

# FREE BANKING AND CREDIT CREATION: IMPLICATIONS FOR BUSINESS CYCLE THEORY

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For the element of Time, which is the center of the chief difficulty of almost every economic problem, is itself absolutely continuous: Nature knows no partition of time into long periods and short; but the two shade into one another by imperceptible gradations, and what is the short period for one problem is a long period for another. (Marshall 1936)

**W**hile the element of time may be the chief difficulty of almost every economic problem, the difficulties are most apparent and most persistently resist generally accepted solutions in the area of monetary theory and macroeconomics. Money, which simultaneously functions as a medium of exchange and a store of value, may be viewed as the quintessential present good or as a future good, the most liquid store of value. This dual nature of money has been the center of macroeconomic controversy since the time of the classical economists.

The Austrian business cycle theory is a blend of monetary and capital theory and highlights coordination problems connected to “time and money.” In the framework developed by Ludwig von Mises, banks create money by creating credit. This created credit finances investment in excess of savings, distorts the structure of production, and sets the stage for the boom–bust cycle.

But what is created credit and when and how do banks create credit? Different answers to this question yield different implications for business cycle theory, research, and monetary policy, as well as different monetary reform proposals. Section two examines the classical roots of the time, money,

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and capital problem. Section three develops the banking theory that connects money and capital markets. Section four compares and contrasts alternative views of the credit creation process and examines their implications for Austrian business cycle research. Our main focus will be on discovering the conditions under which banks create rather than intermediate credit. Section five provides conclusions and directions for future research.

#### THE CLASSICAL ROOTS

Ackley (1978, p. 85) points out that one of the “few explicitly macroeconomic propositions of classical theory was Say’s *Law of Markets*.”<sup>1</sup> Say’s Law can easily be shown to be true for a simple barter economy. But does Say’s Law hold true for a monetary economy where savings and investment decisions take place under conditions in which the element of time is of critical importance?

The original answers to the critics of Say’s Law separated the issues of capital and money. The rate of interest could be relied upon to balance saving and investment.<sup>2</sup> While economic activity is measured in monetary units, classical economists tended to think in real terms. Saving releases resources from the provision of present goods. These resources are then available for the provision of future goods. Investment is the use of these available resources for capital formation and hence provision of future consumable goods. Saving and investment in the classical framework are, as Keynes (1936, p. 175) summarizes, the supply of and demand for investable resources. Saving first shows up on the market explicitly as non-spending on consumable goods, but is in reality an implicit demand for future goods. Saved funds flow into capital markets where fluctuations in the rate of interest ensure that the funds saved are invested in the creation of new capital goods. A surplus of saving over investment, which could be the source of a general glut, would be merely a disequilibrium phenomenon in the capital markets.

Money not spent on consumable goods could, however, be hoarded. Households and firms could attempt to build up cash reserves by reducing planned expenditures on goods and services. These increased cash balances would not flow into the financial markets. But money is a medium of exchange and implicitly a present good. As people build up their cash balances, they are expressing a preference for real money balances over other present goods and

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<sup>1</sup>For a concise summary of Say’s contributions to economics and their relationship to the Austrian tradition, see Sechrest (1999).

<sup>2</sup>Keynes (1936, p. 175), regarding the classical tradition, states, “It is fairly clear, however, that this tradition has regarded the rate of interest as the factor which brings the demand for investment and the willingness to save into equilibrium with one another.” He correctly points out that it is “difficult . . . to discover an explicit account of it in any leading treatises of the modern classical school.”

services. Money balances become relatively more valuable and goods relatively less valuable. Money prices of goods and services fall, reflecting the new valuations of economic agents. When equilibrium is restored, goods and services sell at lower money prices. No actual saving (resources released from present provision) has taken place, nor was any real saving intended. The distribution of present goods between money and consumable goods has changed, but the margin between the demand for present goods and the demand for future goods has not changed. Mises expanded on and made explicit the classical reasoning. While he argued that money was neither a consumption good nor a production good (1971, pp. 79–92), he definitely classified ‘money’ as a present good in his discussions on money and credit (pp. 268–77).<sup>3</sup> The quantity theory of money could be used to illustrate how fluctuations in money prices would balance money supply and money demand so that in a full general equilibrium no overproduction or glut would exist. Gluts or overproduction caused by either hoarding or a decline in the money supply would be a temporary maladjustment, a monetary disequilibrium phenomenon.

