</sup> Very similar balance sheets would apply to the twelve Federal Reserve Banks (FRBs), although Fisher did not specify whether they would themselves be divided into two departments. In his balance sheet illustration, “member bank deposits in Federal Reserve Banks” and “Federal Reserve notes” would be fully covered by reserves (implying that the former would consist in chequing deposits only), while the FRBs’ other assets (“U.S. Securities”, “Etc.”) would be matched by “Capital, etc.” (Fisher [1935] 1945, p. 63).