

A FURTHER CLARIFICATION OF LUDWIG VON MISES AS A CURRENCY SCHOOL FREE BANKER

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ABSTRACT: This article refutes the view that Ludwig von Mises proposed freedom in banking as the most suitable means to render the issue of additional fiduciary media completely impossible and shows why Mises's proposal should not be credited as such. Following in Joseph T. Salerno's footsteps, this article interprets Mises's thoughts in light of the nineteenth-century debate between the currency and banking schools in Britain. It finds that Mises's free banking theory incorporates theoretical insights from both sides and as such represents an incomplete resolution to the old debate and presages the ultimate split in modern literature on free banking. This article also addresses the law of reflux of the banking school within Mises's free banking theory. After a critical exposition on the law of reflux, it is revealed that the actual and common employment of standard sound money in exchange and cash holding is fundamental in order for the law to serve as a strong restriction on the supply of fiduciary media in a fractional reserve free banking industry.

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In 2012, Joseph T. Salerno wrote a still largely unnoticed essay entitled “Ludwig von Mises as a Currency School Free Banker.” Its objective was to dissolve once and for all the long-persisting controversy within the modern Austrian school of economics regarding whether Ludwig von Mises was in favor of full-reserve free banking or fractional reserve free banking. It also contributes to the ongoing rebuttal of the free banking regime envisaged by modern fractional reserve free banking (MFRFB) theorists.

Salerno (2012) concludes that Mises proposed complete freedom in banking and expected a *complete suppression* of the issue of additional amounts of fiduciary media. After a careful reading of Mises’s writings on money and banking, this article fails to reach the same conclusion. Nevertheless, Salerno’s work is a useful starting point for clarifying Mises’s thoughts on free banking. Following in Salerno’s footsteps, this article first investigates the opposing claims of the British currency and banking schools on banking theory and policy, in particular their views regarding whether creating a general medium of exchange is the role of an ideal banking system.

Next, Mises’s discussions on free banking are reexamined in light of the currency school’s and the banking school’s doctrines. Although the third section complements the established literature regarding the theoretical coherency between the currency school and Mises, the fourth section argues that there is a strong coherence between Mises’s free banking theory and the banking school’s law of reflux. It will be shown that having struggled with skepticism, Mises finally arrived at the theorem of impossibility of overissue under free banking in *Human Action*.

In the fifth section, Mises’s place in the history of monetary thought is examined. Comments from the proponents of 100 percent–reserve free banking and MFRFB are juxtaposed with the conclusion, reached in this article, that Mises’s free banking theory, coming from a “currency school free banker,” can be seen as an incomplete resolution to the old currency school–banking school debate.

In contrast to the previous sections, which rely on historical investigation, the final section offers a critical exposition of the law of reflux and Mises’s impossibility theorem. Elaborating on the analytical framework pioneered by Murray N. Rothbard and Salerno, it is argued that free competition in the banking industry

per se is not the ultimate determinant of the strength of law of reflux and that rather its strength is ultimately determined by the proportion of people who *believe* that competing fractional reserve banks' demand liabilities are substitutes for standard sound money—viz., true commodity money such as gold. Based on these findings, the article offers new theoretical insights for the modern debate between full-reserve and fractional reserve free banking, concluding that the *actual* and *common* employment of standard sound money by people in both exchange and cash holding is necessary and sufficient for the law of reflux to function as a strong restriction on the supply of fiduciary media under a fractional reserve free banking industry.

NEUTRAL BANK VERSUS PASSIVE BANK: A RETROSPECT OF THE CURRENCY SCHOOL- BANKING SCHOOL DEBATE

The debate between the British currency and banking schools took shape in an intellectual climate characterized by rising attention from analysts regarding how to reform the British banking industry after the end of 1797 Bank Restriction Act in 1821, which reestablished convertibility of banknotes at the pre-Restriction gold parity. Despite broad consensus that convertibility is necessary for a sound monetary system, disagreements on whether and to what extent further reform should be implemented finally split the discussion into two politically and theoretically contrasting groups. Those who supported a new banking reform (i.e., Samuel Jones Loyd, Robert Torrens, and George Warde Norman) were labeled the currency school, and those who were supportive of the status quo (i.e., Thomas Tooke, John Fullarton, and James Wilson) were labeled the banking school.

Economic crises in 1825 and subsequent years spurred widespread doubts concerning the efficacy of the British banking system, which, roughly speaking, was characterized by the coexistence of one privileged Bank of England and multiple “country banks” with discretionary power over normal banking activity dealing with deposits and loans and, most importantly, to issue banknotes

outside London (Smith [1935] 1990, 8–25; Arnon 2011, 175–78).¹ From the point of view of the currency school, recurrent economic crises simply reflected the monetary system's deviations from the ideal of pure metal circulation. These deviations, they thought, arose just from the practical intertwinement of banks' two conflicting activities of "conducting Banking business" and "managing the currency"; in other words, banks as such would simply grant loans by "issuing paper notes *ad libitum*" to accommodate the growing commercial thrust for credit and thus threaten currency convertibility and generate trade cycles (Loyd 1837, 42–49).

The resolution to this inherent dilemma recommended by the currency school was to gradually transfer the country banks' discretionary power over note issuing to one mandated rule-oriented authority. An independent issuing department, separate from the normal banking activity of the Bank of England, would become the sole issuer of banknotes and would be required to issue banknotes or release gold *if and only if* it had received from the public an equal denomination of gold deposits or banknotes for redemption. If the reformed banking industry worked ideally, then no notes that were not 100 percent covered by gold would be issued. Furthermore, variations in the quantity of notes in circulation, which is the counterpart of variations in the amount of bullion in the vaults of the Issue Department of the Bank of England, would *not* influence the total amount of mixed circulation, defined as gold coins plus banknotes, unless such variations also reflected 1) net inflow or outflow of gold through balance of payments, 2) varying amounts of gold employed in industrial purposes, and 3) increased gold production.² The banking industry would thus exert no influence on mixed circulation and leave changes exclusively to the operation of market forces. It is therefore much more precise

¹ Two additional points are worth noting: first, the Bank of England enjoyed a monopoly on note issuing in London; second, as a response to the 1825 crisis, the March 1826 Country Bankers Act restricted the issue of "small-denomination notes" by banks in England and Wales (including the Bank of England). See Arnon (2011, 177).

² "The rule ought to be, That the variations in the amount of circulation [of paper notes] shall correspond to the variations in the amount of bullion, and the adherence of the Bank to this rule ought to be obvious upon the face of the published accounts" (Loyd 1837, 15).

to label the currency school's reform project "automatism" (Arnon 2011, 187–90).

The debate regarding whether after reformation the ideal of pure metal circulation could be realized seems at first glance to hinge on the problem of what should be counted as money supply. In contrast to Loyd's insistence that money supply comprises only the total amount of gold coins and banknotes and that thus suppression of creation of banknotes unchecked by market forces would suffice to realize this ideal, Tooke (1844) argued correctly that it is impossible to completely shape a system of pure metal circulation based on an improper definition of money from which deposits subject to checks are excluded.