#### BANKING THEORY AND THE TRADE CYCLE

While Say’s Law could be shown to hold as an equilibrium condition, output did fluctuate in market economies and business cycles did occur. Economists attempted to explain the nature of cycles in models that used banking as a link between capital markets and money.<sup>4</sup>

Banks, as we know them today, developed as two separate, apparently legitimate, business activities: banks of deposit or warehouse banking, and banks of circulation or financial intermediaries.<sup>5</sup> Fractional-reserve banking combined these two types of banking institutions into one institution—a single institution offering both transaction services and intermediation services.<sup>6</sup>

<sup>3</sup>See particularly (p. 268), “The claim he has acquired by his deposit is also a present good for him. The depositing of the money in no way means that he has renounced immediate disposal over the utility that it commands” and “(t)he note is a present good just as much as the money” (p. 272). Hoppe (1994, pp. 65–74), Hoppe *et al.* (1998), Cochran and Call (1998), and Cochran, Call, and Glahe (1999) provide modern extensions of this argument. To the extent that agents attempting to build up cash balances reduce their spending on assets or attempt to increase their sales of assets instead of on other present goods, time preference has increased (in addition to the increased preference for real cash balances). Saving has decreased, not increased. The rate of interest rises, and the share of resources used for investment declines.

<sup>4</sup>See Mises (1996) and Hayek (1935, Lecture I) for a summary of some of these early business cycle theories.

<sup>5</sup>Say’s terminology, see Sechrest (1999, p. 49). These would be deposit banking and loan banking in Rothbard (1994, pp. 29–33).

<sup>6</sup>Say (see Sechrest 1999, p. 49) argued that circulation banking reduces transactions costs and enhances the efficiency of the “capital” markets, leading to more savings,

With the development of a fractional-reserve banking system, credit and money creation became institutionally linked.

The early developers of an indirect transmission mechanism made use of these institutional features in their explanation of the effect of monetary changes on the economy. This mechanism, which is most closely associated with the names Wicksell,<sup>7</sup> Mises, Hayek, and Keynes (1971) of *The Treatise*,<sup>8</sup> provides a method of analyzing monetary disturbances that combines theory and institutions in a meaningful way.

A major factor in this analysis is injection effects. The way money enters the economic system—that is the injection—affects the dynamic adjustment process. As recognized by Cantillon (1964, p. 161),<sup>9</sup> the demands of those who are initially affected by the monetary disturbance change before the demands of those who receive additional money balances only as the effects of the monetary change spread through the economy.<sup>10</sup> These injection effects are important. Wicksell (1965, p. xxiv) felt that in an economy with a developed banking system, monetary changes would enter the economy as changes in the availability of credit. This analysis, which is the foundation of Austrian business cycle theory, combines the theoretical proposition that injection effects matter with the empirical observation that these effects take place as the banking system extends credit.<sup>11</sup>

investment, and economic growth. These are standard arguments concerning financial intermediation. Selgin (1988, chap. 2) argues that fractional-reserve banking develops naturally in a free economy as “a result of individuals finding new ways to promote their self-interest.” Banks are pure intermediaries (Selgin 1996, p. 120). Other Austrians have argued that fractional-reserve banks are hybrid institutions that could only develop as the result of special privileges granted to banks by government. The activities of these hybrids are not pure intermediation. The critical economic issue is: Is credit issued by a fractional reserve bank financial intermediation or credit creation? See Mises (1971, pp. 268–77) and Cochran and Call (1998, pp. 33–35).

<sup>7</sup>Priority of discovery of what is often called the Wicksellian mechanism is usually attributed to Henry Thornton. “The first author known to me to enunciate a clear doctrine on this point was Henry Thornton” (Hayek 1935, p. 12). For a discussion of Wicksell’s rediscovery see O’Driscoll (1977, p. 44).

