

# **Complementary Non-Quantity Theory Approaches to Money: Hilferding's *Finance Capital* and Free-Banking Theory**

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It is not that unusual in the history of economic thought to find a theorist whose work parallels the analysis of modern authors. However, it is somewhat noteworthy to find such a similarity between theorists from significantly different ideological perspectives. One example of this type of anticipation can be found in the work of the Austro-Marxist Rudolf Hilferding. Hilferding's *Finance Capital* ([1910] 1981) is one of the premiere works in Marxian literature. His analysis of money and the financial sector, and their relationship both to the increasing concentration of industry and to imperialism are considered to be landmark extensions of Marx's own thought. At the same time, however, his analyses of the emergence of money, competing currencies, and the American financial panic of 1907 are all strikingly similar to modern work within the broad approach known as free banking, which is normally associated with a political position diametrically opposed to Marxism.

Recent work on the theory of free banking is frequently acknowledged as beginning with Hayek's *The Denationalisation of Money* (1978), though an earlier paper by Klein (1974) should be noted as well.<sup>1</sup> Re-

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1. In hopes of avoiding needless doctrinal disputes, the term free banking is used here to denote a number of contributors to the current debate over the history and theory of non-centralized and/or greatly unregulated banking systems. There are important disagreements among these thinkers, and they should not be overlooked. However, Hilferding's observations  
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search in this area can be seen as an outgrowth of two related lines of inquiry: first, Hayek's work on the spontaneous evolution of social institutions, including money and finance, and second, the perceived failure of central bank policies during the high inflation and slow growth years of the 1970s and early 1980s. The theoretical contributions of Lawrence White (1984), George Selgin (1988), David Glasner (1989a), and Kevin Dowd (1989) reflect many Hayekian themes, while the historical work of Hugh Rockoff (1974), Arthur Rolnick and Warren Weber (1983), Richard Timberlake (1984), Gary Gorton (1985), and Steven Horwitz (1990) illustrate the possible empirical successes of the more free-banking-oriented periods before the Federal Reserve System.

This article attempts to both document and explain the similarities and possible differences between Hilferding's analyses and those of the free-banking authors. In particular, it argues that both Hilferding and the free-banking theorists reject the quantity-theoretic paradigm of modern monetary economics. The first section examines how both views explain the emergence of money. The second section explores the workings of a competitive currency system, and the third attempts to locate Hilferding and free banking in the history of monetary thought. The fourth section looks at how the insights of Hilferding and the free bankers can be applied to an episode in monetary history.

### **The Spontaneous Emergence of Money**

Hilferding begins his discussion of monetary institutions with the fundamental question of the origin of money. He starts in much the same way as Marx does in *Capital* by examining the nature of exchange and the development of the commodity. The problem with direct commodity exchange is that each good must have its value expressed directly in terms of every other good in order for exchange to take place. Hilferding argues that although these exchanges "already express a social relationship . . . [they] may be quite accidental or isolated" ([1910] 1981, 33). To become truly social, these relationships have to take on a more universal character. The function of money is to become a universal expression of value that overcomes the particulars of any individual exchange.

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touch on points of broad agreement and the internal differences among free banking contributors should not affect the value of his analyses.

Money therefore emerges as the one commodity against which all others exchange:

In the development of this [exchange] process, commodities gradually come to measure their respective values, with increasing frequency, by a single commodity, thus making that commodity a general standard of value. . . . As the value of commodities comes to be measured in multifarious exchanges, so it comes to be measured increasingly in terms of a single commodity, and this needs only to become established as the standard of value in order to become money. (32–33)

Crucial to Hilferding's explanation is that the process that gives rise to money is outside of anyone's control:

Money thus originates spontaneously in the exchange process and requires no other precondition. . . . Neither the state nor the legal system determines arbitrarily what the nature or medium of money shall be. . . . In the absence of state intervention an agreement with respect to a specific money can also be worked out by private persons—for example, by the merchants of a city. (36)

For Hilferding this is simply an example of a more general aspect of capitalist economies:

The anarchy of the capitalist mode of production consists in the fact that there is no conscious organization of production . . . action indeed is never conscious and purposive with respect to social association, but only with respect to the satisfaction of individual needs. In this sense it may be said therefore that the necessity to mediate exchange through money . . . arises from the anarchy of the commodity producing society. (35)

Money emerges as an unintended consequence of commodity production and exchange, rather than as the creation of the state or any other individual or group.

