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Citation for published version (APA):

Mccaffrey, M., & Hülsmann, J. G. (Ed.) (2012). The Influence of the Currency-Banking Dispute on Early Viennese Monetary Theory. In *The Theory of Money and Fiduciary Media: Essays in Celebration of the Centennial* (pp. 127-165). Mises Institute.

Published in:

The Theory of Money and Fiduciary Media

Citing this paper

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MATTHEW MCCAFFREY

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INTRODUCTION

VIENNA AT THE BEGINNING OF the twentieth century witnessed one of the most remarkable moments in the history of monetary theory. In consecutive years, three young economists in Vienna published treatises involving the problems of money and banking: Rudolf Hilferding's *Finance Capital* in 1910, Joseph Schumpeter's *The Theory of Economic Development* in 1911, and Ludwig von Mises's *The Theory of Money and Credit* in 1912. These works have each achieved significance in their own right, but the purpose here is to examine each in light of a particular dispute in monetary theory and to show that each of these works may be read in light of the Currency-Banking controversy of nineteenth-century Britain.

Although each of these three economists significantly elaborated on their ideas in later works, the focus here is on these early books so as to limit the discussion to manageable length. The three works are also worth grouping together for other reasons. The authors were all personally and professionally familiar with each other at this time, and to some extent at least, address each other through their writings. And although they differed fundamentally in many respects, each author also shared a common

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intellectual milieu through the seminar of Eugen von Böhm-Bawerk at the University of Vienna. The treatises themselves also share common themes. Specifically, each expounds a theory of money and banking, and describes the relationship between money, banking, and economic development. Toward this end, each book also contains contributions to the theory of entrepreneurship (McCaffrey 2012).¹

This chapter is outlined as follows: The first two sections summarize the controversy between the Banking and Currency Schools, discussing the relevant arguments, and distinguishing several fundamental points of contention. The next three sections take the early ideas of Hilferding, Mises, and Schumpeter in turn, discussing how the ideas of the Banking and Currency School theorists exercised an important influence on each, and examining the common threads between the two generations.

THE CURRENCY SCHOOL

Although debates over monetary theory and policy were common in England since the seventeenth century, the mid-nineteenth century (in roughly the periods 1821–1844 and 1844–1865) saw a deliberate and systematic focus on particular issues in banking theory, characterized by a broad division of opinion into two schools of thought which became known as the “Banking School” and the “Currency School.”² The central disputes between the two schools can be divided into their theoretical and political (policy) segments. On the one hand are concerns about the theo-

1 Not all of the authors devote the same space to each of these topics: Schumpeter focuses on entrepreneurship and development. But, as has been pointed out (Rothbard 1987), money and banking are vital for Schumpeter’s entrepreneur (at least in *The Theory of Economic Development*).

2 In 1821 the United Kingdom resumed payments after more than twenty years of inconvertible paper currency (although the legislation concerning the resumption was actually passed in 1819). The period following the return saw the publication of innumerable works on the nature of money and on prescriptions for banking policy. The Bank Charter Act, popularly known as “Peel’s Act,” after Sir Robert Peel, was passed in 1844. In the mid-twentieth century a significant secondary literature on the dispute began to appear. For a summary of the debate, cf. Robbins (1958), Smith ([1936] 1990), and Daugherty (1942; 1943). For expositions in regard to particular problems, cf. Viner (1937, esp. chap. V) and Wu ([1939] 2007, esp. pp. 129–41) in relation to international trade and price theories, respectively. For particular emphasis on the “real bills doctrine,” cf. Mints (1945, esp. chaps. VI and VII). For a discussion of the dispute in light of the relatively neglected Free Banking School, cf. White (1984) and Smith ([1936] 1990).

retical problems of money and money-substitutes, that is, how the economy functions in the presence of a “mixed currency”—one with both gold and convertible paper money used as media of exchange. On the other hand are various problems of economic policy relating to banking institutions and their governance, in particular, the question of how to limit the inflationary expansion of currency issues and curb or eliminate the business cycle. The areas of theory and policy are not mutually exclusive; however, this paper treats mainly theoretical problems.³ The questions of economic policy, which ultimately reduce to the institutional question of central versus free-banking, are discussed elsewhere (White 1984; Smith [1936] 1990; Salerno 2012), and may be set aside for the moment. And although many points both of theory and policy were debated in this period, I shall discuss mainly the more influential ideas which relate to the early work of Hilferding, Mises, and Schumpeter.⁴

Economic crises in England in 1825, 1836, and 1839 (among others) spurred increasing interest in the workings of the English monetary system and ways to improve it. It was in this intellectual climate that the ideas of the Currency School matured. By the early nineteenth century, a broad consensus had been reached in the British economic community that a mixed currency based on convertibility into gold was the most desirable monetary system. Differences of opinion arose however, as to the exact workings of the monetary system, and how to ensure the proper maintenance of the money supply and the avoidance of economic crises. As opposed to the Banking School, which argued against the restriction of banking operations, the Currency School contended that certain limitations should be placed upon the Bank of England (and any other banks of issue) to prevent an inflationary expansion of the money supply. In what follows it should be remembered that both schools focused exclusively on short-run issues, and it is on these points that disagreement is found, whereas in the long run, both schools tended to agree with Ricardo (Viner 1937, p. 221).⁵

3 This point is particularly important when considering the writings of Mises, who while supporting many of the theoretical principles of the Currency School, nevertheless broke sharply with it on the problem of central banking and rules for monetary policy.

4 In particular, I shall mostly bypass the themes of international trade and the regulation of the exchanges, which comprised a significant share of the debate.

5 That is, in the long run the quantity and value of money are determined by the cost of gold production.

I shall deal with each of the following ideas at greater length in relation to the 20th-century economists, but for now a brief survey of Currency School arguments will suffice. The position of the writers of the Currency School was built around what became known as the “Currency Principle” which may be summarized as follows: “A mixed currency would operate properly only if it operated precisely as would a metallic currency, i.e., only if any efflux or influx of gold resulted in a corresponding (absolute, not proportional) decrease or increase in the quantity of the currency” (Viner, 1937, p. 221).⁶

Currency School theorists held that while issues of convertible paper currency could not be excessive for an indefinite period, they could be excessive to a significant degree “for sufficiently long periods to endanger the maintenance of convertibility and to generate financial crises” (Viner 1937, p. 223). The problem that faced the writers of the Currency School was how to regulate the issue of currency so as to ensure that a mixed currency would conform to the principles of a purely metallic system. The Currency School writers maintained that bank money convertibility was a necessary but, not a sufficient, condition for ensuring the proper maintenance of the money supply.

In examining this problem, the Currency School focused almost exclusively on the issue of bank notes as opposed to deposits. If the volume of notes exceeds the amount that would have circulated in a purely metallic system, this constitutes an “overissue.” The problem with such overissue, according to the Currency School, was threefold. First, it was inflationary, causing a rise in the price level. Second, it resulted in a drain on gold reserves to foreign nations. Third, it serves as a primary cause of business cycles. The main concern of the Currency School then was to find methods of regulating banking practices that could prevent the overissue of notes and avoid, or at least greatly reduce, the effects of financial panics. Convertibility of the currency was the first important check on overissue, but the Currency School felt that additional legal stipulations were required to limit inflationary expansions of the money supply.

6 Put another way, “note issues would be correctly regulated if they were made to fluctuate in volume exactly as a purely metallic currency would have done” (Daugherty 1942). Wu ([1939] 2007) characterizes the principle thus: “There is always a danger of an over-issue of bank notes, which therefore should be strictly regulated—so regulated that the notes might become mere tokens for metallic money” (p. 130). This last description highlights the relevance of the Currency Principle for discussions of monetary policy, particularly regarding fiduciary media.

The Currency School and Banking Schools both favored convertibility of bank notes into specie. Where they differed was on the role that convertibility and other limiting influences played on note issue. The Banking School maintained that convertibility by itself would be sufficient to ensure that banks would not unduly increase the volume of circulation, while the Currency School did not. The problem facing the Currency School was how to regulate bank issues such that convertibility would always be ensured—convertibility functions as a limit to excess issues and represents “an application of the principles of a purely metallic currency” (Daugherty 1942).

The policy solution recommended by the Currency School was to divide the Bank of England into two separate departments, one of which would be responsible for the issue and redemption of bank notes, while the other would oversee demand deposits. According to Peel’s Act, bank note issues would be backed by securities held by the bank up to the amount of £14,000,000, and beyond this, there would be a strict 100-percent reserve requirement for all note issue. Deposits, on the other hand, were left completely unregulated, because, in a crucial error of Currency School doctrine, notes and deposits were thought to have entirely different economic functions.⁷

THE BANKING SCHOOL

The theories of the Banking School, although possessing intellectual roots in earlier controversies, were developed primarily in response to the Currency School and its support of Peel’s Act. However, Banking School doctrine was never systematized to the degree that Currency School doctrine was. As Hayek puts it “The ‘Currency School’ . . . stepped forward with a well-defined programme. . . . [Whereas] the opposing doctrine of the ‘Banking School’ developed only gradually and never attained a coherent set of ideas” (1991, p. 230). Despite this lack of unanimity, the influence of the Banking School is still historically important. Several writers stand out as the authoritative voices of the Banking School, in particular Thomas Tooke, John Fullarton,⁸ James Wilson, and later and to a lesser extent, John Stuart Mill.