<sup>8</sup>Garrison (1999, p. vi) argues that Keynes borrowed this idea from Wicksell, but later returned it.

<sup>9</sup>Injection effects are thus often known as “Cantillon effects.”

<sup>10</sup>In the traditional direct transmission mechanism of the older quantity theory of money, how money enters the system is deemed irrelevant or of the second order of smalls. These are helicopter drop or “Ángel Gabriel” models of the monetary system (Rothbard 1994, p. 22). Monetary changes alter real cash balances. Economic agents respond through Pigou effects. Aggregate demand is affected directly as agents alter spending on goods and services in response to changes in real cash balances. Keynes effects are also essentially helicopter drops. Aggregate demand is changed indirectly as portfolio adjustments alter market interest rates.

<sup>11</sup>A major disagreement between Austrians and monetarist or monetary disequilibrium theorists centers on the importance of these injection effects. See Haberler (2000, p. 3).

Money is created as banks make loans. The initial impact of a money-supply change occurs in the market for credit. Monetary changes that originate through the banking system alter not just bank credit but total credit available in the economy. It is not change in the rate of interest *per se* that causes the demand-side changes, but the change in the rate relative to the equilibrium rate. Such a rate reflects the “ratio of the value assigned to want-satisfaction in the immediate future and the value assigned to want-satisfaction in remoter periods of the future. It manifests itself in the market economy in the discount of future goods as against present goods” (Mises 1998, p. 523). Credit creation will thus alter the money rate of interest relative to the equilibrium rate and disrupt the balance between the “supply and demand” for capital.<sup>12</sup> As expressed by Wicksell (1965, p. 107):

It is only in this relative sense that the money rate of interest is of significance in regard to movements of prices. It can at once be seen that it is quite useless to try to demonstrate the existence of any direct relation between the absolute movements of the rate of interest or of the discount rate and movement of prices.

At the core of this Wicksellian mechanism is the concept of an equilibrium or “natural rate” of interest.<sup>13</sup> But what is the natural rate?

This natural rate is roughly the same thing as the real interest of actual business. A more accurate, though rather abstract, criterion is obtained by thinking of it as the rate which would be determined by the supply and demand if real capital were lent in kind without the intervention of money. (Wicksell 1965, p. xxv)

The problem is that:

Monetarist and monetary disequilibrium theorists feel that these initial effects are swamped by later real balance effects. The Austrian–Wicksell mechanism does not preclude real balance effects, whether Pigou effects or Keynes effects. If the monetary disturbance occurs through a fractional-reserve banking system, then these spending effects occur, if at all, later in the transmission process and are of less importance for dynamic adjustments. The real balance effects do provide an excellent explanation of an economywide reaction to a helicopter drop. Direct effects would most likely dominate the response to such an experiment. Where there is no clearly identifiable injection point, or the injection effect differs with each monetary change, no general theory is possible, and the monetarist emphasis on long-run results may be the best the economist can do.

<sup>12</sup>Ordinarily, Mises (1998, p. 534) argues, “The loan market does not determine the rate of interest. It adjusts the rate of interest on loans to the rate of ordinary interest as manifested in the discount of future goods.” Credit creation temporarily suspends this adjustment process.

<sup>13</sup>The authors recognize that the “natural rate” is controversial. The above discussion provides a brief summary of the development of the concept. Following Mises (1971, p. 359 and 1978, pp. 120–30), the authors use the term to distinguish between an equilibrium rate and a rate that has been altered by credit manipulation.