Hilferding's analysis is an extension of Marx's conception of money. In *Capital*, Marx suggests that the origin of money cannot be explained by some kind of "universal consent of mankind" (1906, 103), but rather as a relation of production that "assume[s] a material character independent of [man's] control and conscious individual action" (105). Marx also sees money as the pinnacle of the commodity producing society: "Is not money the bond of all *bonds*? . . . It is the true *agent of separation* as

well as the true *binding agent*—the universal *galvano-chemical* power of society” ([1932] 1964, 167).<sup>2</sup>

Many authors of the free-banking literature share this conception of money’s spontaneous emergence. The books by Selgin (1988) and Glasner (1989a) both include accounts of the origin of money and banking. Selgin describes these origins as a spontaneous process of evolution: “Moreover, though every step is a result of individuals finding new ways to promote their self-interest, the final outcome is a set of institutions . . . which was not consciously aimed at by anyone” (1988, 17). Glasner says of money that it “did not originate in a deliberate decision taken at a particular moment by a single individual or by an entire community. It emerged as the unintended consequence of a multitude of individual decisions” (1989a, 6). Hayek refers to “our understanding of the spontaneous generation of such undesigned institutions by a process of social evolution of which money has since become the prime paradigm” (1978, 33). Hayek, Selgin, and Glasner extend this understanding of money’s origin to explain how a completely unregulated banking system might evolve.

All three authors also attribute this evolutionary perspective on money to Carl Menger (1892). Menger offered a more detailed explanation of the emergence of money. He was particularly interested in showing that such an explanation need not rest on ascribing explicit consent or intent. Instead, he wanted to show how money could emerge “without convention, without legal compulsion, nay, even without any regard to the common interest” (248).<sup>3</sup> In his theory, individuals recognize that barter exchanges require the possession of goods that others find valuable. If one holds stocks of “salable” goods, then one finds it easier to execute barter transactions. Which goods are more salable than others is not known a priori to actors in Menger’s story; rather, during their attempts to undertake such trades, actors learn which goods are more or less salable.

Those who use more salable goods are better able to make trades and obtain more of the goods they ultimately desire. Others see this success

2. “Money is a knot in the skein of social relationships in a commodity producing society, a skein woven from the innumerable threads of individual exchanges” (Hilferding [1910] 1981). A very similar approach can be found in Georg Simmel’s *The Philosophy of Money* ([1907] 1978). Simmel combines elements of Marx and Menger (discussed below) in a very thorough examination of money’s role in forming economic and social bonds. For more on Simmel, see Frankel 1977, Laidler and Rowe 1980, and Horwitz 1992 (chapter 3).

3. An excellent overview of Menger’s theory can be found in O’Driscoll 1986.

and imitate the use of those particular goods as exchange intermediaries. Menger notes that “there is no better method of enlightening anyone about his economic interests than that he perceive the economic success of those who use the right means to secure their own” (249). This imitation process increases the salability of the commodities used as media of exchange, further enhancing their ability to serve that purpose. Eventually this process converges on one good as the most salable commodity, and that good becomes the generally accepted medium of exchange, that is, money.<sup>4</sup>

For Hilferding and free-banking theory, money originates without any conscious attempt to invent it on the part of any, or all, of the community. In Hilferding’s analysis, this is a small part of the broader anarchy of the financial world under capitalism. In the discussion of banking institutions that follows, he consistently applies this argument to banking legislation. For free-banking theory, the spontaneous origin of money provides the starting point for analyzing the continued evolution of banking institutions, including the process by which competing currency issuers could provide monetary order, and an alternative theoretical structure for understanding that process.

### **Competing Currencies and the Rejection of the Quantity Theory**

When modern monetary economists consider the theoretical relationship between banking institutions and the supply of money, they normally begin by assuming an exogenous money supply, via some kind of central bank, and then invoke the quantity theory of money to explain the effects of changes in central bank behavior. However, as Glasner points out, this is not the correct procedure for examining all banking institutions everywhere. Instead, it must be recognized that theories about money will depend on the institutions that supply it. Specifically, it matters

whether a money was supplied monopolistically by the government or competitively by private banks. . . . Confusion arose, in part, because correct inferences about how the quantity of a monopolistically sup-

4. One of the advantages of Menger’s story is that it explains why particular goods (such as gold and silver) have so frequently been used as money. Both goods have high subjective value to a large number of people and are thus quite salable. Marx (1906, 101) and Hilferding both fail to provide an explanation of why *particular* goods become money; they only note that *some* goods will.

plied money affects prices were incorrectly applied to circumstances in which money was supplied competitively. (1989a, 51)

This distinction plays a large role in Glasner's analysis of the viability of a competitive currency system. Selgin (1988) and White (1984) also stress the difference in money's behavior under these two different regimes. Hilferding, too, was aware of possible differences between the laws of "free coinage" and "government paper money" and used this distinction to help analyze the events of the late nineteenth century. In doing so, he discussed the "self-correcting" nature of inappropriate changes in the money supply that concerns modern free-banking theory.