This objection, however, does not necessarily imply a denial of the necessity of regulating the money supply. Taking deposits into account, the issue of demand liabilities unchecked by market forces through the channel of bank credit can, in Austrian terminology, change the total stock of money in the broader sense without there being an initial increase in aggregate demand for cash holding. This can occur in the absence of deliberate regulation if there is no self-correcting mechanism that redirects the surplus back to the issuing banks without triggering all its negative effects on economy. The banking school thus advocated the well-known law of reflux and argued that the supply of convertible demand liabilities of banks subject to the law of reflux is entirely dependent upon the will of the public: "The efforts of the banks of issue to extend their circulation know no remission . . . for the antagonist force which is always in action to correct and repress it" (Fullarton 1845, 84); "it may rest with the banker to issue, but it is the public that circulates; and without the concurrent action of the public, neither the power nor the will to issue can be of any avail" (Fullarton 1845, 87).

This view easily opened the door for the banking school to doubt the conventional quantity theory of money. If the quantity theory was not completely wrong, the banking school surmised that it was at least irrelevant to the determination of the general "price level" under a mixed circulation. They reversed the causal connection between money supply and the general "price level," ultimately attributing prices to consumers' wages (Arnon 2011, 231–33). In a sharp contrast to the currency school's exogeneous theory of money

supply, the banking school advocated an endogenous theory of money supply and a nonmonetary theory of trade cycles (Rothbard 1995, 261–63; McCaffrey 2012).

The crux of the theoretical controversy regarding monetary and trade cycle theory—the problem of “model exogeneity (endogeneity),” in fact lies in whether banks can deliberately influence money supply through their discounting policies—the problem of “policy exogeneity (endogeneity),” which in turn is dependent upon the practical efficacy of these monetary channels under the general law of reflux.³ The banking school held a strong opinion on policy endogeneity—that given the law of reflux, banks are unable to exert any influence on their supply of demand liabilities. This may be called the strong version of the law of reflux—against relatively moderate views that banks subject to the law of reflux may still be able to generate unwarranted changes in the supply of demand liabilities to some extent.

Another implication that can be drawn from the problem of “policy exogeneity (endogeneity)” concerns the two distinct images of an ideal banking industry. For the currency school, in favor of a reform project whose essence is “automatism,” policy exogeneity implied that banks’ demand liabilities are in fact obstacles to a mixed circulation’s imitation of pure metal circulation. From this, it follows that an ideal banking industry must be *neutral* to money supply; *mutatis mutandis*, it must be confined to the role of intermediation and become the sheer negotiator of credit. As for the banking school, in favor of country banks’ discretion over note issuing as against a complete Bank of England monopoly, policy endogeneity implied that an ideal banking industry subject to the law of reflux can (and *should*) adjust its supply of demand liabilities elastically to accommodate changes in people’s reserve demand for money. The old debate regarding the most desirable banking system thus can be simply summarized as *neutral bank* versus *passive bank*.

³ The two terms are borrowed from Blaug ([1962] 1996, 635). Our usage, however, differs from Blaug’s on two points: first, by the term “model exogeneity (endogeneity)” we do not imply a positivist position on the methodology of economics; second, the term “policy exogeneity (endogeneity)” refers originally to the capability of state/central banks to deliberately influence money supply.

The passage of the 1844 Peel's Act marked a temporary triumph of the currency school over its rival. However, this did not prevent the banking school from enjoying a de facto victory in the following years (Rothbard 1995, 260). The two sides' de facto consensus on the necessity of convertibility to a sound monetary system was enhanced due to the renewed attacks from the Birmingham opponents of the gold standard and convertibility. The schools' tendency to defend the 1844 Peel's Act status quo eclipsed the schools' fundamental disagreements on theory and policy and left them unresolved until the time of Mises, who critically examined and advanced from both schools a comprehensive analysis of free banking.

MISES, THE CURRENCY SCHOOL, AND THE IDEA OF FREE BANKING

There is little doubt that Mises was both an adherent of and significant contributor to the currency school's basic doctrines. Mises himself described his monetary and trade cycle theories as "an elaboration and continuation of the doctrines of the Currency School" (Mises [1952] 2009, 24).

Mises's strong adherence to the currency school's doctrines also has been eloquently shown by scholars in Austrian tradition. For example, Salerno (2012) points out the strong coherence between the currency school's pure metal doctrine and Mises's sound money principle; Hülsmann (2012) notes the similarity between Mises and the currency school's methods of monetary analysis; McCaffrey (2012) summarizes Mises's significant modifications of the currency school's "mechanical" quantity theory of money and incomplete monetary trade cycle theory.

The currency school's idea of banks' two conflicting activities is also the starting point of Mises's general theory of money and banking. Being equipped with the Mengerian casual-realist approach to classification of money, Mises ([1952] 2009, 261–75) reformulated the two conflicting activities as the practically intertwined activities of *transferring commodity credit* and *granting circulation credit*. Although the former represents the role of banks as "pure negotiators of credit" and concerns only the transference

of a certain amount of money proper entrusted to the bank by depositors, the latter is the activity arising from the fact that banks are simultaneously issuers of demand liabilities, which from the point of view of depositors constitute substitutes for money proper such as gold. In a sharp contrast to commodity credit, circulation credit can be granted in the absence of the necessary funds voluntarily transferred by depositors simply by issuing unbacked demand liabilities, or *fiduciary media*, as opposed to backed demand liabilities, or *money certificates*. With the vehicle of circulation credit, banks can easily engage in *credit expansion* by issuing additional fiduciary media. Mises thus reached almost the same conclusion as the currency school—that banks, which simultaneously function as negotiators of commodity credit and issuers of demand liabilities qua money substitutes, can deliberately influence the total amount of mixed circulation *independent of* possible variations in people's reserve demand for money:⁴

The circulation of fiduciary media is in fact not elastic in the sense that it automatically accommodates the demand for money to the stock of money without influencing the objective exchange-value of money, as is erroneously asserted. It is only elastic in the sense that it allows of any sort of extension of the circulation, even completely unlimited extension, just as it allows of any sort of restriction. (Mises [1952] 2009, 312)

⁴ Mises ([1952] 2009, 313, 330, 334–35) thus paid special attention to those “artificial” limits on fiduciary media: empirically, there is a kind of *legislative and mercantile custom* among “self-sufficing” banks that holds that the creation of fiduciary media *should* be restricted, and the manifestation of this custom in banking policy is that as a rule banks “give preference to short-term loans as investments.” Discussion of this rule can be traced back to Adam Smith. However, it is important to note that Mises here not only went beyond Smith by construing this rule more as a manifestation of the general desire of the banking industry to restrict fiduciary media than a criterion of judging the soundness of a bank, but also differed from the banking school's possible conception that banks by following this rule can have enough liquidity to deal with the challenge posed by demand for convertibility: “The German Bank Act of March 14th, 1875, required that the notes issued in excess of the gold cover should be covered by bills of exchange; but in practice this provision has been understood to refer only to commodity-bills. The significance of this prescription differs from that popularly attributed to it. . . . *Neither has it the significance for maintaining the possibility of conversion of the notes that is ascribed to it. . . . The limitation of the note issue not covered by metal, that is of fiduciary media in the form of bank-notes, is the fundamental principle of the German Act*” (Mises [1952] 2009, 313, italics added).