7 For an explanation of this view, cf. Robbins (1958, pp. 105–08).

8 As I shall argue, Fullarton exercised an important influence, especially on Hilferding (positively) and Mises (negatively), but he may also have had some influence on

As with the Currency School, it is possible to express the central doctrine of the Banking School in terms of a “Banking Principle,” defined thus: “The amount of paper notes in circulation [is] adequately controlled by the ordinary processes of competitive banking, and if the requirement of convertibility was maintained, could not exceed the needs of business for any appreciable length of time” (Viner 1937, p. 223).⁹ Therefore overissue of the currency is absolutely impossible given genuine convertibility. This “elasticity” is the fundamental characteristic of bank note issue, and no regulation of the currency is necessary to prevent overissue.

The key to understanding the position of the Banking School, and the doctrine of the impossibility of overissue, is to be found in what is probably its most fundamental principle, the “law of the reflux,” an idea developed principally by Fullarton and Tooke, and later repeated by Wilson and Mill.¹⁰ The law of reflux states that so long as the currency is convertible banks cannot overissue their notes, because any issue exceeding public demand would immediately flow back to the bank:

If the loans or deposits are advanced on proper securities, for short periods, the reflux of the notes, if any have been issued, will be equal to the efflux, leaving the circulation unaltered. If, indeed, the transactions of the district, or the trade of the country generally, require more instruments of exchange, a larger amount of notes would remain out; but this increase would *be the effect of increased transactions and prices, and not the cause of them.* (Tooke [1848] 1962, IV, p. 194; emphasis in original)¹¹

Although Banking School theorists supported convertibility, it appears to have been the prevailing opinion that convertibility is relatively unimportant compared to reflux in terms of its ability to prevent an increase in the circulating medium (Fullarton 1845, p. 68; Mints 1945, p. 88). Emphasis is therefore on the “needs of business” in explaining the determination

Keynes, who describes Fullarton’s *On the Regulation of Currencies* as “most interesting” (1936, p. 364). Although it does not appear that any extensive attempt has been made to trace the influence of Fullarton on Keynes, the reader may notice certain similarities.

9 The word “competitive” here is misleading, because Banking School theorists were not generally concerned with competitive banking or the difference between the impossibility of overissue under free and centralized banking regimes.

10 Cf. Fullarton (1845, pp. 82–98) and Tooke ([1848] 1962, IV, pp. 185–97; [1844] 1959, pp. 60–66).

11 Cf. Fullarton (1845, esp. chap. 5), for the canonical exposition of the law of reflux.

of the circulation. While the writers of the Currency School based their analysis on early versions of the quantity theory¹² of money, members of the Banking School tend to deny altogether the influence of the money supply on the general price level. Prices do not respond to changes in the quantity of money, but rather the amount of the circulation responds to the supply and demand for goods, which explains Tooke's comment above regarding the direction of the causal effect of money on prices.

As a direct result of this theory, Banking theorists looked to real factors for the explanation of financial crises, as opposed to the monetary theory advanced by the Currency School. In terms of policy, the Banking School strongly opposed Peel's Act: in their opinion the supply of the circulating medium could never be overissued, so any additional regulation of issues would at best be redundant, and at worst exacerbate economic crises. The Banking School also denied the Currency School's distinction between notes and deposits, arguing that although they performed the same economic function as media of exchange, neither required explicit limitation.

The theories of the Banking School on the business cycle deserve considerable attention in their own right, but a brief survey of the major points must be sufficient. The Banking School's views on the business cycle were somewhat scattered, but were decidedly non-monetary. Tooke, for example, advanced an overinvestment theory. He often cited exogenous elements, especially the opening or reopening of foreign markets, as the cause of increases in speculation to which correspond the initial prosperity of the cycle (Link 1959, pp. 131–32). The anticipation of new demand incites speculation, which in turn leads to overinvestment in inventories, which is the focus of Tooke's commentaries. On at least some occasions however, speculation takes the form of increased conversion of floating to fixed capital,¹³ which is the portion of Tooke's theory which concerns this paper. The boom phase for Tooke is characterized by excessive investment. This sometimes takes the form of "overbanking," or in other words, loans on "insufficient or inconvertible securities, or in too large a proportion to

12 It is important to clarify what is meant by "quantity theory" in this context of this paper. The term is used here in a far narrower sense than is typical (e.g., as it is used with regard to the equation of exchange). What it refers to is primarily the *direction of the causal connection between money and prices*. The Currency School believed, correctly, that increases in the supply of money cause increases in the prices of goods, whereas Banking School advocates believed the causal connection ran the opposite direction.

13 Although Link (1959) comments that the focus on fixed capital is not a general feature of Tooke's theory.

the liabilities” ([1848] 1962, IV, p. 262).¹⁴ The exact causes of the depression are not clear, although it appears that rising prices during the boom precipitate the turning point.

The most coherent theory of the business cycle from the Banking School was developed by James Wilson, who developed a non-monetary overinvestment theory of economic fluctuations.¹⁵ In the mature version of his cycle theory, Wilson relied heavily on the idea of overinvestment in fixed capital (as compared to floating capital) to explain cycles. Businesses are susceptible to expanding the supply of fixed capital beyond the level made possible by real savings. This in turn causes problems, because consumption and investment cannot both be satisfied due to insufficient resources. Wilson argues:

No community can, without the greatest inconvenience and derangement, increase its fixed capital faster than it is able to spare labour from the production of those commodities on which the community relies for its daily subsistence. Under all circumstances it can only be the amount of labour which the savings of the country can command and sustain, that can be applied to the increase of its fixed capital. (1847, p. 125)

Despite the fact that real resources are lacking for the completion of long-term projects, investment in fixed capital continues, and raises the income of wage-earners and thus stimulates consumption. However, this demand cannot be met due to the excessive investment (that is, to the lack of real resources), and the prices of consumer goods begin to rise, as do interest rates. This in turn triggers a fall in fixed-capital investment as projects are abandoned, and the depression is ushered in.¹⁶

John Stuart Mill also elaborated a theory of the trade cycle which includes themes from both Tooke and Wilson.¹⁷ As with his predecessors, Mill makes reference to exogenous shocks such as poor crops and the opening of foreign markets as the initial impetus of a cycle. He also discusses

14 Tooke may mean “reserves” instead of “liabilities.”

15 This theory is presented in its most complete form in the collection of Wilson’s essays titled *Capital, Currency, and Banking* (1847). For secondary sources, cf. Link (1959) and Boot (1983).

16 Hayek mentions the importance of Wilson’s capital-based view of the cycle on several occasions, for example Hayek (1941, p. 425).

17 Forget (1990) and Link (1959) are particularly important for this presentation of Mill’s cycle theory.

“overtrading” ([1967a] 2006, p. 75) both in inventories and fixed capital. Mill credits “professional traders” with expanding investment to begin the boom, and “rash speculators” with exacerbating price rises through vigorous speculation (Forget, 1990). With Mill however, redeemable money substitutes begin to play a role in encouraging the initial wave of speculation. They are however, relegated to a secondary role, usually encouraging further speculation but not causing it ([1967b] 2006, p. 191; Forget 1990), although Mill does allow for sudden credit expansion which could cause a speculative boom (Mill [1967c] 2006, p. 275). Like Tooke, Mill is unclear on the causes and consequences of the depression.

As far as consistent themes are concerned, Banking School writers tended to focus on real factors (usually exogenous, international elements) which caused waves of speculation in the economy. Speculation encourages poor investment decisions, particularly in fixed capital. This creates disequilibrium between consumption and investment which leads to the crisis. Although these ideas are developed most clearly by Wilson, they are present in one form or another in Tooke as well, and both writers find a place in Mill’s theory.