Hilferding ([1910] 1981) also argued that the quantity theory of money should be seen in an institutional context

It was a defect of the quantity theory, from which not even Ricardo was free, that it confounded the laws of government paper money with those of circulation in general and the circulation of bank notes in particular. . . . Ricardo's mistake consists in applying without modification the laws which regulate currency in a system of suspended coinage to a currency based on a system of free coinage. (50–51)

One distinction between the two systems is the issue of convertibility. If paper money (and deposits) are convertible into gold (or other base money), then the quantity theory, in the sense that the quantity of paper money (and deposits) determines the price level, might not hold.

Under a system of suspended coinage . . . the entire sum of money must remain in circulation because, regardless of the volume issued, it derives its value from the commodities in circulation. The case is entirely different with free coinage. Money, in this case, enters or leaves circulation according to the prevailing demand for it. . . . The assumption of the quantity theory that changes in value are caused by either an excess or deficiency of money in circulation must therefore be ruled out at once. (56)<sup>5</sup>

Compare this to what Glasner says: "The value of convertible paper money equals that of the metallic money into which it is convertible. Since convertibility pins it down, the value of money is independent of

5. He also says, "Convertible credit money (unlike inconvertible paper money) can never be depreciated merely because a large volume of it has been put into circulation, but only when it cannot be redeemed in money" (63).

how much money the banking system creates" (1989a, 52). For both authors, convertibility provides a check against the public being forced to accept unwanted increases in the supply of money.<sup>6</sup>

Hilferding also offers an explanation as to why the quantity theory does not apply to free coinage: "Under a system of free coinage inflation is impossible even when the minimum of circulation is amply covered by legal tender paper money. Convertible credit money, when present in surplus amounts, *reverts back to the point of issue*" ([1910] 1981, 55; emphasis added). Later, he again points out, "The convertible note cannot be issued in excess quantities. . . . A bank note which is not required in circulation *is returned to the bank*" (86; emphasis added). The idea that excess supplies of credit money will flow back to the issuer is central to the versions of free-banking theory developed by White (1984) and Selgin (1988). White writes approvingly of supporters of free banking in nineteenth-century Britain that they "emphasized that competition, especially when acting through a note-exchange system as in Scotland, would rapidly check a relative overissue by any single bank. They explained in detail the operation of the interbank clearing mechanism that would bring about a reflux of excess notes on the issuer" (1984, 86). This same idea is also discussed by Selgin as "the principle of adverse clearings" (1988, 40). He shows that under a system of competitive note issue, banks that overissue currency (or deposits) will be penalized by a drain on reserves as they see more of their liabilities returned than they return of those of other banks.

Both Hilferding and Selgin see banks as pure financial intermediaries. Hilferding ([1910] 1981, 79) points out that some portion of total productive capital is always in the form of idle money capital. In order for capitalist economies to expand to their limits, this idle money capital has to be made active, and this is accomplished through bank credit.

Once released from the cycle of any one individual capital, [money capital] can function as money in the cycle of another capital if it is made available to other capitalists in the form of credit. In other words, this periodic release of capital is an important basis for the

6. Hayek entitled a section of his work on free banking "The Uselessness of the Quantity Theory for Our Purposes." He argues there that "the quantity theory presupposes, of course, that there is only one kind of money in circulation within a given territory. . . . It is by no means of the essence of money that within a given territory there should exist only one kind, and it is usually true only because governments have prevented the use of other kinds" (1978, 72-73).

development of the credit system. . . . All the factors which affect the quantity of idle capital also determine the expansion and contraction of credit. (79–80)

What drives the expansion of credit is the amount of capital held “idle” as money balances. For this process to be most efficient, the money balances should be held as bank liabilities.

What the banks do is to replace unknown credit by their own better known credit, thus enhancing the capacity of credit money to circulate. In this way they make possible the extension of local balances of payment to a far wider region . . . thus developing the credit superstructure to a much higher degree than was attainable through the circulation of bills limited to the productive capitalists. (86)

The decision to hold capital in the form of bank-created money allows the banking system to create further credit based on that willingness to hold money.