In light of this theoretical conclusion, Mises proposed a policy prescription that follows essentially the spirit of the 1844 Peel's Act and argued for strict 100 percent gold coverage for any additionally created fiduciary media

Now it is obvious that the only way of eliminating human influence on the credit system is to suppress all further issue of fiduciary media. The basic conception of Peel's Act ought to be restated and more completely implemented than it was in the England of his time by including the issue of credit in the form of bank balances *within the legislative prohibition*. (Mises [1952] 2009, 408, italics added)

After the publication of the first edition of *The Theory of Money and Credit* in 1912, Mises witnessed World War I, hyperinflation in Austria and Germany, the establishment of a gold exchange standard, the expansion of étatist policies, and the resultant deterioration of money and bank legislation. Experience betrayed the fantasy of relying on a *deus ex machina* to solve these problems. Not surprisingly, Mises started to seriously consider whether the situation would be different in the absence of monopolized note issuing. Mises thus paid more attention to the idea of free banking in the second edition of *The Theory of Money and Credit*, in an independent subsection entitled "The Problem of the Freedom of the Banks." Although his main thesis is that free banking per se cannot provide safeguards against state encroachment and is politically impossible if an étatist ideology prevails, Mises ([1952] 2009, 395–400) still generally endorsed the idea of free banking and contended that in comparison with a system of monopolized note issuing, a uniform procedure among competing banks to expand circulation credit in concert can hardly be possible under free banking.⁵ The task of Mises's general theory of free banking was to further elucidate how free banking can prevent the overexpansion of circulation credit.

⁵ Therefore, on the one hand, Mises ([1928] 1978, 148–49; [1952] 2009, 448) maintained that his policy prescription was indispensable and prior to any subsequent monetary and cyclical policies. On the other hand, he saw the establishment of free banking as out of the question for the time being and the reconstruction of a pure gold standard as of much more political urgency (Mises [1928] 1978, 149).

THE LAW OF REFLUX AND MISES'S FREE BANKING THEORY

In contrast to his many points of agreement with the currency school, Mises mercilessly attacks the banking school. However, considering the banking school's own formulation of its doctrines, Mises's criticisms are not as clear-cut as they first appear to be and are in fact somewhat off the mark. Considering the free banking regime he envisaged in *Human Action*, it is odd that Mises was not more sympathetic toward the banking school.

There is some ambiguity in the money and banking literature regarding how to interpret the banking school's doctrines. "The banking principle," contended Wicksell ([1906] 1935, 172), is "a vague name for an essentially vague thing." Mises frequently employed the same term in *The Theory of Money and Credit* without explaining its exact meaning. General speaking, Mises was denoting the banking school's claim of the impossibility of creating surplus demand liabilities, but this generalization is a rather imprecise representation of the banking school's doctrines. In fact, looking back to the history of economic thought, at least two closely intertwined but categorically distinct doctrines can be identified, the real bills doctrine and the law of reflux. Both lead to the same conclusion that a surplus is impossible and that therefore a "correct" quantity of demand liabilities can be maintained.

The real bills doctrine, pioneered by Adam Smith and later accepted by antibullionists, claims that no surplus demand liabilities can be issued so long as banks discount only short-term "real bills of exchange," which are certificates of debt born from the actual sale of commodities on credit, usually with maturities of less than ninety days. According to this doctrine, banks advancing loans on real bills of exchange are merely answering borrowers' occasional demand for ready money (Arnon 2011, 40–41; Le Maux 2012). As for the banking school's general law of reflux, it may further be subdivided into two channels of reflux. The first may be labelled "the law of reflux in the form of loan repayment," or reflux through the repayment of maturing loans, and the second may be called "the law of reflux in the form of demand for convertibility," or reflux through the demand for redemption of demand liabilities from either the public or rival banks at the clearinghouse (Skaggs 1991;

Arnon 2011, 228).⁶ Any unwarranted amount of demand liabilities will reflux back to the banking system through those channels.⁷

How do Mises's criticisms fit in? His most comprehensive rebuttals to the banking school can be found in *The Theory of Money and Credit*, and most of them focus on two independent points that are directed toward Fullarton: Fullarton's "doctrine of hoards" in opposition to the quantity theory (Mises [1952] 2009, 146–51) and the law of reflux in the form of loan repayment. With regard to the latter, Mises writes:

Unlike money, fiduciary media do not come on to the market as payments, but as loans, Fullarton teaches; they must therefore automatically flow back to the bank when the loan is repaid. This is true. But Fullarton overlooks the possibility that the debtor may procure the necessary quantity of fiduciary media for the repayment by taking up a new loan. . . . When the loans granted by the bank through the issue of fiduciary media fall due for repayment, then it is true that a ponding sum of fiduciary media returns to the bank, and the quantity in circulation is diminished. But fresh loans are issued by the bank at the same time and new fiduciary media flow into circulation. (Mises [1952] 2009, 308, 310)

⁶ The banking school too made a particular emphasis on short-term real bills in relation to loan maturation reflux. They advocated the "real bills principle"—a general guiding rule of sound banking policy that claims that banks should keep in their portfolios sufficient short-term real bills to maintain regular inflows of liquidity. Both the real bills principle and real bills doctrine, however, can be traced back to the writings of Adam Smith; see Glasner (1992) and White (2015).

⁷ It is argued that for the banking school the loan repayment reflux is always subordinate to the redemption demand reflux and that ultimately it is the demand for conversion that governs and maintains a "correct" amount of circulation (Glasner 1992; Le Maux 2012, 605–7). Nevertheless, Tooke and Fullarton were admittedly ambiguous on this point. Take, for example, the words of Tooke (1848, 185): "The Law of Reflux . . . takes place chiefly in two ways: by payment of the redundant amount to a banker on a deposit account, or by the return of notes in discharge of securities on which advances have been made. A third way is that of a return of the notes to the issuing bank by a demand for coin. *The last . . . is certainly the one least in use*" (italics added), or Fullarton (1845, 67): "It is not so much by convertibility into gold, as by the regularity of the reflux, that in the ordinary course of things any redundancy of the bank-note issues is rendered impossible." Such ambiguity exposes the banking school to the charge of belittling the role of convertibility in reflux. See, for example, Selgin (1989). For the purpose of this section, it suffices to simply point out the two distinct channels of reflux as plainly described by the banking school.