RUDOLF HILFERDING AND THE BANKING SCHOOL

Rooting himself in the Marxist tradition, Hilferding naturally takes Marx’s discussions of money as the starting point for his own theory, and already in Marx’s work, we observe the influence of the Banking School. Marx even described Fullarton as “one of the best writers on money,” and at the time of Tooke’s death, hailed him as “the last English economist of any value.”¹⁸ Although critical of certain aspects of Banking School theory, Marx was sympathetic in regard to its monetary doctrines. He was also unfavorable toward the Currency School, and instead of utilizing the “quantity theory,” advocated a distinctly Banking-School approach wherein the prices of commodities determine the quantity of the circulating medium.¹⁹

18 Quoted in Green (1987) and Pivetti (1987), respectively.

19 For samples of Marx’s opinions on the Currency School, cf. Marx (1972), p. 684, where he refers to the Currency School’s “ignorance and . . . complete misunderstanding” of the direction of the causal relation between the quantity of money and prices. For some of Marx’s comments on the members of the Banking School, cf. Marx (1972, p. 124, n. 2; 1911, pp. 259–63). On Marx’s monetary theory and its development, cf. Arnon (1984). For his views on the quantity of the circulating medium, cf. Marx (1973), where he speaks of “the fundamental law that the mass of the circulating medium, at a definite velocity of cir-

These ideas, and the corresponding Banking School doctrines, are echoed in Hilferding's writings.

The Endogeneity of Money

Money and banking have a special significance in Hilferding's work, and it is not far from the mark to say that monetary issues are the indispensable core of his treatment of 'the latest phase of capitalist development.' *Finance Capital* attempts to build a grand vision of the final stages of capitalism, stages which largely depend upon the structure of the industries of banking and finance. Like Marx, Hilferding introduces money and credit into his analysis from the outset, building a system that thoroughly integrates an analysis of indirect exchange. To that end, Hilferding relied greatly on the traditional Banking School understanding of money and credit, even to the extent that Schumpeter—somewhat contemptuously—remarked that he “drew on it largely and uncritically” ([1954] 1963, p. 725). Hilferding's analysis is still important in the history of thought however, as it represents a relatively rare extension of “pure” Banking School doctrine.

In Hilferding's analysis, money arises out of the necessity, in capitalist society, of having a general standard through which to express the value of all commodities, a standard of value which can express the share each member of society has in the production of goods, i.e., each good's “socially necessary labor time” of production. As Hilferding puts it, “The anarchy of the commodity producing society generates the need for money” ([1910] 1981, p. 39).

The relevant point for this paper, however, is the question as to the determinants of the quantity of money in circulation under a mixed monetary regime. To answer this question, Hilferding begins by denouncing the quantity theory in no uncertain terms, stating that “Ever since Tooke's demonstration, the quantity theory of money has been rightly regarded as untenable” ([1910] 1981, p. 47). As the basis of his monetary theory, Hilferding preferred the Banking School's price-based theory of the circulation.

ulation, is determined by the prices of the commodities and by the mass of commodities circulating at definite prices” (pp. 789–90). This position is summed up by the dicta, “Trade governs money, not money trade,” and “The servant of trade [money] must follow the variations (in the prices) of the other commodities” (p. 870). Cf. also Marx (1973, pp. 186–87), and the discussions of this aspect of Marx's monetary theory in Arnon (1984) and Vorhies (1982), both of which mention the Banking School connection.

While Hilferding argued, following the Banking School, that the quantity theory did in fact apply to cases of inconvertible paper money, he also held that the condition of convertibility nullified the quantity theory. Hilferding concluded from this that, “The crucial test, therefore, is convertibility” ([1910] 1981, p. 63). To support this notion he cites Fullarton at length, presenting two of Fullarton’s examples to contrast the possible effect on prices of both inconvertible and convertible monetary regimes ([1910] 1981, pp. 51–53).²⁰

Hilferding concluded that, “The quantity of circulating media is determined primarily by the aggregate price of commodities. Given the quantity of commodities, changes in the quantity of money in circulation follow the fluctuations of commodity prices” ([1910] 1981, p. 37). It is clear then that the quantity of the circulation is determined endogenously, with the prices of commodities representing the principal independent variable, and therefore the quantity theory is “rightly regarded as refuted” ([1910] 1981, p. 50). It is also quite obvious from his extensive citations that Hilferding’s analysis relies on Tooke and Fullarton’s description of money and prices.

Note Issue and “The Law of Reflux”

The Banking School’s influence, however, is felt most heavily in Chapter 5 of *Finance Capital*, “The Banks and Industrial Credit,” where Hilferding outlines the role of banks of issue in granting credit to industrial enterprises, and the influence which such banks exert on the economic process as a whole. It is here that Hilferding discusses limitations on bank issues, and where he adopts the law of reflux as an explanation of the fundamental limit on overissue. Marx endorsed the Banking Principle almost verbatim,²¹ and Hilferding cites Marx’ position approvingly ([1910] 1981, p. 38, n. 5), while providing his own presentation of the Principle:

20 Hilferding appears to confuse Fullarton’s meaning in these citations. Whereas Hilferding means to show that inconvertible paper money can be issued so as to affect prices, while a convertible currency cannot have such an effect, Fullarton is *not* making a distinction between inconvertible and convertible currency in his examples, but between two variations of inconvertible currency. Only after these sections are concluded does he introduce the subject of convertible bank notes and the impossibility of their overissue. Cf. Fullarton (1845), chap. 3.

21 “The issue of paper money must not [read: cannot] exceed in amount the gold (or silver, as the case may be) which would actually circulate, if not replaced by symbols” (quoted in Hilferding [1910] 1981, p. 378, n. 5).

The volume of paper money must always be kept down to the minimum amount of money required for circulation. This minimum can, however, be replaced by paper, and since this amount of money is always necessary for circulation there is no need for gold to appear in its place. ([1910] 1981, p. 38)

Given convertibility, there can be no deviation of the amount of the circulation from the “required amount,” that is, from the needs of business. To support this claim, Hilferding turns once more to the Banking School, this time to Fullarton and the notion of the law of reflux.

Hilferding first notes the reflux principle in regard to bills of exchange: “The circulation of bills is limited only by the number of business transactions actually concluded . . . commercial bills can in principle only be issued when a business transaction has been concluded, and for this reason bills cannot be overissued” ([1910] 1981, p. 84). More important for our study however, he applies the reflux analysis to bank notes as well:

The convertible bank note cannot be issued in excess quantities. . . . A bank note which is not required in circulation is returned to the bank. Since it can be used in lieu of the bill of exchange, the issue of notes is subject to the same laws as is the circulation of bills, and expands along with the latter so long as credit remains undisturbed. (1910, 1981, p. 86)

To emphasize his position, Hilferding quotes the following passage from Fullarton’s *On the Regulation of Currencies*:

I have no hesitation in professing my own adhesion to the decried doctrine of the old Bank Directors of 1810, ‘that so long as a bank issues its notes in the discount of good bills, at not more than sixty days’ date, it can never go far wrong.’ In that maxim, simple as it is, I very strongly believe, there is a nearer approach to the truth, and a more profound view of the principles which govern circulation, than in any rule on the subject, which since that time has been promulgated. ([1910] 1981, p. 86, n. 8)

Given his use of the law of reflux to explain the quantity of bills of exchange and bank notes, and given the positive citation of Fullarton, who refers to the “decried” real-bills doctrine, it is unclear whether Hilferding was conscious of possible differences between the two principles.²² Nothing in Fullarton’s work suggests that he was, and this error appears to be adopted

22 For the distinction between the reflux and real-bills doctrines, cf. Glasner (1992).

by Hilferding.²³ The fact remains though that Hilferding sided quite explicitly with the Banking School on these issues, differing significantly only on some points of Marxist terminology and presentation.

Non-Monetary Theories of the Trade Cycle

A final and most important influence exercised by the Banking School on Hilferding concerns his theory of the trade cycle.²⁴ As mentioned above, the Banking School's views on the causes of the business cycle, inasmuch as they could be defined, were nonmonetary. In similar fashion, Hilferding's theory of the cycle begins with nonmonetary factors. Hilferding develops a disproportionality theory which focuses on discoordination between capital and consumer goods industries. The cycle begins with large "expansion of production" due to supply or demand shocks ([1910] 1981, p. 258).²⁵ As a result, profits increase, and so too does investment in fixed capital. The organic composition of capital also increases however, leading to a fall in the rate of profit. As the quantity of fixed capital increases, production time is lengthened, and it becomes increasingly difficult to adapt production to future consumption ([1910] 1981, p. 262).²⁶ Overinvestment has taken place in long-term production industries which disequilibrates supply and demand. The discrepancy between supply and demand causes the depression, which pushes down prices and profits, as firms which are not able to earn the average rate of profit go bankrupt.

James Wilson's theory anticipates Hilferding. Although Hilferding does not cite Wilson as he does other Banking scholars, his exposition is similar to Wilson's on several important points. As with Wilson, Hilferding's analysis depends primarily on overinvestment in fixed capital. Tooke

23 Perhaps this is what Schumpeter was referring to in his above-quoted remark.

24 Unsurprisingly, arguments similar to Hilferding's appear in the work of Tugan-Baranowsky, who was also influenced by the Banking tradition. Hilferding, however, was critical of his contemporary on several points.