Selgin’s (1988, 52–55) discussion of the demand for money emphasizes similar points. When the demand for money is seen as a demand to *hold* money balances, then holding bank liabilities becomes an act of supplying loanable funds to the banking system. By choosing to accept a bank liability in exchange for goods and services, the holder is abstaining from extracting the value of that liability (via purchase) from others in the economy. “Whenever a bank expands its liabilities in the process of making new loans and investments, it is the holders of the liabilities who are the ultimate lenders of credit, and what they lend are the real resources they could acquire if, instead of holding money, they spent it” (55). Combined with the principle of adverse clearings, this shows that the demand for money is the source of bank credit. A bank can only loan out funds made available to it as a result of people holding, rather than spending, its liabilities. The decision to spend bank liabilities implies an eventual drain on the bank’s reserves (assuming the recipient is not a bank customer), and the refusal to spend allows the bank to have control over the now unclaimed reserves. It is those reserves that serve as the base for deposit expansion via lending.

Because liability holders are the ultimate granters of credit, banks cannot create more credit than the public is willing to hold. If banks attempt to do so, they will be penalized through the clearing system. Free banks are pure intermediaries, taking in loanable funds from holders of liabili-

ties and loaning out funds to spenders of liabilities. Selgin concludes that free banks “passively adjust the supply of inside money to changes in the demand for it. They are credit transferers or intermediaries, and not credit creators” (82). This is equivalent to Hilferding’s argument that it is the factors that affect idle capital (that is, money balances) that determine the amount of credit created.

We can now more clearly understand Hilferding’s and Glasner’s explicit rejection of the quantity theory. Under a system with competitive, convertible notes, the quantity of money is endogenous rather than exogenous as in standard quantity theory models. Instead, changes in the demand to hold bank liabilities (that is, roughly the inverse of velocity), cause the banking system to adjust the money supply appropriately. In a free-banking system, the price level is determined not by the supply of money, but by the value of the base money and the amount of real production taking place. As Glasner argues, “in this model, the supply of money balances is perfectly elastic at a price level exogenously fixed by convertibility” (1989b, 204). The causal link between the money supply and the price level is broken because competition and convertibility allow excess supplies of money to be returned to the issuer, depleting its reserve holdings. Excess supplies of inconvertible monopoly bank liabilities have nowhere to go but into the spending stream.

Hayek sees this relationship between money holding and the supply of bank money in his discussion of business cycle theory. He writes, “the banks must not lend more or less than has been deposited with them as savings. . . . And this means naturally that . . . they must never allow the effective amount of money in circulation to change” (1935, 27). One way of reading what Hayek calls “the effective amount of money in circulation” is to see it as the money supply multiplied by velocity, that is, the left side of the equation of exchange. If the left side of the equation of exchange ( $MV$ ) is viewed as “spending,” while the right side ( $PY$ ) is seen as receipts, then what free banks try to do is keep the left side constant. If they do so, then a change in the price level ( $P$ ) can only come from an inverse change in real production ( $Y$ ). The argument of free banking theorists and, as Glasner (1989a, chap. 3; 1989b) argues, the classical economists, is that systems comprised of convertible, competing bank liabilities would adjust ( $M$ ) to changes in ( $V$ ) in order to maintain the “effective amount of money in circulation.” In such a system, the causal relationships of the modern quantity theory do not hold.

This also suggests that price level stability will not be a goal of bank policy under institutional arrangements where the quantity theory does not hold. Under free-banking institutions, one would expect to see gently falling prices as increasing productive efficiency causes ( $Y$ ) to increase, leading to a fall in ( $P$ ).<sup>7</sup> Keeping the price level steady would imply a need to adjust the amount of money in circulation proportionately to changes in real output. This would require creating excess supplies of money that would return to the issuers as adverse clearings. Without a corresponding increase in the demand for bank money, attempts to stabilize the price level via increases in the supply of money will be frustrated. Glasner (1989a, 89–90), however, points out that the price level can also be affected by changes in the price of outside money, which might disrupt the conversion process. Because the price level is at least partially determined by the value of the redemption medium, the choice of that medium is one of the key decisions for properly conducted monetary policy. In opposition to the quantity theory approach, Hilferding and free banking theory see “the objective of monetary policy [as] not to control the quantity of money, which the market can do well enough on its own, but to guarantee its value” (89).