In the economic system of today, interest does not exist in the form in which it is presented by pure economic theory. . . . The process of interest fixation, which is the basis of pure theory, never in fact follows the same course in a modern credit economy; for in such an economy the supply of, and demand for, savings never directly confront each other. (Hayek 1966, p. 200)

Loans are made in money terms and not in kind. The observable rate of interest is a money rate, a “return on borrowed funds” (Conard 1966, p. 10). Wicksell (1965, pp. 120 and 102; and 1935, p. 192) called the money rate that was equal to the natural rate the normal or neutral rate. The natural and hence the normal rate would be the equilibrium rate, the “rate at which the demand for loan capital and the supply of saving exactly agree” (Wicksell 1935, p. 193). But if it is an equilibrium rate:

We must now consider whether it is possible for credit institutions to maintain their rates of interest at any desired level, or whether they are obliged sooner or later, as the result of the operation on the money market of the forces of supply and demand, to come into line with the natural rate. The latter is the view generally held by economists. *In principle* they are perfectly right; but they usually omit to provide any clear account of the *manner* in which the two rates of interest are brought together. The money rate of interest depends in the first instance on the excess or scarcity of money. How does it come about that it is eventually determined by the excess or scarcity of *real capital*? (Wicksell 1965, pp. 107–08)

Classical economists presumed that the natural rate was the determining factor. So did Wicksell, Mises, and Hayek. The money rate would differ from the natural rate only if the supply of savings was not equal to the level of investment. Saving would exceed or fall short of investment as the banking system changed the supply of money and credit in such a way that saving plus the change in the money supply would equal the level of investment (Ackley 1978, p. 141).

While Wicksell used this argument to show how increases in the money supply increase prices, Mises, and later Hayek, used the analysis to develop a theory of the trade cycle. Wicksell and Hayek both treat banking activity as credit creation, but neither provides an analysis of the credit creation process. Only Mises developed an argument clearly explaining why and how credit creation takes place. Mises (1978, p. 119) cautioned,

One must be careful not to speak simply of the effects of credit in general on prices, but to specify clearly the effects of “increased credit” or “credit expansion.” A sharp distinction must be made between (1) credit which a bank grants by lending its own funds or funds placed at its disposal by depositors, which we call “commodity credit” and (2) that which is granted by the creation of

fiduciary media, i.e., notes and deposits not covered by money which we call “circulation credit.”

Circulation credit is created credit because “[c]irculation credit is granted out of funds especially created for this purpose by banks. In order to grant a loan, the bank prints banknotes or credits the debtor on deposit account. It is creation of credit out of nothing” (Mises 1978, p. 218). Others in the Austrian tradition who seriously attempted to define credit creation include Machlup and Selgin. Machlup explicitly calls Mises’s circulation credit “created credit.”

I use the term transfer credit if the purchasing power accruing to the borrower is counterbalanced by purchasing foregone by somebody else, such as a voluntary saver or a disinvesting producer. My term “transfer credit” corresponds to Mises’s “commodity credit.” For Mises’s term “circulation credit,” I have substituted the term “created credit,” which clearly conveys the meaning that the purchasing power accruing to the borrower is not counterbalanced by any purchasing foregone by anybody else. (Machlup 1940, p. 224n)

Selgin (1988, p. 66) defines created credit as “credit granted independently of any voluntary abstinence from spending by holders of money balances.”

#### CREDIT CREATION: ALTERNATIVE APPROACHES

##### *The Misesian View*

The Misesian model of credit creation sees modern fractional-reserve banks as hybrid institutions. Some transactions by these banks may be true financial intermediation, and as such enhance the efficiency of the saving and investment process. Other transactions by these same institutions may create credit. Only those banking transactions in which the client actually forfeits current claims to money are pure financial intermediation. Mises (1971, p. 261) describes these two distinct roles as “the negotiation of credit through the loan of other people’s money and the granting of credit through the issue of fiduciary media, i.e., notes and bank balances that are not covered by money.”<sup>14</sup> Transactions in which both a depositor and a borrower retain, temporarily, current claims to money are not intermediation, but credit creation. According to Mises:

It is usual to reckon the acceptance of a deposit which can be drawn upon at any time by means of notes or checks as a type of credit transaction and juristically this view is, of course, justified; but economically, the case is not one of a credit transaction (1971, p. 268). . . .

<sup>14</sup>The first role is clearly financial intermediation. The second is not financial intermediation, but credit creation.