25 Rosner (1998) points out important similarities between the business cycle theories of Hilferding and Hayek. One important difference between Hilferding and Hayek's presentation of the business cycle, however, is that Hayek's theory is a monetary theory, similar to that of the Currency School, whereas Hilferding's is a non-monetary, Banking-style theory. Hilferding's theory does presuppose credit markets and does have monetary aspects, but the cycle for Hilferding originates in the real economy, whereas in at least one of Hayek's scenarios, the origin of cycles is monetary policy.

26 For Hilferding, the prices of factors of production only reflect current demand, not anticipated future demand.

also mentioned the possibility of overinvesting in fixed capital, although it was not the emphasis of his theory. Hilferding broadens this theme however, to provide a general theory of the business cycle, whereas Wilson and Tooke had been primarily concerned with explaining specific crises (for the sources cited in this paper, the railroad bubble of the 1840s and the crisis of 1847). Also, while Hilferding does refer to overconsumption, he does not discuss the inadequacy of saving specifically, as Wilson does. The latter theme especially is more appropriate to the cycle theory of Mises.

This theory is an improvement on the Banking approach in at least one sense: Banking theory had difficulties explaining the cause of sudden increases in speculative activities (White, 1984, p. 110–11), whereas Hilferding grounds his theory in identifiable causes of supply and demand shocks, such as, “the opening of new markets, the establishment of new branches of production, the introduction of new branches of production, the introduction of new technology, and the expansion of needs resulting from population growth” ([1910] 1981, p. 258).²⁷ Tooke’s emphasis on new investment opportunities is also relevant. While his thinking on this point was never particularly clear, it is possible he was groping for the more general idea of innovation and shocks to explain initial increases in speculative activity.

Both Hilferding and the Banking School find the origin of economic crises in the real economy, and although credit conditions play a role in exacerbating downturns, they are never their cause. In particular, the universal focus on the opening of new (typically, foreign) markets as an exogenous shock to production is significant. This conclusion is unsurprising considering the opposition of Banking School theories to the monetary doctrines (and the monetary cycle theory) of the Currency School. As Hilferding puts it:

At first sight a period of prosperity seems to be characterized by general and uniform price rises and a period of depression by a similar fall in prices. This is the reason why the cause of crises has been sought so long and so persistently in changes in the value of money. The superstitious faith in the quantity theory of money draws its strongest support from this view. ([1910] 1981, p. 420, n. 2)

²⁷ Compare the above list with Schumpeter’s (1934, p. 66) list of the different methods of “introducing new combinations,” i.e., the essence of entrepreneurial activity. The obvious similarities are important because each ultimately believes that such innovations are the cause of the business cycle.

Hilferding and the Currency School

Hilferding briefly mentions the topic of legal restrictions on note issue by asserting that “The artificial regulation of the issue of bank notes fails as soon as circumstances require an increased issue” ([1910] 1981, p.85). That is, since the quantity of bank notes in circulation depends upon the demands of business, any restriction seeking to limit the volume of notes must run afoul of shortages in the note circulation whenever the public’s demand for notes exceeds the maximum legal issue: “The essence of mistaken banking legislation is that it severely restricts the expansion of circulation credit and prevents it from reaching those limits which would be reasonable from the standpoint of economic laws” ([1910] 1981, p. 277). This was also the position of the Banking theorists, and Hilferding’s comment is clearly aimed at Currency-esque regulations of banking practices. In fact, Hilferding goes on to lament what he considered the lack of progress in monetary theory in the nineteenth century:

The insuperable obstacle to a knowledge of the laws of money and note circulation has been the hostility toward the labour theory of value. This accounts for the triumph of the Currency School in English banking legislation, notwithstanding its reduction to historical and theoretical absurdity in the works of Tooke [and] Fullarton. . . . Capitalism may learn more adequate principles, slowly and laboriously, from the bitter and costly experiences of diverse countries and periods, but it cannot find the power within itself to generalize them, as the maintenance of American, English, and to a lesser extent, German legislation and policies with regard to banks of issue demonstrates. ([1910] 1981, p. 87, n. 7)

This remark, embedded in Hilferding’s discussion of money and credit, appears to imply that there is an affinity between the Banking School and the labor theory of value. This historical connection requires further exploration, but one might speculate that Hilferding is claiming that the causal relation of prices on money is a natural conclusion of the labor theory of value. At the same time, Hilferding singles out the Currency School approach, based on an early quantity theory, for censure. Although he does not speculate on the Currency School’s influence, as we shall see below, the quantity theory lends itself easily to the monetary analysis of economists such as Mises. Hilferding may be implicitly profiling two distinct threads in the history of economic thought; the Banking School/labor theory tradition, and the Currency School/subjective value tradition.

Hilferding makes this point more clearly in his review of Mises's *The Theory of Money and Credit*. The review is comprised of two major criticisms, both of which are relevant. The first concerns Mises's acceptance of the subjective theory of value, and his application of the theory to the quantity of money:

Among the [Mengerian marginal utility] school's unsolved problems . . . the monetary problem naturally occupies a place of prime importance. . . . The bankruptcy of the subjective theory of value, its inability to explain the basic problems of economics, could not be more clearly stated (Hilferding [1912] 1993, pp. 179–80).

Second, Hilferding notes Mises's endorsement of the Currency School on overissue and his consequent rejection of the Banking School and the law of reflux:

He [Mises] lapses completely into the old quantity theory, the inferences of which he not only accepts but its errors also, which he even exaggerates. . . . Incidentally it should be noted that Mises—as a consistent quantity theoretician—champions the view that banks can expand credit arbitrarily without limit. Since he shares the opinion of Böhm that interest is dependent on the size of the national subsistence fund, it is impossible for him to find the specific causes determining the height of the rate of interest. As a result he arrives at an absurdity; the banks, by reducing the interest rate for transactions, can increase to a considerable extent the demands of their customers and also by expanding the emission of fiduciary media they can satisfy these demands. ([1912] 1993, pp. 181–82)

Once again, Hilferding clearly acknowledges two distinct traditions in economic thought, each springing from a specific theory of value, and each developing the principles of different sides of the Currency-Banking debate. Hilferding, although writing within the Marxist tradition, is an orthodox Banking School economist, at least as far as his views on the determinants of the quantity of money (and consequently, on the “quantity theory”) and the law of reflux (the possibility of overissue) are concerned.

As we have seen, Hilferding aligns his theory squarely with the Banking School tradition. However, some have claimed that Hilferding's arguments are complementary to the Free Banking School, identified in White (1984) and Selgin (1988). Horwitz (1994), for example, argues that Hilferding's monetary theory should be viewed in the light of the Free Banking

School and its competitive theory of note issue. This view however, may perhaps place too much stress on certain aspects of Hilferding's theory, to the neglect of others.

All of the principles which Hilferding shares with the Free Banking School—rejection of the quantity theory, impossibility of overissue, the law of reflux—are found in the writings of the Banking School as well. In addition, Hilferding expounds his entire theory without reference to any of the members of the Free Banking School, while strongly endorsing orthodox Banking School doctrine, further showcasing his position as a disciple of the latter.²⁸ There is therefore no reason on these grounds to believe that there is any necessary connection between Hilferding and the Free Banking School.

As Horwitz (1994) observes,

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. . . . The evidence in *Finance Capital* appears to indicate that he accepted the erroneous claim of the Banking School [regarding the impossibility of over issue].

Yet these are precisely the issues which separate the Banking from the Free Banking tradition. One may then conclude that any similarity with Free Banking is a coincidental result of Hilferding's infatuation with standard Banking School doctrines.

However, another major point of distinction may be drawn between Hilferding and the Free-bankers. One of the central tenets of the Free Banking School has been that competitive banking is not merely an acceptable substitute for, but is actually a system superior to, monopolized banking (see the above sources). The overarching argument of *Finance Capital*, on the other hand, is that the cartelization of the banking system is an evolutionary feature of capitalism (that is, voluntary cartelization, absent legal barriers to entry). By combining industrial capital with banking capital, banks create "finance capital," which is in turn used to control ever more

28 A minor point: Horwitz (1994) cites Hilferding as saying Fullarton was "correct" on his critique of the quantity theory, whereas Hilferding's complete quotation reads "interesting and essentially correct," which is not quite the same thing. This is important because this slight misquotation highlights a point made earlier regarding a possible confusion between Hilferding and Fullarton's views. Cf. above, note 20.

of the economic system as a whole, through the centralized direction of investment. As the system is centralized, driven by its own internal logic, a *de facto* socialization of the financial and banking sectors—and thus, of the entire market—occurs, setting the stage for the *de jure* adoption of socialism via a mandate of the state. Hilferding summarizes as follows:

With the development of banking, and the increasingly dense network of relations between the banks and industry, there is a growing tendency to eliminate competition among the banks themselves, and on the other side, to concentrate all capital in the form of money capital, and to make it available to producers only through the banks. If this trend were to continue, it would finally result in a single bank or a group of banks establishing control over the entire money capital. Such a “central bank” would then exercise control over social production as a whole. ([1910] 1981, p. 180)

Free Banking, for Hilferding, leads necessarily to central banking, as a necessary step in the organic development of the capitalist system. This conclusion is obviously far different from that of the Free Banking School. As has been shown above, Hilferding allies himself with Marx and the Banking theorists, and cannot really be identified with any other tradition in the sphere of monetary thinking.