“The fatal error of Fullarton and his disciples,” Mises continues, was

to have overlooked the fact that even convertible bank-notes remain permanently in circulation and can then bring about a glut of fiduciary media the consequences of which resemble those of an increase in the quantity of money in circulation. Even if it is true, as Fullarton insists, that bank-notes issued as loans automatically flow back to the bank after the term of the loan has passed, still this does not tell us anything about the question whether the bank is able to maintain them in circulation by repeated prolongation of the loan. (Mises [1952] 2009, 345)

Having thus rejected the law of reflux in the form of loan repayment, Mises ([1952] 2009, 308–09) quickly turns to “the more recent literature of banking theory,” which “has laid stress upon the significance of *the short-term commodity-bill* for the establishment of an elastic credit system” (emphasis added). Mises argues,

When we see that the quantity of the commodity bills presented for discount increases at certain times and decreases again at other times, we must not conclude that these fluctuations are to be explained by variations in the demands for money of individuals. The only admissible conclusion is that under the conditions made by the banks at the time there is no greater number of people seeking credit. If the banks-of-issue bring the rate of interest they charge in their creditor transactions near to the natural rate of interest then the demands upon them decrease; if they reduce their rate of interest so that it falls lower than the natural rate of interest, then these demands increase. The cause of fluctuations in the demand for the credit of the banks-of-issue is to be sought nowhere else than in the credit policy they follow. (Mises [1952] 2009, 311)

Mises thus rejected real bills doctrine. The line of reasoning here, later summarized by Lawrence H. White as “the inelastic-supply-of-bills fallacy,” contributes to a decisive rebuttal of this doctrine (White [1984] 1995, 123).

In summary, there are two parallel rejections of the so-called banking principle in *The Theory of Money and Credit*, one associated with the banking school’s description of reflux through the channel of loan repayment and another associated with the real bills doctrine advocated by Adam Smith, antibullionists, and

German adherents of the banking school.⁸ However, Mises ([1928] 1978, 105) later abruptly associated the “banking principle” with real bills doctrine *alone*: “The Banking School doctrine maintains that if fiduciary media are issued by the banks only to discount short-term commodity bills, then no more would come into circulation than were ‘needed’ to liquidate the transactions.” This association remained unaltered and finally became Mises’s standard interpretation of the banking school in *Human Action* (Mises [1949] 1998, 436–37).⁹

Therefore, the law of reflux in the form of demand for convertibility did not specifically become the object of Mises’s criticisms of the banking school. In fact, Mises later explicitly accepted this form of the law of reflux as one of the two pillars of his free banking theory.¹⁰ In a subsection of *Monetary Stabilization and Cyclical Policy* entitled “Free Banking,” for the first time Mises explained how the choice of freely competing banks to redeem their rivals’ negative clearing balances at clearinghouses will compel expanding banks to discard their expansionist discounting policies:

Even if governments had never concerned themselves with the issue of fiduciary media, there would still be banks of issue and fiduciary media in the form of notes as well as checking accounts. There would then be no legal limitation on the issue of fiduciary media. Free banking would prevail. . . . If several banks of issue, each enjoying equal rights, existed side by side, and if some of them sought to expand the volume of circulation credit while the others did not alter their conduct, then at every bank clearing, demand balances would regularly appear in favor of the conservative enterprises. As a result of the presentation of notes for redemption and withdrawal of their cash balances, the expanding banks would very quickly be compelled once more to limit the scale of their emissions. (Mises [1928] 1978, 124)

At this stage, Mises ([1928] 1978, 124) maintained some reservations regarding whether a free banking system subject to the

⁸ It appears that the German versions of the “banking principle” are inclined to confuse real bills doctrine with the law of reflux; see McCaffrey (2012) on Rudolf Hilferding’s presentation of the “banking principle.”

⁹ Le Maux (2012) argues that this interpretation impoverishes the theoretical framework of the banking school.

¹⁰ Another one is “the Mechanism of Brand Extinction”; see Salerno (2012).

law of reflux could render overexpansion of circulation credit completely impossible:¹¹

In the course of the development of a banking system with fiduciary media, crises could not have been avoided. However, as soon as bankers recognized the dangers of expanding circulation credit, they would have done their utmost, in their own interests, to avoid the crisis. They would then have taken the only course leading to this goal: extreme restraint in the issue of fiduciary media. (Mises [1928] 1978, 124–25)

This skepticism, however, later totally disappeared from *Human Action*: by assuming the “coexistence of a multiplicity of independent banks” and that “several independent banks have been established in the past . . . [which] have introduced the use of money-substitutes a part of which are fiduciary media,” Mises ([1949] 1998, 441) argued that the law of reflux would ensure that

a bank can never issue more money substitutes than its clients can keep in their cash holding. The individual client can never keep a larger portion of his total cash holding in money-substitutes than that corresponding to the proportion of his turnover with other clients of his bank to his total turnover. (Mises [1949] 1998, 435)

Overexpansion of circulation credit is thus rendered completely impossible:

Free banking is the only method available for the prevention of the dangers inherent in credit expansion. It would, it is true, not hinder a slow credit expansion, kept within very narrow limits, on the part of cautious banks which provide the public with all information required about their financial status. But under free banking it would have been impossible for credit expansion with all its inevitable consequences to have developed into a regular—one is tempted to say normal—feature of the economic system. Only free banking would have rendered the market economy secure against crises and depressions. (Mises [1949] 1998, 440)

It must be emphasized that Mises did not in fact expect the disappearance of credit expansion. Nevertheless, he still insisted on the impossibility of credit expansion on a *large* scale, or

¹¹ Hereafter we will drop the tedious qualifier “in the form of demand for convertibility” from mentions of Mises’s law of reflux.

overexpansion. Mises ([1949] 1998, 439) thus implicitly drew from the general phenomenon of trade cycles a distinction between *fluctuations* and *economic crises*: although any additional issue of fiduciary media, or credit expansion, will necessarily bring about trade cycles, only *overissue* of additional fiduciary media, or overexpansion, can result in severe *economic crises*, as opposed to mere *fluctuations* of an economy.

This change of attitude marked a significant turning point in Mises's free banking theory: in 1928, Mises saw the law of reflux as nothing more than one workable mechanism that contributes to an ex post check of credit expansion, and it might possibly fail to prevent the deterioration of mere fluctuations into severe crises and depressions; in 1949, Mises no longer held the same view and clearly associated the law with a much stronger claim that severe economic crises are not possible under free banking.¹² This final view may be referred to as the theorem of impossibility of overissue under free banking, which echoes Mises's earliest formulation of free banking, presented in *The Theory of Money and Credit*:

A single bank carrying on its business in competition with numerous others is not in a position to enter upon an independent discount policy. If regard to the behaviour of its competitors prevents it from further reducing the rate of interest in bank-credit transactions, then—apart from an extension of its clientele—it will be able to circulate more fiduciary media only if there is a demand for them even when the rate of interest charged is not lower than that charged by the banks competing with it. Thus the banks may be seen to pay a certain amount of regard to the periodical fluctuations in the demand for money. They increase and decrease their circulation *pari passu* with the variations in the demand for money, so far as the lack of a uniform procedure makes it impossible for them to follow an independent interest policy. But in doing so, they help to stabilize the objective exchange-value of money. To this extent, therefore, the theory of the elasticity of the circulation of fiduciary media is correct; it has rightly apprehended one of the phenomena of the market, even if it has also completely misapprehended its cause. And just because it has employed a false principle for explaining the phenomenon that it has observed, it has also completely closed the way to understanding of a second tendency of the market, that emanates from the circulation of fiduciary media. (Mises [1952] 2009, 312)

¹² For a detailed investigation of this change, see Neil (2016).