As both Hilferding and the various free-banking theorists imply, the causal chain of the quantity theory is not universally relevant. Instead, it applies only within the institutional structure of central banking systems. As Glasner (1989a; 1989b) shows, the quantity theory framework was developed to explain the behavior of noncompetitive banking systems. If this is the case, then economists have to be careful when ascribing great explanatory and predictive power to the quantity theory and not forget that (contra Friedman’s advice [1953]) institutional assumptions matter a great deal.

### **Hilferding and Free Banking in the History of Monetary Thought**

An important possible difference between Hilferding and free-banking theory should also be noted. Hilferding never explicitly indicates that he envisions several banks competitively issuing convertible notes. His discussion of the return of unwanted bank notes could refer to a competitive system or it might refer to a central bank issuing convertible currency. As

7. Hayek ([1928] 1984, 95–106, esp. 99–100) appears to agree that this is a desirable policy for a banking system to pursue. Selgin (1988, 96–101, 126–29) also offers a defense of such a policy and explains why it may not have the problems normally associated with deflation.

White (1984, chap. 4) argues, not all of the conclusions of free-banking theory, particularly those concerning the speed and efficacy of the reflux of unwanted notes, apply to *noncompetitive* convertible bank notes. In such a case, the only reliable check on overissue would be the longer run drain on the central bank's gold reserves through the price-specie-flow mechanism. However, this would likely occur too late to prevent the macroeconomic difficulties associated with overissue.

Understanding any differences between Hilferding and the free-banking theorists will require recourse to earlier debates in the history of monetary thought. Specifically, both can trace their intellectual roots to the Currency School/Banking School debate in nineteenth-century Great Britain.<sup>8</sup> After the Bank of England restored convertibility in 1819, it faced several crises that threatened its ability to maintain convertibility. The question facing monetary theorists was whether these crises were due to excess supplies of currency by either the Bank of England or the country banks, or whether they were caused by other imperfections in the banking system.

The Currency School argued that the fault was with overissue by both the Bank of England and the country banks. They proposed that currency remain convertible into gold, but that additions to the currency supply be backed by a 100 percent marginal gold reserve. The Banking School, led by Thomas Tooke and John Fullarton, responded that excess supplies of currency would revert back to the issuer and that banks are limited in their ability to expand by the willingness of the public to hold their liabilities, that is, the arguments made by Hilferding and free-banking theorists. The Currency School won the day with the passage of Peel's Act in 1844, limiting the quantity of notes the Bank of England could issue. In many ways, Currency School doctrine leads naturally to the quantity theory's emphasis on limiting the quantity of money in order to stabilize the price level. Additionally, much of Banking School thought foreshadows the non-quantity-theoretic ideas of Hilferding and free-banking theory.

The two relevant tenets of Banking School thought are money's endogeneity and the so-called Law of Reflux. Tooke's study of the history of prices had convinced him that changes in relative prices were the *cause* of changes in monetary circulation rather than the other way around. The banking system passively responded to changes in relative commodity

8. For a more complete account of this debate see White 1984. Glasner's (1989b) account is not as complete but places the debate in the framework of the controversy between the classical and quantity theory views.

prices through changes in discounting and international gold flows. As White (1984, 120) points out, the Banking School incorrectly assumed this was true of both competitive and noncompetitive systems. Free-banking theory has been more precise in arguing that the link between the real economy and the supply of money is not discounting and international gold flows per se, but the demand for bank money. However, the basic idea of money's endogeneity traces its roots to the Banking School and farther back to Adam Smith (Glasner 1989a).

Fullarton's major contribution to Banking School thought was the Law of Reflux.<sup>9</sup> He argued that it was impossible for any bank to overissue notes because unwanted notes would always find their way back to the issuer through the repayment of loans. Both White (1984) and Glasner (1989a; 1989b) see this as a precursor of their own versions of the principle. The Banking School view is also clearly parallel to Hilferding's. As noted earlier, the effectiveness of the operation of this principle depends on the competitive environment of the issuer(s). White indicates that "Tooke and Fullarton drew no distinction between the speed with which the reflux would operate on the central bank . . . and the speed with which it would operate on a bank surrounded by rivals. . . . The Bank of England could create a relatively long-lasting excess because it had no rivals" (1984, 126–27). Once again, though the Banking School was ultimately mistaken, its correct understanding of the adverse clearing process in competitive note issue foreshadowed both Hilferding and free-banking theory.