LUDWIG VON MISES AND THE CURRENCY SCHOOL

A careful examination of *The Theory of Money and Credit* shows quite clearly that Mises not only considered himself an intellectual successor to the Currency School, but that he considered the Currency-Banking dispute to be *the* event in the development of nineteenth-century money and banking theory ([1924] 1953, pp. 342, 345).²⁹ Mises even describes his theory of the business cycle as “an elaboration and continuation of the doctrines of the Currency School” ([1924] 1953, p. 24). However, while Mises regards himself as a member of the Currency tradition, he is concerned not merely with restating received wisdom—as Hilferding was—but rather with developing the Currency School’s theoretical apparatus. To this end, Mises both elaborates on the Currency School tradition and continues the

²⁹ Mises also sees the triumph of the Banking School in some twentieth-century trends in economic policy, such as the practice of providing fiduciary credit as a stimulus for business activity. Cf. Mises ([1924] 1953, p. 439).

theoretical debate with the Banking School, to some extent avoiding the pitfalls of Currency views on monetary policy, and choosing instead to systematically develop a marginalist-inspired version of the Currency Theory.

At the outset, it is important to mention that there is some dispute over how to classify Mises in the history of monetary thought. The difficulty arises from Mises's simultaneous support for both the Currency School and free-banking, which would seem to place him in two irreconcilable traditions in monetary thinking. However, as shown by Salerno (2012), Mises's theoretical and policy positions are entirely compatible. Mises may therefore be categorized as a "Currency School free-banker," a label which signals both his theoretical ties to the Currency tradition and his disagreement on matters of monetary institutions and reform. This distinction is based on a classification first developed by Smith ([1936] 1990, esp. pp. 144–45), and anticipates the possible objection that Mises should not be considered a member of the Currency School due to his opposition to central banking.³⁰

Advancing the Currency Theory

It is well known that the Currency School erred greatly in ascribing to bank notes and checking deposits different economic functions, and thus Peel's Act regulated only the issue of bank notes while leaving deposit banking alone altogether. This error was the target of much Banking School writing, but while Mises does not hesitate to acknowledge the Banking School's prescience in grouping notes and deposits together ([1924] 1953, p. 389), this difference of opinion with the Currency School does nothing to lessen Mises's appreciation of its arguments. In Mises's view, the Currency-Banking debate was diverted from theoretical questions to matters of policy by this error:

The criticism of isolated dogmatic and economico-political errors of the Currency Principle that constituted the essence of most nineteenth-century investigation into the theory of banking and credit led to an emphasis being placed on all the factors that could be used to demonstrate the essential similarity of notes and other media of bank credit, and to the oversight of the important differences that exist between the two groups of credit characterized above [that is, between commodity credit

30 White (1984, pp. 103–04) argues that Mises is closer to the Free Banking School than the Currency School (although for somewhat different reasons).

and circulating credit], the discovery of which constitutes one of the permanent contributions of the Classical School and its successors, the Currency Theorists. ([1924] 1953, pp. 265–66)

According to this interpretation, this most notable error of the Currency School was overemphasized, while the more fundamental issue of the economic function of fiduciary media was largely neglected. For Mises, the central tenets of Currency doctrine do not stand or fall on their failure to distinguish between notes and deposits ([1924] 1953, p. 369). Thus Mises, in his exposition of the theory of money and banking, is simultaneously developing the theoretical doctrines of the Currency School and engaging in a revisionist analysis of the Currency-Banking dispute.

Mises's theory is based on Menger's theory of individuals' demand for money, combined with the marginal utility approach to value. The result is a systematic refinement of the Currency Theory which avoids pitfalls which hobbled the Classical approach to monetary theory. Mises thus attempts to put the Currency School's version of the quantity theory on firmer ground. While he cannot be considered a quantity theorist generally speaking, as Hilferding claims, Mises is a quantity theorist in a limited sense. That is to say, he argues that a causal link runs from the supply of money to prices, and not the other way around, as the Banking School supposed.

Despite adhering to this type of quantity theory, Mises is quick to distinguish between his version of the theory and that of the Currency School, which Mises describes as "purely mechanical" ([1924] 1953, p. 344). For Mises, the older theory leads to the conclusion—false, in his view—that changes in the quantity of money affect prices in some proportional or deterministic way. Mises's rejection of this view is the first step toward the development of his own theory of the business cycle.

The Currency School, however, never consistently and systematically developed a theory of the trade cycle, choosing instead to focus on the problem of international gold flows. Furthermore, they lacked a theory of capital to assist them in understanding the effects of monetary expansion (Huerta de Soto, 2006, pp. 627–29).³¹ Mises viewed his own work as an

31 Mises does claim that the Currency School came close to perceiving the central problem of the business cycle: the divergence between the Money and Natural rates of interest. According to him, the Currency School understood the problems of fiduciary media and an artificially low rate of interest, but never made the necessary leap to understand differences between interest rates ([1924] 1953, pp. 398–99). Mises implies that the reason for the Currency School's lack of a systematic cycle theory was due to their belief that it is

attempt to fill this gap in the Currency School's exposition, and considers his own arguments a close parallel to those of the older school ([1924] 1953, p. 365). Mises's attempt to solve the dilemma of the Currency School by bringing together his marginal utility theory of money, Böhm-Bawerk's capital theory, and Wicksell's Natural and Money rates of interest, is vital for his theory of the trade cycle.

The Limitations to Credit Expansion

The heart of Mises's argument, however, is concerned with the economics of uncovered bank notes and deposits, which Mises calls "fiduciary media." In fact, the original German title of *The Theory of Money and Credit, Theorie des Geldes und der Umlaufsmittel*, actually translates to "The Theory of Money and Fiduciary Media." Practically the entire third part of the book is devoted to a refutation of the central tenets of the Banking School. It is possible that the success of *Finance Capital*, and with it Hilferding's restatement of Banking School principles, provided some of the impetus for Mises's attention to the Currency-Banking debate.³²

Whatever Mises's exact motivation, there is no question that he is a strong opponent of the Banking School. In particular, Mises challenges the fundamental idea of limitations on note issue which defined so large a portion of Banking School writing. Mises does indeed acknowledge that redemption functions as an important check on bank policy, but also argues that if all banks expand their fiduciary issue together, the problem of redemption does not arise ([1924] 1953, pp. 312, 373, 325–26). So long as banks act in concert (or similarly, if a central bank controls fiduciary issue), redemption may not be an adequate check on credit expansion.³³

impossible to "grant credit beyond the available amount of capital" ([1924] 1953, p. 343), and their concern only with problems of non-systematic credit expansion ([1924] 1953, pp. 354–55).

32 Mises does not cite Hilferding's theoretical works, but singles him out for censure in a note to the second edition of *The Theory of Money and Credit*, criticizing his understanding of the value of money and comments that "It was certainly an evil fate for Germany that its monetary and economic policy in recent years [i.e., during the hyperinflation of 1923] should have been in the hands of men like Hilferding and Havenstein, who were not qualified even for dealing with the depreciation of the mark in relation to gold" ([1924] 1953, p. 200, n. 1).

33 Although Mises does recognize certain policy tools which might be used to (incompletely) restrict note issues, such as requiring cover for notes in the form of short-term bills ([1924] 1953, pp. 313–14). Despite the fact that Mises opposes the Banking School

Mises singles out Tooke and Fullarton as the most important exponents of the law of reflux (and of the Banking School in general), and devotes serious attention to their analysis of fiduciary issue. His remarks are worth quoting *in extenso*:

Tooke, Fullarton, Wilson, and their earlier English and German disciples, teach that it does not lie in the power of the banks-of-issue to increase or diminish their note-circulation. They say that the quantity of notes in circulation is settled by the demand within the community for media of payment. . . . Expansion and contraction of the quantity of notes in circulation is said to be never the cause, always only the effect, of fluctuations in business life. It therefore follows that the behaviour of the banks is merely passive; they do not influence the circumstances which determine the amount of the total circulation, but are influenced by them. . . . The fundamental error of the Banking School lies in its failure to understand the nature of the issue of fiduciary media. When the bank discounts a bill or grants a loan in some other way, it exchanges a present good for a future good. Since the issuer creates the present good that it surrenders in the exchange—the fiduciary media—practically out of nothing, it would only be possible to speak of a natural limitation of the quantity of fiduciary media if the quantity of future goods that are exchanged in the loan-market against present goods was limited to a fixed amount. But this is by no means the case. The quantity of future goods is indeed limited by external circumstances, but not that of the future goods that are offered on the market in the form of money. The issuers of the fiduciary media are able to induce an extension of the demand for them by reducing the interest demanded to a rate below the natural rate of interest . . . whereas on the other hand the demand for fiduciary media would be bound to cease entirely as soon as the rate asked by the bank was raised above the natural rate . . .