[And] but this is not a credit transaction, because the essential element, the exchange of present goods for future goods, is absent. (p. 269)

These transactions are not just another conduit of savings into investment. The transaction is different in nature from a true credit transaction. In a true credit transaction the lender temporally surrenders “money or goods, disposal over which is a source of satisfaction and renunciation of which is a source of dissatisfaction” (Mises 1971, p. 264). It is different because the transaction involves no reduction of current satisfaction on the part of the ultimate lender and hence may finance investment (or other spending financed by money creation) without any prior equal saving.

In the Misesian framework money as the medium of exchange is the present good *par excellence*. Since the holding of cash balances, whether in the form of deposits or currency, does not require the sacrifice of present goods, changes in cash balances financed from current income are not a part of saving, but represent part of the allocation of income to provide present utility. Households can thus use current income for present goods or future goods. If present goods are preferred, the household may choose specific consumption goods or money balances. The act of saving requires the sacrifice of present goods. A claim on present goods is temporarily foregone in exchange for a claim on future goods. As in the classical model, as saving takes place resources are made available for capital formation and the provision of future goods and services.

The proper economic interpretation of a demand deposit or bank note is that the deposit or bank note is a bailment or warehouse receipt, not a credit instrument.<sup>15</sup> The depositor has not engaged in a true credit transaction because no sacrifice of present utility has taken place. If banks hold fractional reserves and use reserves to extend loans, then the associated money creation is credit creation and not financial intermediation. No actual saving has occurred. In theory, fractional-reserve banking and the use of circulating credit expand the supply of credit beyond the limits set by prior saving. Banking institutions can push interest rates below the natural rate, resulting in spending by ultimate investors exceeding saving.<sup>16</sup>

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<sup>15</sup>See Rothbard (1978, pp. 148–49). If bank deposits are considered a short-term loan from a legal standpoint, then the funds are legally considered the property of the bank, not the property of the depositor. But the legal structure does not change the economic impact of the transaction. If such deposits (or notes) are used as a medium of exchange, they are in the minds of the depositor the property of the depositor. The deposits (notes) are a readily available source of current purchasing power.

<sup>16</sup>This analysis assumes the newly created credit (bank loans) enters the system as loans to businesses. The argument does not depend on who is the first recipient of the created credit, but on who is the marginal recipient of the credit, who would have been priced out of the capital market without the newly created credit (Machlup



This interpretation of the Wicksell mechanism is the foundation of the Austrian theory of the business cycle as developed by Mises and Hayek.<sup>17</sup> Created credit eventually causes an economic crisis. The normal operations of the money and banking institutions supported by a central bank generate business cycles by attempting to keep market rates of interest too low. The recession phase of the business cycle is the economic correction of previous monetary excesses and malinvestment.

#### THE NEW VIEW

In a recent paper, Cochran and Call (1998) compared the Misesian framework of banking and credit creation to a Keynesian framework. Banks were viewed as pure intermediaries and money was considered a future, not a present, good. This Keynesian framework is what Selgin (1996, p. 119) has labeled the “new view” of money and banking, where banks “are pure intermediaries: they act as brokers of, rather than creators of, loanable funds, and are not an independent cause of investment in excess of *ex ante* saving.”<sup>18</sup> Banks are financial intermediaries that issue certain liabilities that the public willingly uses as a medium of exchange. The problem for such a banking system may not be boom–bust cycles caused by credit creation and malinvestment, but secular stagnation.<sup>19</sup> An economy with a fractional-reserve banking system and well-developed financial markets following a laissez-faire policy would suffer from chronic unemployment. Money and banking institutions could operate so that the market rate of interest would be too high. Saving would exceed investment.<sup>20</sup>

1940, pp. 251–55). Rothbard (1978, pp. 152–53) provides a brief discussion of the effects on the economy if the credit enters the system as loans to government or consumers. Such loans may not generate business cycles, but do definitely generate a redistribution of wealth and purchasing power.

<sup>17</sup> See Hayek (1935, 1966), Mises (1971), Rothbard (1970), and Cochran and Glahe (1994, 1999).