The intellectual paths of influence among the British debates, Hilferding, and modern free-banking research are fairly straightforward to trace. Arnon (1984, 560) argues that Tooke's work on prices and banking was a major influence on the development of Marx's theory of money and that both Tooke and Marx shared an anti-quantity-theory perspective. Lavoie (1983) also argues for Marx as an opponent of the quantity theory and shows ways in which his theory parallels recent disequilibrium approaches to money. Lavoie's (65) conclusion concerning Marx echoes Tooke's influence. "With the endogenous commodity money with which Marx was concerned, it seems more likely that the source of . . . crises would be found in the real sector and that the demand for money is a reaction to occurrences in the sphere of circulation of commodities" (1983, 65). Of course, Marx's influence on Hilferding needs little

9. See the discussions in Glasner 1989b and Skaggs 1991.

documentation, as Hilferding's whole approach to monetary phenomena derives from Marx. In addition, Hilferding ([1910] 1981, 51–53) quotes Fullarton at length on his "correct formulation" of the inappropriateness of the quantity theory for competitive bank notes. He also says that as a result of Tooke's demonstration, "the quantity theory of money has been rightly regarded as untenable" (47).

The interesting question, however, is the extent to which Hilferding is free of the errors of the Banking School. Although Hilferding seems to have clearly understood the operation of the law of adverse clearings for competitive note issue, it is not clear whether he thought it applied to issuers of convertible monopoly currency. The evidence in *Finance Capital* appears to indicate that he accepted the erroneous claim of the banking school, that convertible monopoly currency could not be overissued, given his clear praise of Tooke and Fullarton. Even if Hilferding fell victim to the same error as the Banking School theorists, his understanding of the operation of a competitive note issue system is still noteworthy, as is his non-quantity-theoretic approach to it, both of which he shares with modern free banking theory.

### **An Application to the Panic of 1907**

One way to illustrate the explanatory power of these two complementary approaches is to see whether they can help illuminate events in monetary history. Both Hilferding and monetary historians broadly within the free-banking literature have attempted to apply their insights to particular historical events, and both have come up with similar analyses.<sup>10</sup> One example is the American financial panic of 1907.

To understand the congruence of both analyses, a brief summary of the American National Banking System (1863–1914) is helpful. Ostensibly to promote a more uniform national currency, the U.S. Congress passed the National Bank Acts of 1863 and 1864, which permitted the federal government to charter a class of banks to be known as "national" banks. Previously, bank charters were exclusively a state prerogative. With the creation of national banks, Congress also had to outline the privileges such banks would have, including regulations relating to the issuing of currency.

10. Again, not all of the authors cited in this section would consider themselves "free-banking" theorists. However, their work is consistent with at least some aspects of free-banking theory, even if they reject some or many of its conclusions.

For a variety of reasons, Congress decided to emulate state governments and require nationally chartered banks to purchase specific government bonds as assets to back up any bank notes they might choose to issue. Banks were permitted to issue \$90 in notes for every \$100 in government bonds purchased.<sup>11</sup> The argument was that the bonds would prevent fraudulent note issue and provide collateral in case of failure. As a result of this legislation, the supply of currency was linked to the price of the appropriate government bonds, as that price determined the profitability of note issue.<sup>12</sup>

The importance of these provisions for currency issue is that each of the panics that occurred under the National Banking System involved currency shortages of some degree. These tended to occur around the fall harvest season, when the transactions demand for currency rose as crops came to market.<sup>13</sup> For reasons to be explored below, the banking system was unable to respond to these shifts in the currency/deposit ratio and currency shortages, and a general economic slowdown, could result.

In chapter 18 of *Finance Capital*, Hilferding discusses the roles of money and credit during the course of the business cycle. He argues ([1910] 1981, 274) that not all capitalist crises need also be monetary crises. Monetary disruption has

always occurred when banks whose credit remained unimpaired were prevented from making credit money available. . . . In America, where the law restricts the circulation of credit money in an even more insane way, just when credit is most urgently needed, the monetary crisis of 1907 attained classic proportions (275).

The key to avoiding such monetary crises is to have a system where banks do not face such restraints. He later notes that the specific effects of any crisis are “strongly influenced by banking legislation” (277). He expands with reference to the United States:

The essence of mistaken banking legislation is that it severely restricts the expansion of circulation credit and prevents it from reaching those

11. This provision was changed to \$100 in notes for \$100 in bonds by the Gold Standard Act of 1900.

12. The 1864 act imposed a ten percent tax on notes issued by any institutions other than national banks, which left only national bank notes and the fairly small supply of government fiat currency (greenbacks) available for public use.