That demand for money and money-substitutes which determines the exchange-ratio between money and other economic

doctrine of reflux, he also holds that a system of competitive banking would place limits on the issue of fiduciary media. Under such a system, each bank depends on its own reputation, which is destroyed whenever the slightest doubt concerning its solvency arises. He argues that simultaneous expansion would be impossible, because it would require banks with a greater reputation for solvency to ally with banks of lesser reputation, thus risking a loss in reputation (Mises 1998, pp. 441–45; Salerno 2012).

goods achieves expression only in the behaviour of individuals when buying and selling other economic goods. Only when, say, money is being exchanged for bread is the position of the economic goods, money and commodity, in the value-scales of the individual parties to the transaction worked out and used as a basis of action; and from this the precise arithmetical exchange-ratio is determined. But when what is demanded is a money loan that is to be paid back in money again, then such considerations do not enter into the matter. Then only the difference in value between present goods and future goods is taken into account, and this alone has an influence on the determination of the exchange-ratio, i.e., on the determination of the level of the rate of interest.

For this reason the Banking Principle is unable to prove that no more fiduciary media can be put into circulation than an amount determined by fixed circumstances not dependent on the will of the issuer. It has therefore directed its chief attention to the proof of the assertion that any superfluous quantity of fiduciary media will be driven out of circulation back to the issuing body. 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. ([1924] 1953, pp. 305–08)

It is easy to see that Mises's argument incorporates the Wicksellian distinction between Natural and Money rates of interest.³⁴ According to Mises, failing to distinguish between these two rates of interest was a major failing of the Currency School ([1924] 1953, pp. 354–55).³⁵ It is precisely the banks' ability to issue credit at rates below the Natural rate which induces additional borrowing on the part of business. The demand for credit is not independent of the rate of interest on loans, but is partly determined

34 Although Mises supports Wicksell's distinction, he is critical of it in one important regard: Mises denies Wicksell's contention that a tendency exists in the market which obliges the banks to adjust the Money rate to the Natural rate of interest ([1924] 1953, pp. 355–57), preventing any significant divergence between them. This lack of necessary convergence between the two rates paves the way for Mises's theory of the trade cycle.

35 The Banking School, and Tooke especially, did devote attention to the theoretical problems of the interest rate, but also failed to draw the Wicksellian distinction.

by it ([1924] 1953, p. 354). It is important to note that Mises does not argue that undue expansions of bank credit will always occur, but merely that there is no necessary elasticity of the issue of fiduciary media of the sort described by the Banking School. There is no economic principle to explain why excess fiduciary media *must* flow back to the banks if the banks choose simultaneously to expand the supply of fiduciary media together ([1924] 1953, pp. 311–12).³⁶

Yet Mises continues, arguing that even if the simple reflux explanation were true, there would still be no substantive reason to believe that fiduciary issues can be restricted:

The fatal error of Fullarton and his disciples 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. The assertion that lies at the heart of the position taken up by the Banking School, viz., that it is impossible to set and permanently maintain in circulation more notes than will meet the public demand, is untenable; for the demand for credit is not a fixed quantity; it expands as the rate of interest falls, and contracts as the rate of interest rises. But since the rate of interest that is charged for loans made in fiduciary media created expressly for that purpose can be reduced by the banks in the first instance down to the limit set by the marginal utility of the capital used in the banking business, i.e., practically to zero, the whole edifice built up by Tooke's school collapses. ([1924] 1953, p. 345)

In addition to all this, Mises contends that there is yet another error in the Banking School analysis, namely that the Banking School confused fiduciary media with money certificates (i.e., fully backed money substitutes) ([1924] 1953, p. 281). Mises's theory of money precludes the possibility of the overissue of money certificates, but not of fiduciary media ([1924] 1953, pp. 325–26). Mises also draws a sharp line between a credit transaction, which is simply a present good traded for a future good, and

36 Cf. also Mises ([1924] 1953, pp. 343–44).

fiduciary media, the creation of which does not impose any restrictions on the borrower. Whereas in a credit exchange, the lender must necessarily restrict his own consumption so as to lend, in the case of fiduciary media the new money substitutes are created *ex nihilo*, and thus the lender does not have to restrict his present consumption (beyond that required by the physical cost of producing fiduciary media) ([1924] 1953, pp. 264–65).

Mises's theory of money also allows him to criticize another of the more serious Banking School arguments regarding overissue. Fullarton famously argued that hoards of money would absorb excess issue of bank notes when supply exceeded demand, and would release bank notes whenever demand exceeded supply, thus equilibrating the market for fiduciary media.³⁷ These hoards are idle in the sense that they do not affect economic calculations and prices.

Mises first points out that the Banking School never tried to show *how* the process of storing up and of releasing of hoards would take place, an explanation which is absolutely necessary for this theory of hoards. More importantly however, Mises argues that when viewed through the lens of the marginal utility theory of money, the idea of “idle” stocks of money is untenable. Following Menger, Mises focused on the idea of money as a commodity like any other, in the sense that commodities are always held by individuals, and are still the subject of economic activity even when they are “idle” in the common sense of the word. Every portion of the money supply is always owned by some individual somewhere, and appears as a good on that individual's value scales, and thus is incorporated into the price calculations of the monetary economy ([1924] 1953, pp. 147–50). That is to say, there is no activity “hoarding” which is economically different from holding money in a cash balance. This analysis fits appropriately with the “methodological individualism” of the Austrian school,³⁸ as opposed to say, Hilferding's theory, which perceives money as reflecting socially necessary labor time of production, and is divorced from any notion of individual value.

Mises thus rejects the theory of endogenous money as espoused by Hilferding and the Banking School. Instead, Mises holds that the supply of fiduciary media may be augmented by the banks of issue (if and so long as

37 Mises notes ([1924] 1953, p. 146) that this argument implicitly assumes the correctness of the quantity theory.

38 Although the expression “methodological individualism” comes from Schumpeter ([1908] 2010).

they act in concert),³⁹ and in particular, by the central bank, and he even goes so far as to describe fiduciary media as, “the indefinitely augmentable product of the arbitrary issuing activity of the banks” ([1924] 1953, p. 285). Banks may therefore be active (as opposed to the purely passive) institutions altering the supply of fiduciary media; that is to say, they may be the exogenous source of fiduciary media, and the ultimate source of increases in the supply of money.⁴⁰

From the above remarks it should be clear that in terms of monetary theory, Mises should be considered an intellectual successor to the Currency School, although his theoretical apparatus is derived using tools unavailable to the Classical economists, namely, marginal utility theory, Böhm-Bawerkian capital theory, and Wicksellian interest rate theory. Nevertheless, there are strong and explicit affinities not only between Mises’s positive exposition of the theory of money and banking, but also in his negative appraisal of the Banking School, which demonstrate that Mises viewed himself as a firm advocate of Currency School teaching.

JOSEPH SCHUMPETER AND THE ENTREPRENEURIAL THEORY OF CREDIT EXPANSION

The Theory of Economic Development is not usually remembered as a treatise on money and banking, but rather as a theory of entrepreneurship and development. However, Schumpeter’s theory of the entrepreneur in this early work is inextricably entwined with a theory of credit expansion and the forces which govern it. In addition to the well-known traits of innovator and creator, the entrepreneur is also the only recipient of newly-created fiduciary media in the circular flow. The whole question posed by Schumpeter’s theory of development relates to how a system with no spare resources can ever economically develop. The answer lies in the creation of bank credit.

While Hilferding and Mises can be classified as successors to the Banking and Currency Schools respectively, Schumpeter occupies a sort of middle ground between the two positions. It is therefore appropriate that *The Theory of Economic Development* appears chronologically as well as

39 Cf. note 33.

40 Here I refer to what Mises described as “money in the broader sense,” which includes both money and money substitutes. Cf. Mises [1924] 1953, pp. 482–83 for his particular categorization of the different types of money.

theoretically between the works of the other economists. As with his fellow Viennese economists, there is some discussion in *The Theory of Economic Development* concerning bank credit and its effects on the economic process which proves fundamental for the larger theoretical arguments. Monetary theory is not the focus of Schumpeter's book (as it was for Mises), although to some extent it was the foundation upon which Schumpeter constructed a theory of capitalism (as with Hilferding). For Schumpeter, monetary theory is one component of many in the analysis of the capitalist process.⁴¹

Schumpeter's book represents something of a problem for historians of thought, because it includes few references to the economic literature, and none at all to the Currency-Banking dispute. However, given Schumpeter's other writing in the period,⁴² it is clear that he was already thoroughly acquainted with 19th century monetary theory, especially in the British Classical tradition, and that he wished to develop his own theory in light of his studies in the history of economic thought. Also, given the early influence of Hilferding on Schumpeter (Michaelides and Milios, 2005), it is quite possible that Schumpeter is attempting to clarify certain points of Hilferding's theory, including in the field of money and banking.