The above argument is substantially the same as the banking school's strong version of the law of reflux. The line between Mises's formulation of the law of reflux and the banking school's strong version of it was gradually blurred as skepticism disappeared from Mises's ideas, and as a direct result, a gradually stronger coherence between Mises and the banking school is observed over time.

MISES AS A CURRENCY SCHOOL FREE BANKER REEXAMINED

Now this article comes to the crossroads of specifying the exact position of Mises in the history of economic thought. The difficulty arises from the fact that Mises was at one and the same time the most important contributor to the currency school's doctrines and the most uncompromising advocate of the efficacy of the law of reflux under free banking. Before we come to our own conclusions, it might be feasible to address beforehand the views of some commentators on this problem.

The MFRFB school argues that there was in the history of economic thought an independent "free banking school" challenging the currency and banking schools and that Mises should be classified as a successor of this tradition (White [1984] 1995, 135). The main problem with this interpretation is that the existence of a theoretically robust "free banking school" appears to be very questionable (Rothbard, 1988; Arnon 2011, 272–74). To be precise, the people who are considered representatives of this "free banking school" appear to be a particular group within the banking school who shared a special distrust of the Bank of England. Therefore, efforts to trace Mises's free banking theory back to its theoretical predecessors can lead to no feasible choice but the banking school.

The second interpretation is from the modern full-reserve free banking school. Huerta de Soto (2006, 645–46) distinguishes four schools of monetary thought and then credits Mises with advocating a "free-banking system subject, without privileges, to private law (i.e., to a 100-percent reserve requirement)." The main drawback of this classification, however, is that Mises himself was too smart for this. In *The Theory of Money and Credit*, Mises asked why in the progressive extension of the exchange economy fiduciary media has

never been totally suppressed. His answers to this question (Mises [1952] 2009, 321–23, 349–50) lead to the conclusion that “fiduciary media did not come into existence as instruments of government policies. . . . They evolved out of the regular business of banking” (Mises [1949] 1998, 787–88). Hence, Mises was not a full-reserve free banker, and where he explicitly expressed his attitude toward a full-reserve legislative requirement, he described it as a form of government interference (Mises [1949] 1998, 439–40).

The third approach, which is also the most satisfactory one at this point, was first presented by Vera Smith ([1935] 1990, 144–45, 175–76) and then followed by Rothbard (1988) and Salerno (2012). It correctly points out that Mises’s proposal for free banking should be understood in light of his circulation credit trade cycle theory. Mises, according to this interpretation, is a “currency school free banker,” since for him free banking is the most suitable means to restrict additional issue of fiduciary media.

In particular, Salerno (2012) argues convincingly that Mises expected a complete suppression of banknotes under free banking, which supports the interpretation of Mises as a defender of the currency school’s pure metal doctrine. Further proof of Mises as a defender of pure metal doctrine can be found in the following quotes from *Human Action*:

A lot of nonsense has been written about a perverse predilection of the public for banknotes issued by dubious banks. The truth is that, except for small groups of businessmen who were able to distinguish between good and bad banks, banknotes were always looked upon with distrust. It was the special charters which the governments granted to privileged banks that slowly made these suspicions disappear. . . . The poorer the recipient of a banknote is and the less familiar he is with bank affairs, the more quickly will he spend the note and the more quickly will it return, by way of retail and wholesale trade, to the issuing bank or to people conversant with banking conditions. (Mises [1949] 1998, 435)

If the governments had never interfered, the use of banknotes and of deposit currency would be limited to those strata of the population who know very well how to distinguish between solvent and insolvent banks. (Mises [1949] 1998, 444)

Mises thus argued that under free banking the majority will discriminate against demand liabilities and demand liabilities will

be used by a minority of people who discriminate against demand liabilities issued by banks that they distrust.

However, it is hard to agree with Salerno's conclusion that "Mises advocated free banking as the most suitable means for achieving the goal of *completely suppressing* the issue of additional fiduciary media" (Salerno 2012, italics added). According to Salerno, free banking is for Mises the means to render any additional issue of fiduciary media completely impossible: "In effect, Mises looked forward to a marginal 100-percent reserve ratio on the issue of bank notes and deposits as the outcome of the operation of a free banking regime" (Salerno 2012).

Even this conclusion claims a bit much for Mises. A close examination of Mises's impossibility theorem shows that there are two parts to Mises's views on free banking. First, as rightly pointed out by the "currency school free banker" interpretation of Mises, free banking is for Mises a system approximating the currency school's ideal of pure metal circulation *and* the most suitable means to restrict additional issue of fiduciary media. The second point is closely associated with Mises's formulation of the law of reflux but has heretofore escaped the notice of the followers of this interpretation. Mises posited that additional issue of fiduciary media under free banking is subject to the restriction of the law of reflux, not that the law renders such creation impossible. On the one hand, for Mises, an ideal free banking regime is *passive* in supplying fiduciary media; that is, the discounting policies of competing banks are ultimately determined by the public's demand for redemption of unwarranted amounts of demand liabilities. On the other hand, additionally created fiduciary media will still generate effects on price structure and cause intertemporal misallocations that represent the *fluctuations* of an economy. This interpretation is consistent with and evidenced by Mises's implicit view that only overissue can cause severe economic crises, his belief that fiduciary media is a kind of natural outcome of market forces, and his explicit justification of fiduciary media in terms of its supposed economic advantages (Gertchev 2004, 73–77). It therefore can be concluded that Mises did not align himself with the currency school's neutral-bank doctrine.

In summary, although it is not inappropriate to call Mises a "currency school free banker," Mises's answer to the question of

the ideal banking system (viz., a free banking system), seems to align more with the banking school's doctrine of passive banks. Therefore, Mises's free banking theory is better understood as a kind of resolution to the old currency school–banking school debate.

Clearly, if the theorem of impossibility of overissue under free banking held true with apodictic certainty, then Mises's free banking theory would be a seamless integration of the doctrines of the currency and banking schools and represent a decisive resolution to the old debate. However, the theorem is not immune to all possible criticisms.