13. See Sprague ([1910] 1977) for a contemporary account of these panics. Andrew (1906) stresses the role of the agricultural sector in the cycles of that period.

limits which would be reasonable from the standpoint of economic laws. . . . If the volume of banknotes is . . . related to . . . government bonds, as in the United States . . . then an artificial limit is placed upon the supply of loan capital. (277)

Hilferding is at least implying that the ultimate justification for these mistaken laws cannot be economic efficiency. Indeed, as many modern observers have noted, the motive behind the bond collateral requirements appears to have been to use them as a means to finance the Civil War.<sup>14</sup>

Hilferding also understood the causal chain leading from bond collateral requirements to currency shortages. "Since the supply of such bonds is limited, the increased demand leads immediately to an exceptional rise in their price, so that despite the high rate of interest the banks find it unprofitable to issue bank notes" (278). Compare this with the following from Selgin 1988: "As the supply of federal securities declined, their market values increased. The national banks found it increasingly difficult and costly to acquire the collateral needed for note issue. . . . cyclical increases in the demand for currency relative to total money demand could not be met, except by paying out limited reserves of high-powered money" (14); and Horwitz (1990): "The requirement that notes be backed by specific government bonds funnelled the banks' buying power into a single bond market and raised prices there to prohibitive levels. . . . The result of the inability of the banks to create enough currency was that they were often forced to give depositors reserve media instead of inside money" (640).<sup>15</sup> As Hilferding ([1910] 1981) concluded, "The artificial regulation on the issue of bank notes fails as soon as circumstances require an increased issue" (85).

A further aspect of the panic of 1907 was the way in which banks and the public responded to the shortage of currency. Banks resorted to several different types of illegal currency substitutes to circumvent the law.<sup>16</sup> These currencies were backed by a broad array of assets, rather than

14. See E. N. White 1983 (11) and Selgin 1988 (14). Also see Judge Augustus N. Hand's summary of the history of American banking in *Raichle v Federal Reserve Bank of New York*, 24 F2d 910 (2d Cir 1929), the decision that upheld the powers of the Federal Reserve Board. An excellent contemporary account can be found in Laughlin 1898 (224).

15. A recent discussion of these issues and a review of the relevant literature can be found in a recent paper by Champ, Wallace, and Weber (1992) which deals with the profitability of national bank note issue.

16. These currency substitutes are explored more fully in Andrew 1908, Timberlake 1984, Gorton 1985, and Horwitz 1990. Andrew estimates that over \$500 million worth of these substitutes were circulated in the 1907 panic.

just government bonds. Despite the clear illegality of such currencies, they were allowed to continue and helped decrease the severity of the panic.

Hilferding was also aware of these events. He quotes a long passage from a German newspaper that describes the use of these currency substitutes in New York City, and then he observes that "in place of the vanished money, an effort was made to create new money in the form of clearing house certificates which were actually notes issued under a common guarantee by the banks belonging to the clearing house. The legal restriction on the issue of notes was simply ignored" (54). The acceptance of these substitutes parallels the spontaneous emergence of money outlined in the first section. Banks created a medium of exchange that members of the public found desirable. As some began to use the currency substitutes, merchants revealed their willingness to accept them. As that acceptance spread, more of the public became willing to use them and banks became less concerned about issuing them. This snowballing of acceptance is a smaller version of Menger's story of the original emergence of money and is consistent with the views of both Hilferding and free-banking theory.

### Conclusion

The parallels between the non-quantity-theoretic approaches of Hilferding and the free banking theorists, as well as their common analyses of the emergence of money and American financial history, are indeed striking given their radically different ideological perspectives. The common root of their approaches to money and the price level is their intellectual heritage in the British monetary debates of the nineteenth century. The Banking School's elucidation of the Law of Reflux is the starting point for both Hilferding's and free-banking theory's analyses of competitive note issue and the shortcomings of the quantity theory.<sup>17</sup> Even if Hilferding was unable, unlike modern free banking theorists, to escape the Banking School error of attempting to apply the Law of Reflux to

17. It would also be of interest to discover why two ideologically divergent groups would share similar perspectives on the spontaneous emergence of money. Lavoie (1983) indirectly suggests that the answer may be that both have nonequilibrium evolutionary theories of markets and other social institutions. Rosner (1988) points to the similar theories of capital that underlie the cycle theories of both Hilferding and Hayek. Those capital theories are clearly distinct from the more equilibrium oriented notion of capital found in most of neoclassical economics.

the issue of monopolized convertible notes, his understanding of monetary institutions and competitive note issue is of relevance to the modern literature on free banking.