<sup>18</sup> This view is in reality neither new nor explicitly Keynesian. Selgin (1996, p. 125, n.1) argues that the view was “typical around the turn of the century” and that Edwin Cannan was the “last eloquent champion prior to its revival by Tobin.” The revival is associated with Tobin (1963), The Radcliffe Report (Gurley 1960), and Gurley and Shaw (1956 and 1960). See Selgin (1996, p. 125) for a discussion of other contributors to this revival. Yeager (1997b,c) provides a criticism of the “new view” from a monetary disequilibrium perspective. The “new view” is embedded in Keynesian models with a horizontal LM curve caused by endogenous money. See Romer (2000) for a recent example. In the Keynesian form of the “new view,” the natural rate of interest is not a market–equilibrium rate balancing saving and investment, but an empirical rate that can be targeted by a central bank à la Blinder (1998). Cochran (1998) provides an Austrian response to Blinder.

<sup>19</sup> This argument draws on Cochran and Call (1998). Garrison (2000, chap. 9) uses a similar argument to develop a model of secular unemployment in the Keynesian tradition.

<sup>20</sup> Selgin and White (1996, p. 101) argue that a consistent application of the Wicksellian framework would recognize not only that money creation can lower rates below the natural rate, but that “unanticipated destruction of money (or a drop in ‘velocity’) can drive the interest rate in the short run above its natural level, and hereby artificially curtail warranted

The new view stresses the role of money as a store of value. Money is treated as a future good, not a present good. Saving is defined as current income less household spending on consumption. Households decide whether to consume or to save. As households save, they must decide whether to hold cash balances or other assets. Additions to cash balances financed from current income are a form of saving. Changes in money supply or money demand affect aggregate demand through real balance effects that include portfolio adjustments as well as direct spending on goods and services.

True financial intermediation should facilitate the flow of funds from savers to investors. Bank liabilities that do not serve as a medium of exchange are clearly of this type. The owner of the bank liability has loaned the funds to the bank for future considerations. Such intermediation is usually viewed as efficiency enhancing. No change in the money supply takes place. Just as in a credit transaction without intermediation, the ultimate lender has a claim on future money and the borrower has acquired present money.

In the new view, deposit banking is also intermediation. The saver prefers liquidity to return and decides to invest in money. The depositor loans funds to the bank and receives a bank I.O.U.—a bank deposit payable on demand. The bank now owns additional loanable funds. As reserves are loaned out, funds are transferred from an ultimate lender (the depositor) to an ultimate investor.

Banks may, however, for legal or economic reasons deem it necessary to maintain cash reserves to back such short-term liabilities.<sup>21</sup> The result is that total lending will be less than total saving. A dollar held in a reserve balance is a dollar saved but not loaned to an ultimate investor. The supply of credit will be less than available saving and the market rate of interest will rise above the natural rate. Investment will be less than saving and the economy may move inside its production possibility frontier.<sup>22</sup> Fractional-reserve banks and other intermediaries provide intermediation services that increase investment relative to a system without banking, but when these institutions hold cash reserves, the amount of investment may consistently be less than ideal. There

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investments.” Here again, the Misesian model leads to a different conclusion. See Mises (1971, p. 360): “The opposite case, in which the rate of interest charged by the banks is raised above the natural rate, need not be considered; if banks acted in this way, they would simply withdraw from the competition of the loan market, without occasioning any other noteworthy consequences.”

<sup>21</sup>The same argument could, however, be made for any cash assets held by any intermediary. Banks, in this aspect, are not unique in their impact on financial markets, interest rates, and investment activity.

<sup>22</sup>Garrison (2000, chap. 9) provides a detailed verbal and diagrammatic present of secular stagnation caused by a “fetish” for liquidity.

exists no market process that ensures that saving will equal investment at full employment levels. A “natural” rate of interest may exist, but it is an equilibrium rate only in the sense that it preserves a *status quo* that we may have no predominant interest in maintaining.<sup>23</sup> A central bank is a necessary addition to the banking system. Central banks provide new money credit to offset the general contractionary tendency due to the normal operation of financial markets.