A CHALLENGE TO THE LAW OF REFLUX AND THE IMPOSSIBILITY THEOREM

In this section, Mises's impossibility theorem and the law of reflux will be critically examined. Mises derives the theorem of impossibility of overissue under free banking from the law of reflux, which ultimately is attributable to some *specific conditions* of the monetary and banking systems. To clarify this point, imagine a mixed circulation in which both gold and demand liabilities issued by banks are employed as general media of exchange.¹³ The total money supply under a mixed circulation equals the total amount of gold plus the total amount of fiduciary media. People keep a part of the total money supply as their cash holdings and spend the rest on various goods and services. This idea can be expressed in the form of Rothbard and Salerno's equation (Rothbard [1962] 1993, 815–18; Salerno 2010) as

$$(1) MD_R (\text{gold} + \text{fiduciary media}) = MS (\text{gold} + \text{fiduciary media}) - [(P_1 \times Q_1) + (P_2 \times Q_2) + \dots + (P_N \times Q_N)]$$

MS is the total money supply, comprising the total supply of gold and the total supply of fiduciary media; MD_R is people's reserve demand for cash holding; $P_1 \dots P_N$ is the market-clearing price of nonmonetary commodities 1 to N ; $Q_1 \dots Q_N$ is the market-clearing quantity of nonmonetary commodities 1 to N ; and $[(P_1 \times Q_1) + (P_2 \times Q_2) + \dots + (P_N \times Q_N)]$ is people's money expenditures, or people's exchange demand for nonmonetary commodities 1 to N .

¹³ We ignore the technical difference between banknotes and demand deposits.

And the market's equilibrium condition from the money side can be described as

$$(2) MS = MD_E + MD_R = MD$$

MD_E is people's exchange demand for money. It equals the total receipts of money from the sale of goods and services, or people's money expenditures, $[(P_1 \times Q_1) + (P_2 \times Q_2) + \dots + (P_N \times Q_N)]$.

It is now assumed that *all people are indifferent between demand liabilities and gold*. All people demonstrate a firm belief that demand liabilities are substitutes for gold by receiving both indifferently as their monetary incomes from the sale of goods and services *and* by keeping both indifferently as cash holdings. As a result, all people become the "clients" of all banks, and nobody within the economy bears the cost of actual redemption. From the perspective of the banking industry in general, this means that technically banks' reserve ratios can be infinitely close to zero. Demand liabilities are "convertible" only in the nominal sense and can be covered by as many bills of varying maturity as possible. This assumption thus ensures that the total money supply includes almost all the outstanding demand liabilities issued by the banks.

This restrictive assumption is softened by supposing that *not all people are ready to accept demand liabilities issued by banks as substitutes for gold*. Since those people refuse to accept demand liabilities in their monetary incomes and cash holdings, all the transactions between "clients" and these "nonclients" must be settled not by demand liabilities, but by sound money proper (i.e., gold). Consequently, a certain portion of the total demand liabilities must be redeemable as gold to satisfy payment requests. This means that banks *are forced* to keep on reserve a certain portion of the gold received, whether from deposits or loan repayment. Other things being equal, the more "nonclients" banks have, the larger the gold reserve that banks must keep in their vaults to meet this normal need for redemption, and the larger the portion of demand liabilities qua money certificates in the total demand liabilities, which is tantamount to a lower supply of fiduciary media.

The restriction is further softened by allowing for *the existence of people who accept demand liabilities as substitutes for gold but differentiate between different brands of demand liabilities*. This will be the case when the banks of a fractional reserve banking industry treat

each other merely as competitors instead of forming a cartel. Here demand liabilities issued by Bank A will be refused not only by those nonclients of banks in general, but also by nonclients of Bank A. Nonclients of Bank A who have received notes and checks issued by Bank A will deposit them at other banks. Rival Banks will then force the redemption of Bank A's demand liabilities at clearing-houses if a negative clearing balance appears on the side of Bank A's account. The introduction of free competition thus will lead to a higher reserve ratio for each individual bank than would be the case if all banks were issuing fiduciary media in concert.¹⁴

The previous conclusions are purely derived from a "comparative static analysis" of three independent economic systems that are assumed to differ only in the relative proportion of nonclients to clients of each individual bank. It has been shown that other things being equal, the higher the relative proportion of nonclients, the higher the reserve ratio of each individual bank and the lower the quantity of fiduciary media issued—and consequently the total money supply—will be. If nobody thinks of demand liabilities as substitutes for gold, then there will be no supply of fiduciary media at all. Banks will be confined to the role of credit intermediation and work only with their own saved funds and those funds that depositors have entrusted to them. That is, there will be a pure loan banking industry (Rothbard [1983] 2008, 75–84).

Imagine now a *single economic system* of fractional reserve free banking with gold as the standard money. It is first supposed, as Mises did, that each individual bank's proportion of nonclients to clients is *constant* and that all banks have already adapted their reserve ratios to these proportions.

¹⁴ For the sake of argument, until now we have simply assumed the absence of credit transactions between nonclients and clients. Jettisoning this assumption, we allow the existence of 1) clients who sell their demand liabilities at a premium and 2) nonclients who acquire demand liabilities to hold through sales of present gold (the premium paid for these secondary media of exchange comes from the service rendered by holding them; viz., a reduction in the costs of holding gold). The existence of a credit market not only provides an alternative for clients to acquire the gold they need to settle payments with nonclients. Nonclients who want to use demand liabilities, or secondary media of exchange, for payment or to increase their cash holdings can also, besides asking for a direct redemption, resort to the credit market to get the gold they need. The introduction of a credit market thus will lead to a lower rate of redemption and a lower reserve ratio for banks than otherwise.

It is very easy for a bank to increase the number of people who are ready to accept loans granted by credit expansion and paid out in an amount of money-substitutes. But it is very difficult for any bank to enlarge its clientele, that is, the number of people who are ready to consider these claims as money-substitutes and to keep them as such in their cash-holdings. To enlarge this clientele is a troublesome and slow process, as is the acquisition of any kind of good will. On the other hand, a bank can lose its clientele very quickly. (Mises [1949] 1998, 436)

Suppose now that one or several banks start to issue additional fiduciary media to their “clients.” The clients will quickly dispense with newly created fiduciary media by increasing their monetary expenditures in order to *maintain* their real balances and thus will generate temporary disequilibrium between the desired quantity of goods and services and their current supply. The market prices of those goods and services affected thus will be driven up, step by step, to the level at which the amount of goods and services demanded and supplied are again equal:

$$(3)^{15} \text{ Monetary expenditures} = (P_1 \hat{u} \times Q_1) + (P_2 \hat{u} \times Q_2) + \dots + (P_{N-Y} \hat{u} \times Q_{N-Y}) + (P_{N-Y+1} \times Q_{N-Y+1}) + \dots + (P_N \times Q_N) = MS (\text{gold} + \text{fiduciary media} \hat{u}) - MD_R (\text{gold} + \text{fiduciary media})$$

$$(4) MS \hat{u} = MD_E \hat{u} + MD_R = MD \hat{u}$$

People whose real balances are threatened by rising prices will then, given a fixed supply of goods and services, *restore* their real balances by restricting expenditures of money on nonmonetary commodities and thus bring about an increase in the nominal amount of money demanded for cash holding:

$$(5) MD_R (\text{gold} \hat{u} + \text{fiduciary media} \hat{u})$$

This behavior will reduce, but not completely offset, the upward effects on price structure generated by the initial increase in fiduciary media. *If no other changes in data were to occur*, then the market would finally reach a *final state of rest* at which the purchasing power of money will have been completely adjusted to a *lower* level:

$$(6) MS \hat{u} = MD_E \hat{u} + MD_R \hat{u} = MD \hat{u}$$

¹⁵ $P_1 \dots P_{N-Y}$ is the market-clearing price of nonmonetary commodities, which is affected by increased expenditures of fiduciary media.