### References

- Andrew, A. Piatt. 1906. The Influence of the Crops upon Business in America. *Quarterly Journal of Economics* 20.2:323–53.
- . 1908. Substitutes for Cash in the Panic of 1907. *Quarterly Journal of Economics* 22.3:497–519.
- Arnon, A. 1984. Marx's Theory of Money: The Formative Years. *HOPE* 16.4: 555–75.
- Champ, Bruce, Neil Wallace, and Warren Weber. 1992. Resolving the National Bank Note Paradox. *Federal Reserve Bank of Minneapolis Quarterly Review* 16.2:13–21.
- Dowd, Kevin. 1989. *The State and the Monetary System*. Oxford: St. Martin's.
- Frankel, S. Herbert. 1977. *Two Philosophies of Money*. New York: St. Martin's.
- Friedman, Milton. 1953. The Methodology of Positive Economics. *Essays in Positive Economics*. Chicago: University of Chicago Press.
- Glasner, David. 1989a. *Free Banking and Monetary Reform*. Cambridge: Cambridge University Press.
- . 1989b. On Some Classical Monetary Controversies. *HOPE* 21.2:201–29.
- Gorton, Gary. 1985. Clearinghouses and the Origin of Central Banking in the United States. *Journal of Economic History* 45.2:277–83.
- Hayek, F. A. [1928] 1984. Intertemporal Price Equilibrium and Movements in the Value of Money. Reprinted in *Money, Capital, and Fluctuations: Early Essays*, edited by Roy McCloughry. Chicago: University of Chicago Press.
- . 1935. *Prices and Production*, 2d ed. New York: Augustus M. Kelley.
- . 1978. *The Denationalisation of Money*, 2d ed. London: Institute for Economic Affairs.
- Hilferding, Rudolf. [1910] 1981. *Finance Capital*. London: Routledge.
- Horwitz, Steven. 1990. Competitive Currencies, Legal Restrictions and the Origins of the Fed: Some Evidence from the Panic of 1907. *Southern Economic Journal* 56.4:639–49.
- . 1992. *Monetary Evolution, Free Banking, and Economic Order*. Boulder, Colo.: Westview.
- Klein, Benjamin. 1974. The Competitive Supply of Money. *Journal of Money, Credit, and Banking* 6.4:423–53.
- Laidler, D. E. W., and Nicholas Rowe. 1980. Georg Simmel's *Philosophy of Money*: A Review Article for Economists. *Journal of Economic Literature* 18.1:97–105.
- Laughlin, J. Lawrence. 1898. *Report of the Indianapolis Monetary Commission*. Chicago: University of Chicago Press.

- Lavoie, Don. 1983. Some Strengths in Marx's Disequilibrium Theory of Money. *Cambridge Journal of Economics* 7.2:55-68.
- Marx, Karl. 1906. *Capital*, vol. 1. New York: Modern Library.
- . [1932] 1964. *The Economic and Philosophic Manuscripts of 1844*. New York: International.
- Menger, Carl. 1892. On the Origin of Money. *Economic Journal* 2:239-55.
- O'Driscoll, Gerald P. 1986. Money: Menger's Evolutionary Theory. *HOPE* 18.4:601-16.
- Rockoff, Hugh. 1974. The Free Banking Era: A Re-examination. *Journal of Money, Credit and Banking* 6.2:141-67.
- Rolnick, Arthur J., and Warren E. Weber. 1983. The Free Banking Era: New Evidence. *American Economic Review* 73.5:1080-91.
- Rosner, Peter. 1988. A Note on the Theories of Business Cycle by Hilferding and Hayek. *HOPE* 20.2:309-19.
- Selgin, George A. 1988. *The Theory of Free Banking: Money Supply under Competitive Note Issue*. Totowa, N.J.: Rowman & Littlefield.
- Selgin, George A., and Lawrence H. White 1987. The Evolution of a Free Banking System. *Economic Inquiry* 25.3:439-57.
- Simmel, Georg. [1907] 1978. *The Philosophy of Money*. Boston: Routledge.
- Skaggs, Neil. 1991. John Fullarton's Law of Reflux and Central Bank Policy. *HOPE* 23.3:457-80.
- Sprague, O. M. W. [1910] 1977. *History of Crises under the National Banking System*. Fairfield: Augustus M. Kelley.
- Timberlake, Richard H. 1984. The Central Banking Role of Clearinghouse Associations. *Journal of Money, Credit and Banking* 16.1:1-15.
- White, E. N. 1983. *The Regulation and Reform of the American Banking System: 1900-29*. Princeton: Princeton University Press.
- White, Lawrence H. 1984. *Free Banking in Britain*. Cambridge: Cambridge University Press.