#### SELGIN'S MODIFIED NEW VIEW

Selgin (1988 and 1996) offers a “qualified defense of the new view” that can be considered a middle ground between the Misesian and the new view. While fractional-reserve banking is intermediation, banks can still create credit. Credit is created when credit is “granted independently of any voluntary abstinence from spending by holders of money balances” (Selgin 1988, p. 60). Extensive credit creation requires not just fractional-reserve banking, but central banking. In this framework, the creation of fiduciary media that is matched by a willingness to hold the additional fiduciary media is not credit creation, but financial intermediation. Such transactions facilitate the flow of saving into investment.

Holding cash balances is part of saving.<sup>24</sup> In the case where increased saving takes the form of an increased demand for cash in the form of “inside” money, consumption is deferred and the funds are loaned to the banks for at least short periods. The extension of bank credit and the creation of new fiduciary media do not, in this instance, reduce the market rate below the natural rate, but instead, allow the market rate to follow the natural rate downward. Investment keeps up with a higher level of saving rather than exceeding a fixed level of saving. Credit creation can take place if banks issue fiduciary media and credit in excess of the demand for fiduciary media.

But what mechanism prevents excessive credit creation? Here Selgin and White (1996, p. 103) rely on and build on Mises (1998, p. 440):

Free banking is the only method for the prevention of the dangers inherent in credit expansion. It would, it is true, not hinder a slow credit expansion, kept within very narrow limits, on the part of cautious banks which provide the public with all the information required about their financial status. But under free banking it would have been impossible for credit expansion with all its inevitable consequences to have

<sup>23</sup>See Keynes (1936, pp. 242–44).

<sup>24</sup>An increased demand for cash balances may not, however, be accompanied by an increase in saving if the increased demand for money represents a switch from less liquid to more liquid vehicles for existing saving (Selgin and White 1996, pp. 103–04).

developed into a regular—one is tempted to say normal—feature of the economic system. Only free banking would have rendered the market economy secure against crises and depressions.

The existence of a central bank with the ability to create base money is a necessary prerequisite for excessive credit creation and the resultant boom–bust cycle. Free banking without central banking could provide necessary intermediation services that could mitigate contractionary pressures arising from monetary disequilibrium while also providing sufficient market discipline to prevent excessive credit creation. Austrian-type business cycles are thus a phenomenon of central banking, not of fractional-reserve free banking.

#### CONCLUSION: THE MARKET SYNTHESIS

The differences between the Keynesian-based new view and Mises, Machlup, and Selgin are significant and lead to different explanations of macroeconomic instabilities and policy proposals. In the Keynesian form of the new view, banks, including a necessary and benevolent central bank, do not create credit. A laissez-faire banking policy will generally lead to economic stagnation as the rate of interest exceeds the natural rate and investment falls below the level needed to achieve and sustain full employment (Cochran and Call 1998). Central banking is a needed extra-market solution to a market malady (Garrison 1996).

Following Mises and Machlup, created credit can potentially originate from two sources—money multiplier effects (fractional-reserve banking), and the creation of base money (central banking). Following the Selgin definition of created credit, most, but not all, of the multiplier effects are intermediation and not credit creation. Free banking can limit the scope of and quickly correct for or reverse any created credit that originates from fractional-reserve banking. Extensive and harmful credit creation is the result of the activity of central banking. In either case, the malady is extra-market. Created credit distorts the structure of production causing the boom–bust cycle and the remedy, really the preventative, is a return to free markets. Eliminate the central bank and restore a free market in banking with 100-percent reserves (Rothbard, Hoppe *et al.*) or without 100-percent reserves (Selgin and White).