Would the aforementioned *if* condition stand? Or in other words, is it true that a final state of rest with a lower purchasing power of money would be reached at the end of the process? To answer this question, remember that according to the assumption specified previously, the banks' proportions of "clients" to "nonclients" do not increase during the whole period of artificial expansion. It follows that the newly created fiduciary media, except for a fraction absorbed by clients who want to restore their previous real balances, will not be absorbed by fresh reserve demand for them and will only be able to be spent *endlessly* on various goods and services. By spending it, however, the clients will inevitably encounter nonclients, who create an obstacle to further trades by demanding redemption of their demand liabilities first. Therefore, additional fiduciary media left over after the real balance effects is inevitably bound up in an *excessive* outflow of gold reserves from expanding banks.¹⁶ With their gold reserves being threatened, the expanding banks, which are afraid of a sudden loss of their clients' confidence in their demand liabilities' status as money substitutes, must sooner or later increase discounting rates and change reserve ratios to adapt to their proportions of clients to nonclients.¹⁷ A contraction of the supply of fiduciary media thus will occur *before* the unabsorbed fiduciary media can exhaust all their upward

¹⁶ In particular, those nonclients who hold demand liabilities as secondary media of exchange will possibly restore their real balances, not by restricting their gold expenditures on nonmonetary commodities, but by asking for a direct redemption of their stored demand liabilities. These nonclients will thus contribute to an extra outflow of gold reserves. I am indebted to Dr. Kristoffer Hansen for reminding me of this point. Although this will possibly occur directly as a part of the real balance effects, at least a certain fraction of the demand liabilities stored by nonclients will alternatively be sold in the credit market due to the existence of a credit market for demand liabilities. That is, a net increase in the nominal amount of gold demanded by nonclients trading in the credit market will be financed by a net increase in the nominal amount of demand liabilities demanded by clients. This amounts to a shift of gold from the cash holdings of clients to those of nonclients and hence will not generate pressure on banks' gold reserve.

¹⁷ This process must not be misunderstood as referring to the process of restoring expanding banks' reserve ratios to the preexpansion levels. It is the excessive turnover of outstanding demand liabilities unwarranted by people's reserve demand, not something like a statutory reserve requirement, that generates pressure on discounting policies. For the difference between *economic* reserve requirements and *statutory* reserve requirements, see Selgin (1988, 71).

effects on price structure. Other things being equal, the prices of those goods and services influenced by this new datum will be driven down as the markets equilibrate. A *final state of rest* at which the purchasing power of money is *equal* to its level before artificial expansion would thus finally be reached, provided no further changes in data occur.¹⁸

Several observations can be drawn from the previous analysis.

First, it is evident that it is the proportion of bank nonclients to clients that ultimately determines the strength of the law of reflux under a fractional reserve free banking industry. This ratio restricts the supply of fiduciary media by determining the *absolute peak amount* of fiduciary media in the total money supply, as emphasized by Mises ([1949] 1998, 436): “A reserve must be kept large enough to redeem all banknotes which a holder may submit for redemption . . . it must keep a reserve against the total amount of money-substitutes issued and thus combine issuing fiduciary media and money-certificates.” The proportion of nonclients also restricts the supply of fiduciary media by determining the *speed* of contraction of any unwarranted additional fiduciary media. That is, the higher the proportion, the higher the probability of clients trading with nonclients and the quicker the reflux of those demand liabilities unwarranted by people’s reserve demand will be to generate pressure on expanding banks’ discounting policies.

It follows immediately from the conclusion that the strength of the law of reflux is determined by the proportion of bank nonclients to clients that free competition in banking is *not* the ultimate determinant of the strength of the law of reflux per se: “The concatenation which sets a limit to credit expansion under a system of free banking . . . is brought about by the fact that credit expansion in itself does not expand a bank’s clientele, viz., the number of people who assign to the demand claims against this bank the character of money-substitutes” (Mises [1949] 1998, 441, italics added). As such, Mises’s impossibility theorem should be interpreted as a proposition derived ultimately from a specific *conjecture* about the monetary and banking systems. Such conjecture asserts that under a fractional reserve free banking

¹⁸ Despite the resultant “stabilization of purchasing power of money,” it must be remembered that the price structure will have permanently changed and that the distribution of wealth will not be the same as before the initial credit expansion.

industry with gold as the standard money, the vast majority will discriminate against demand liabilities and even clients of the banking industry will discriminate against most other brands of demand liabilities with which they are not so familiar (of which they are nonclients). The theorem also asserts that in a fractional reserve free banking industry, it is a very troublesome process to transform nonclients into new clients and for each individual bank to convince the clients of rival banks to accept a new brand of demand liabilities in their cash holdings. Mises's impossibility theorem, therefore, is essentially a *contingent* proposition, holding true only under those specific conditions, since otherwise the law of reflux would cease to be a strong limitation on the supply of fiduciary media, as the proportion of nonclients to clients of each individual bank can also fluctuate for other reasons.

Third, no matter how strong the law of reflux might be, all the distortive effects of new fiduciary media on price structure and time-consuming roundabout structures of production are still unavoidable. The law of reflux is intrinsically a mechanism that works only *ex post*. Its function, at most, is to prevent the creation of additional fiduciary media from deteriorating into unlimited credit expansion. In preventing *ex ante* the problem of intertemporal misallocations, the law of reflux is completely futile.

This discussion bears some insights for modern free banking debate.

Salerno (2012) sides with full-reserve free banking theorists and defends the primary role of the "mechanism of brand extinction" in limiting *ex ante* the additional issue of fiduciary media (that is, the idea that fractional reserve banks that are afraid of a sudden loss of confidence in their particular demand liabilities' status as money substitutes will be extremely cautious about their discounting policies). With full recognition of Salerno's thesis, this discussion bridges the gap between it and the law of reflux. It has shown the common origin of the law of reflux and the mechanism of brand extinction: both mechanisms are ultimately derived from the intrinsically fragile status of demand liabilities as money substitutes—viz., they are substitutes for money proper such as gold *if and only if* there prevails among people a firm belief that they can be such substitutes. It also supports the case made by Salerno (2012) that "long before the reserves of the relatively expansionary bank have

been exhausted by the adverse balance of payments faced by its clients, another factor would operate to extinguish the character of its notes and deposits as money substitutes. This factor is a loss of confidence on the part of its own clients in the bank's ability to discharge its debts in a timely manner." If the law of reflux is not strong enough in providing an ex post check of credit expansion, then it will certainly be the case that people shall have already lost their confidence, *long before* the reserve drains caused by the law of reflux could have come into force to correct the banks' additional issue of fiduciary media.