Credit Means of Payment

Schumpeter's development theory depends on the issue of uncovered notes and deposits, which he calls simply "credit means of payment" (1934, p. 73). Credit means of payment are created exclusively for the entrepreneurs (that is, in the circular flow, no other source of demand for credit means of payment exists, nor are there other uses credit could be devoted to). Schumpeter therefore assigns significant attention to potential problems of credit, especially the problem of inflation.

Even though new credit will be used to finance innovations, Schumpeter notes that the issue of credit does not in itself increase the productive capacity of the economy (1934, p. 108). It does, however, bid the factors of production away from their current uses. This triggers inflationary changes, and prices, specifically those of producers' goods, begin to rise. But this

41 Schumpeter's own theory of money was never completed to his satisfaction, although portions of his unfinished manuscript on the subject have been published as *Das Wesen des Geldes* (1970).

42 Cf. the comments scattered throughout Schumpeter ([1912] 1967).

credit inflation is only temporary, and lasts only so long as no new stocks of goods appear on the market.

Schumpeter explains this view of the inflationary process by way of an analogy. Purchasing power, of both the existing stock of money and the supply of bank credit, is like gas circulating in a closed container. When more gas (i.e., more credit means of payment) are pumped into the container, the space allotted to each individual molecule of gas (the command of every unit of purchasing power) decreases proportionately (1934, p. 109). This “compression” of purchasing power constitutes the inflationary process.

Schumpeter’s analogy applies both to bank notes and bills circulating as media of exchange, and Schumpeter also accepts the Banking School’s point that deposits are credit means of payment in addition to notes and bills (1934, p. 109), thus avoiding the error of the Currency School.

The problem of credit inflation is therefore also temporary and ultimately illusory: at first, credit is extended beyond the available supply of goods, but as soon as the entrepreneurs begin to produce, new goods flood the market, and although the new credit remains in circulation, its effects are cancelled out as prices adjust proportionately.

In fact, Schumpeter goes a step further, arguing that the process of credit creation and innovation may actually have net deflationary effects: “The entrepreneur must not only legally repay money to his banker, but he must also economically repay commodities to the reservoir of goods” (1934, p. 110). But the entrepreneur does more than merely return the economy to its original productive levels; he must actually *increase* the amount of goods available to society. If he succeeds (and at this point Schumpeter is mostly unconcerned with the possibility of failure), he therefore increases the stock of goods beyond the increase in purchasing power (that is, beyond the effects of the increase of credit means of payment) (1934, pp. 74, 233–35). Thus at the end of the period of economic development,

the equivalence between the money and commodity streams is more than restored, the credit inflation more than eliminated, the effect upon prices more than compensated for, so that it may be said that there is no credit inflation at all in this case—rather deflation—but only a non-synchronous appearance of purchasing power and of the commodities corresponding to it, which temporarily produces the semblance of inflation. (1934, p. 110)

Schumpeter does not dwell on the precise difference between real inflation and the semblance of inflation, but it is implied that the prices of all

goods in the economy rise proportionately, and that there are no distorting effects as there are, for example, in the theory of Mises. This is the natural conclusion derived from Schumpeter's gas analogy, which treats the relationship between credit and commodities as strictly proportional on net, and does not allow for the uneven alterations in the prices of producers' goods which incite errors in the pattern of production.⁴³

The deflationary effects of development are, according to Schumpeter's theory, actually quite severe, because only income in the form of entrepreneurial profit and interest remain in the economy, while credit means of payment return to the bank and are removed from circulation, thus exacerbating the deflation (1934, p. 111). However, Schumpeter provides two reasons why the extent of deflation will be limited in actual banking practice. First, as Mises also pointed out, there is the possibility of prolonging loans, thus keeping credit means of payment (i.e., bills, notes, and deposits) in circulation beyond the period of innovation. Although this would not solve the problem permanently, it does explain how deflationary tendencies could be temporarily limited (1934, p. 111).

Second, Schumpeter argues that credit means of payment can remain permanently in circulation, because after the introduction of new commodities, the effects of credit are neutralized by new commodities, and credit actually loses its effect on prices altogether. Thus it is benign from the point of view of inflation, and there will be no special need to reduce the circulation. In fact, there may be an impetus to maintain it, because the previously new credit is now incorporated into the circular flow, and may be used to cover further economic activities, although any such activities are not development in Schumpeter's sense, but ordinary production (1934, p. 112).

This view of credit expansion is something of a cross between the Currency and Banking views: while credit expansion is inflationary in the Currency sense in the short run, in the longer run, which allows for the completion of production, expansion of the supply of credit beyond the supply of commodities is essentially impossible. This latter position is closer to the Banking School, although it does not depend upon the strict reflux theory of Fullarton to explain the lack of inflationary problems.

43 In fact, Schumpeter rejects malinvestment theories of the business cycle of the sort Mises would advance (Schumpeter 1934, p. 231).

Schumpeter's Supply-and-Demand Theory of Credit Issue

Schumpeter uses a simple supply-and-demand theory to explain the determinants of the quantity of money in the economy. He treats the quantity of money as exogenous, with new credit being issued exclusively by banks (1934, pp. 74, 195), but nevertheless the system is not without limits to expansion. The banker is not a passive agent as in the Banking School view, but rather “the capitalist par excellence” (1934, p. 74), the ultimate gatekeeper of all economic change.

With a redeemable commodity standard, limits are set both by calls for redemption, and the export of gold. In this sense Schumpeter says nothing too different from the Currency School. Nevertheless, there are limits to these limitations, and room exists for the banks to cautiously increase the supply of credit means of payment, so long as “the resulting inflation is really temporary and moreover remains moderate” (1934, p. 113). Schumpeter argues that there are two limitations to the supply of credit means of payment. First, the possibility of entrepreneurial failure limits the amount banks will be willing to issue, by requiring the banks to exercise discretion in their lending policies (1934, p. 114). But Schumpeter largely dismisses this limit by pointing out that the prices of loans will simply include a risk premium so as to avoid the problem of default (1934, pp. 195–96).⁴⁴

Second, there is the risk of the depreciation of money substitutes through needless issue. As noted above, such inflation can only be “temporary” if new goods are introduced to counter the increase in the supply of credit. Because the process of development does not occur synchronously with increases in the supply of goods, there will be periods of inflation during production. A bank of issue must therefore keep certain reserves (taken from ordinary savings) in order that they remain solvent during these periods. This reserve is a further limit on the expansion of credit.

These arguments lead Schumpeter to the conclusion that the limitations on the supply of money, while not rigid or quantitatively definable, are nevertheless significant:

Therefore, even if we cannot, in the nature of things, state the limit to the creation of purchasing power . . . and even if the limit must vary according to the mentality of the people, legislation, and so on, yet we can state that there is such a limit at any time

44 The problem of bad credit risk was also typically assumed away by the Currency and Banking Schools, as well as by Hilferding and Mises.

and what circumstances normally guarantee its maintenance. Its existence neither excludes the creation of purchasing power in our sense nor alters its significance. But it makes its volume at any time an elastic, though nevertheless definite, magnitude. (1934, pp. 113–14)

Once again, Schumpeter walks a fine line between the position of Hilferding and the Banking School who altogether deny the possibility of over-issue, and Mises and the Currency School, who hold that limitations on issue were often lacking. Although he does not delve deeply into the problem, Schumpeter also recognizes that banks acting together can permanently increase their issues and thus also the price level (1934, pp. 114–15). He notes in passing, in accordance with the Currency position, that because of this ability, “special legal restrictions and special safety-valves are actually necessary in practice” (1934, p. 115) in order to prevent excessive issues.

Concerning the demand for bank credit, Schumpeter introduces an interesting challenge to Banking-style interpretations of the “needs of trade.” Whereas the requirements of business had been viewed in the Banking tradition as definite limits to the ability to issue new bank credit, Schumpeter argues that the demand for credit means of payment comes from entrepreneurs, who will only wish to produce (that is, innovate) if they can earn a profit (1934, p. 196). Schumpeter also points out that the number of potential innovations at any point in time is for all practical purposes unlimited. There is therefore no strict limit to the quantity of credit entrepreneurs might demand (1934, p. 197).⁴⁵ Limitations are therefore restricted to the supply side of the money market, and the elasticity of the quantity of credit is dependent almost entirely on these factors.