What role does fractional-reserve banking actually play in generating the Austrian type business cycle?<sup>25</sup> Mises (1971) did develop the argument that

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<sup>25</sup>The connection between fractional-reserve banking and economic stability and business cycles is only one of several issues that separate free bankers and 100-percent-reserve bankers even within the Austrian tradition. This is, however, one of the more important issues in relation to theoretical and practical arguments for monetary reform.

fractional-reserve banking creates credit. Created credit is the foundation for the malinvestment of the boom phase of the cycle. But multiplier created credit is a critical element in Hayek's, not Mises's, development of the Austrian theory of the business cycle.<sup>26</sup> The Misesian cycle begins with central banking activity. The central bank may actively provide new base money which banks use to create credit or the central bank may passively make new base money available to provide the needed liquidity to an overextended banking system. This type of activity is credit creation by the criteria of both Mises and Selgin. In both cases, the credit creation could not take place or would be limited in extent without the newly created base money or the promise to create new base money in the event of a crisis. The central bank provides the source of the newly created credit or removes the market barriers to bank initiated created credit.<sup>27</sup>

But what of the theoretical differences between Mises and Selgin? Whether fractional-reserve banking is credit creation revolves around the issue of whether money is a present good (medium of exchange) or a future good (store of value). Is the utility from holding cash balances a present utility, derived from the present services of the cash balances, or is it the discounted value of anticipated future services obtainable when the money is spent?<sup>28</sup> In a black and white analytical world, the economist can choose one alternative or the other. Mises chose the former, while most mainstream economists and some Austrians, including Selgin and White, choose the latter. A definition of commodity credit provided by Mises (1978, p. 119), however, leaves the door open for a compromise. Commodity credit is "credit which a bank grants by lending its own funds or funds placed at its disposal by depositors." Under what conditions are funds placed at the disposal of the bank by depositors?

The problem is that the short run merges into the long run in gradations that are, as Marshall suggested, imperceptible. Money can be, and often is, both a present good and a future good, depending, in part, on the subjective

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<sup>26</sup>Machlup (1940, pp. 247–48) makes a similar argument. Haberler (1938, pp. 61–63) argues, "Professor Mises believes, furthermore, that commercial banks alone without the support of the central bank can never produce a dangerous credit inflation." Mises (1998, p. 788) is quite emphatic on this point, "But today credit expansion is an exclusive prerogative of government." Cochran and Glahe (1999, pp. 74–76) provide additional commentary on the differences between Hayek and Mises on this point, as does White (1999, pp. 754–56 and pp. 760–64).

<sup>27</sup>The existence of a lender of last resort who can and will create credit with newly issued base money leads to a moral hazard problem that gives fractional-reserve banks an incentive to over-extend credit, which can show up as either more credit extended at lower rates of interest or riskier loans extended at unchanged rates of interest.

<sup>28</sup>The principle of demonstrated preference requires that money provides utility. If money provides no utility it would never be held or used.

evaluation of the depositor. As Friedman (1956, p. 14) pointed out, economic agents hold cash balances because they derive utility from both sources and the same unit of money may provide both services. Where cash holdings are a form of saving, the holder may actually be willing to temporarily surrender the present for the future. Such funds (and the resources made available by the saving) can be made available for loans.

Here, the market, as it often does, provides a solution. Free banking is a process where the market makes the ultimate judgment on where to draw the line between money as a present good and money as a future good. Bankers must make a judgment on the proportion of their deposits that represent saving and the proportion that are currently serving as present money for the holders of the deposits. Only funds held as savings may be safely “invested” or loaned. Consumers of banking services make judgments about the safety and soundness of the banking institutions with which they deal. Successful banks will provide the mix of services that meet the needs of their clients.<sup>29</sup> The market test makes it qualitatively difficult to distinguish the Mises from the Selgin outcome. While Mises expected the discipline of the market to move banks closer to the 100-percent-reserve position, Selgin anticipates lower levels of reserves and hence more intermediation and lending. Just as Marshall’s short run blends into the long run, the practical aspects of Mises’s theory of money, credit, and banking blend into the theory of free banking provided by Selgin.

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<sup>29</sup>The above argument depends on the caveat that free banking means banks operate in an environment in which banks are subject to the general rules of commercial and civil law and are not the recipients of special privileges and protections granted by the state. As expressed by Mises (1998, p. 440), “What is needed to prevent any further credit expansion is to place the banking business under the general rules of commercial and civil laws compelling every individual and firm to fulfill all obligations in full compliance with the terms of the contract.”

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