Hansen (2021) has recently argued that fiduciary media in a free market is by its very nature an entrepreneurial error and is intrinsically self-correcting. This conclusion is convincing. Nevertheless, the quibble is that people of different historical time periods may repeat the error of confusing the liabilities of a loan banking industry—i.e., callable loans—with *genuine* money substitutes—money certificates—and that at times the demand liabilities of a fractional reserve banking industry may acquire from people a comparatively widespread acceptance in exchange and as cash holdings. If this is the case in a free market with both free competition in the banking industry and, i.e., gold as the standard money, then fiduciary media will not be completely suppressed, and will be suppressed much less than would be the case if it were always subject to a strong limitation.

MFRFB theorists advocate a "mature" free banking regime in which *only* multiple brands of demand liabilities are used in exchange and cash holdings: "In a mature free-banking system, such as Ruritania's, commodity money seldom if ever appears in circulation, most of it (outside numismatic collections) having been offered to the banks in exchange for inside money" (Selgin 1988, 31). In such a "mature" system, "the value of inside money must then be identical to the outside money into which it is convertible, so that its value is fixed exogenously by convertibility (*even if no actual redemptions for coin or specie occur*), not by the quantity of inside money" (Glasner 1992, 885, italics added; see also Selgin 1988, 31–32). However, the conclusion arrived at here is that *it is precisely the actual redemption of demand liabilities for standard sound money such as gold that constitutes the essence of the law of reflux in restricting the supply of fiduciary media under fractional reserve free banking*. Although MFRFB theorists argue that the adverse clearing mechanism still

can correct surplus “inside money” and approximately realize “monetary equilibrium” (Selgin 1988, 37–47, 54; see also White 1999, 60–67), this discussion rather indicates that a free banking regime in which standard sound money plays no role in actual exchanges and cash holdings, and plays no more important role than other “assets fitting standard definitions of money” (Selgin 1988, 32), in the settlement of clearing balances at clearinghouses will not put a very strong restriction on the supply of fiduciary media.¹⁹

¹⁹ In such a free banking regime, since all brands of demand liabilities would be “assets fitting standard definitions of money,” all banks that possess a positive clearing balance would then simply treat this balance as a net increase in liquidity and pyramid on top of it a much greater quantity of their own brand of fiduciary media (and consequently an in-concert expansion of all brands of fiduciary media would occur). They could also choose to ask for redemption of the clearing balance. Since standard money would no longer be the only or even the main type of media employed in redemption, those banks suffering a negative clearing balance would find it far easier to meet the requirement by offering demand liabilities issued by the “trustworthy” third parties, or “secondary reserves.” It follows that an alternative option, to finance the needed amount for redemption through the interbank loan market, would fit both the short-run and long-run interest of each individual bank and thus literally transform every individual bank into a potential client of the rest. For a relevant discussion of the role of the interbank market in fractional reserve banking, see Gertchev (2012).

Some further notes on Gertchev (2012): Although we are in complete agreement that the interbank loan market is indispensable for fractional reserve banking and will weaken the power of the adverse clearing mechanism, we find that this conclusion applies more to MFRFB theorists’ “mature” free banking regime than a fractional reserve free banking system with standard sound money being *commonly* employed in *actual* transactions and cash holdings. In the latter system, standard sound money is not fully replaced by demand liabilities in its socioeconomic role. All brands of demand liabilities are not anchored *nominally* but *actually* to the standard sound money into which they are convertible. The latter system thus appears to be more of a system in which “the banks are competitors, not allies” (Rothbard [1983] 2008, 118), and the lack of trustworthiness among banks will make it very difficult for each brand of demand liabilities to gain the necessary trust to become the “secondary reserves” that might be used alternatively for routine settlement of clearing balances. Even if there are a few brands of demand liabilities that gain a large market share and temporarily acquire the status of “secondary reserves,” such status can be lost very easily, and ultimately standard sound money will be required in settlement of clearing balances. The size and scale of the interbank loan market therefore will be smaller than what it would be in a “mature” free banking system, for standard sound money is *the* scarce resource that every individual bank needs for meeting the frequent redemption requirements or further expanding its own brand of fiduciary media, and thus banks are much more interested in keeping standard sound money in their own reserves instead of lending it out through the interbank loan market.

In contrast to Selgin (1988, 29–33) and especially Dowd’s (1993, 62–65) formulation of a “mature” free banking regime, White (1999, 243–44) makes an interesting

CONCLUDING REMARKS

Mises's unique position as a currency school free banker represents an incomplete integration of the currency school's pure metal doctrine and circulation-credit trade cycle theory and the banking school's law of reflux and doctrine of passive banks. Not surprisingly, the inherent incompatibility of the currency and banking schools presages the ultimate split of the two traditions in the modern free banking literature. Although in common persuaded by Mises's perceptive observation regarding the disastrous consequences of government manipulation of monetary and banking affairs through central bank policies, modern free banking theorists finally split on the problem of whether free banking intrinsically requires a 100 percent reserve. The full-reserve free banking school, or "neo-currency school" (Salerno 2010), succeeds and advances the currency school's basic doctrines and reaches the same conclusion that banks must ultimately be neutral to money supply (Hoppe 1994, 1998; Huerta de Soto 2006; Hülsmann 2000, 2008). In contrast, the modern fractional reserve free banking school can be seen as the real successor of the banking school: their general theory of "mature" free banking and "monetary equilibrium" represents exactly an elaboration of the banking school's law of reflux and doctrine of passive banks, as well as an abandonment of the currency school's pure metal doctrine.²⁰

It is also clear that Mises's free banking theory implies as a necessary and sufficient condition the *actual* and *common* employment of sound standard money (viz., true commodity money like gold) by individuals in both exchange and cash holding. With this specific condition being satisfied, there would always be a widespread and active need for actual redemption of demand liabilities for the standard money, and in consequence a strong

case in which the public "is weaned from using base money as currency" while the standard money is still the *dominant* medium of redemption in interbank settlement. Although White's subsequent defense of this thesis might be true with respect to financial assets such as the debt or equity shares of private firms, it still does not explain why the "inside money" will not almost replace standard money in the routine settlement of clearing balances.

²⁰ The opposition between these schools is well demonstrated by Selgin (2000); and Hülsmann (2000).

limitation on the supply of fiduciary media.²¹ It is hoped that this investigation will not only be a help to theorists who are trapped in the question of whether Mises was a full-reserve free banker or a fractional reserve free banker, but also contributes to a deeper understanding of the nature of fractional reserve free banking and especially the law of reflux, to which the “neo-banking school” assigns so much importance in defense of their version of fractional reserve free banking.

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²¹ Rothbard (1992), therefore, is not merely on the edge of the free banking debate.

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