Schumpeter’s analysis of the early stages of the boom is in a sense similar to Mises’. Both economists agreed that the creation of credit means of payment would put excess purchasing power in the hands of individuals seeking to purchase producers’ goods. In fact, Schumpeter (erroneously) attributes to Mises the coining of the expression “forced saving” to refer to the rise in prices in producers’ goods industries which characterizes the boom phase of the business cycle (1934, p. 109, n. 1).⁴⁶ It is possible,

45 Remember that, unlike some other equilibrium constructs, in Schumpeter’s circular flow model the interest rate is zero.

46 Mises and Schumpeter appear to have different points in mind with this common phrase (i.e., overconsumption vs. involuntarily restricted consumption). On this and other issues relating to the different meanings of “forced saving,” cf. Machlup (1943). This note of

however, that Schumpeter's seemingly positive reference to Mises in regards forced saving is made in the context of the first German edition of Mises's book (Schumpeter does not provide the bibliographic citation). In the earliest edition of *The Theory of Money and Credit*, Mises made several remarks which were removed from later editions, and which cast his early writing in a somewhat different light, in the sense that they are incompatible with his later views on monetary theory (Gertchev 2004; Hülsmann 2012). Inconsistencies in the different versions of the text, as well as the fact that *The Theory of Money and Credit* was only the first major step in Mises's thinking on money, have led to confusions on certain issues. One of these relates to the concept which later became known as "forced saving" (although Mises never uses this term). Mises occasionally makes claims which, taken outside the context of his later writings, might appear to make his views on forced saving ambiguous (Mises [1924] 1953, pp. 208, 347–348, 350). Specifically, Mises seems to imply that forced saving might encourage sustainable capital formation. Regardless of Mises's actual intentions, this point may have seemed quite Schumpeterian at the time it was first written. Nevertheless, it may explain why there seems to be an affinity between these earlier writings of Mises and Schumpeter.

But despite Schumpeter praising the "power and originality" of *The Theory of Money and Credit*,⁴⁷ potential agreement is quite limited. Credit creation for Schumpeter is both necessary for economic development and benign in terms of the negative effects of inflationary expansion. For Mises, however, the issue of fiduciary media is a matter to some extent at the discretion of the banks, and its overissue sets in motion malinvestments which lead inevitably to the bust, and not to sustainable growth.

On the one hand, Schumpeter's analysis of the limitations on the creation of credit means of payment resembles the Currency School, in the sense that he does not perceive serious limitations to a dedicated attempt to expand credit. On the other hand, his theory of development explicitly incorporates an expansion of the quantity of bank credit which, although exogenously determined, is not only not harmful, but is in fact beneficial. This aspect of the theory is thus closer to the Banking School notion of an "elastic" currency responding to the needs of trade (although, as mentioned above, different in some key respects). Schumpeter's theory,

Schumpeter's appears in the second edition of *The Theory of Economic Development*, which was published only after the first edition of *The Theory of Money and Credit*.

47 Quoted in Hülsmann (2007, p. 208).

however, focuses less on past influences than it does on his theory of economic development.

The Development Theory of the Business Cycle

A certain resemblance also exists between Schumpeter's innovation-based theory of the business cycle and the Banking School approach. This is especially true of Schumpeter's earliest presentation in *The Theory of Economic Development*. Schumpeter, Hilferding, and the Banking School—although Schumpeter's theory is more original than either—share a non-monetary approach to business cycles.

Innovation and development are the causes of the trade cycle. Entrepreneurs “introduce new combinations” and compete for means of production (fixed capital). As is the case in similar theories, there is a lag between investment and the sale of finished goods. Thus the prices of factors rise in the inflationary boom, increasing the costs of older (non-innovating) firms and thus threatening their position in the market, causing bankruptcies (1934, pp. 232–33). The failure of firms causes a decline in capital investment, which in turn leads to a collapse of the rate of interest, money incomes, and the demand for consumers' goods (1934, p. 237).

Much of Banking theory appears in Schumpeter, although it plays a different role than in the original Banking Writings. For example, Schumpeter notes in passing the prevalence of what he deems “psychological” aspects of the business cycle, such as speculative mania and subsequent panics, but claims that these are not the essence of the cycle (1934, pp. 213, 219, 227–28). Like Hilferding, Schumpeter seeks a deeper explanation of the psychological characteristics of the cycle, as opposed to simply taking them as given. For Schumpeter, such events can only be effects, and not causes of prosperity and depression, which are only attributable to the efforts of entrepreneurs to radically alter the state of production (1934, pp. 227–28). Likewise, disproportionality between economic sectors and over-production exist in the business cycle, but are also effects, never causes (1934, pp. 227–28).

Both Schumpeter's theory and Tooke's cite essentially exogenous innovations as the ultimate cause of business cycles. The new firm (with its innovations) “does not grow out of the old but appears alongside it” (1934, p. 216). Schumpeter's entrepreneur “introduces new combinations,” such as:

- (1) [A] new good . . . or of a new quality of a good.
- (2) The introduction of a new method of production. . . .
- (3) The opening of a new market. . . .
- (4) The conquest of a new source of supply of

raw materials or half-manufactured goods. . . . (5) The carrying out of the new organization of any industry. (1934, p. 66)

The disequilibrating effect of such innovations, especially the influence of new foreign markets, was stressed by the Banking School. Although it is not obvious whether Tooke exercised any positive influence on Schumpeter's theory, this aspect of Tooke fits squarely into Schumpeter's exposition, although Schumpeter's theory of the cause of cycles is more specific than Tooke's. Schumpeter acknowledges, for instance, that cycles may be caused by bad harvests, but regards this sort of cause as secondary to his development theory (1934, p. 220).

Mill too observed that rapid increases in the amount of productive innovations (in other words, increases in fixed as compared to circulating capital) could cause economic fluctuations, but he dismissed this possibility as empirically unlikely ([1967d] 2006, p. 97). Mill claimed instead that increases in the amount of fixed capital are financed through profits and not through circulating capital, and in any case occur slowly. However, in Schumpeter's circular flow there are no profits from which to draw, and so entrepreneurial resources must be financed through credit expansion. Although Schumpeter often avoids using the words "fixed capital" specifically (for example, 1934, p. 241, n. 1),⁴⁸ he is clear that the innovations of the entrepreneurs require serious long-term investment, i.e., a sufficient stock of fixed capital.

Mill and Schumpeter both perceived business fluctuations as periodical, cyclical events which occur in the capitalist economy. In his *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process* (1939), Schumpeter would fully develop his multi-cycle schema, but in *The Theory of Economic Development* he utilizes a one-cycle model, as does Mill. Mill however, thought cycles were due primarily to erroneous and morally reprehensible speculation, which he hoped one day could be eliminated from the economy ([1967a] 2006, pp. 77–78), whereas Schumpeter viewed the cycle as a natural and necessary part of capitalist economic development.

48 It is possible that Schumpeter takes this route to avoid spurious association with the older overinvestment theories, concerning which Schumpeter is rather cautious (1934, pp. 219, 239–40).

We can see then that Schumpeter's theory may be expressed in the terminology of the Banking School (and of Hilferding), but is not a direct descendent of that tradition. As Schumpeter explains:

The unsaleableness of commodities already produced, still more of those producible, at prices which cover costs calls forth the well known further phenomenon of the tightness of money, possible insolvency, which is so typical that every theory of the business cycle must be in a position to explain it. Ours does so... but it does not employ this typical fact as a primary and independent cause. This overproduction is accentuated by [a] skewness of the boom. . . . This circumstance on the one hand, and the discrepancy between effective supply and effective demand which must occur in many industries during the depression on the other, make it possible to describe the external form of depressions in the language of the various disproportionality theories. . . . For us, disproportionalities between quantities and prices of goods . . . is an intermediate phenomenon just like overproduction and is not a primary cause. (1934, pp. 239–40)

As is typical of his theoretical work, Schumpeter's early theory of the business cycle is consistent with other theories, and owes much to other traditions in economics, although it cannot be said to belong to one in particular.

CONCLUSION

The dispute between the Currency and Banking Schools had a profound impact on at least three distinct approaches to economics, as exemplified by Hilferding, Mises, and Schumpeter. What is most striking is the fact that this influence was felt by economists with such wide-ranging differences: differences which serve as an appropriate testament to the importance of the earlier Schools. By focusing on the nature of dynamic change in the economy, Hilferding, Mises, and Schumpeter each introduced theories which complement and, in their particular ways, complete the theories of the earlier schools. Through their respective analyses of money and credit, each economist attempted to explain a part of the process of economic change in capitalist society. The enduring worth of these arguments may be seen from the fact that there is still much investigation and debate on the theoretical and empirical questions raised by these writers, debate which appears not yet to have borne all the fruit of which it is capable.

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