

HAYEK AND THE 21ST CENTURY BOOM-BUST AND RECESSION-RECOVERY

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ABSTRACT: Hayek's writings on business cycle theory; the seminal work of the 1930s and 1940s and the modifications he made in the 1970s after he received the Nobel Prize, are useful starting points for understanding the cycle phenomena in the U.S. between 1995 and the present. Hayek in the 1970s abandoned his earlier condemnation of price stabilization as a goal of monetary policy. In his judgment, such a policy might be the best that could be achieved under existing monetary arrangements, and the misdirection of production resulting from such a policy would be minimal. A careful review of the writings, lectures, and interviews by Hayek in this period show that Hayek did not abandon, but consistently retained the basic elements of his "monetary theory of the trade cycle." The period clearly exhibits a pattern of production over time consistent with the pattern predictions of Austrian business cycle theory, especially as extended by Garrison (and others). The severity of the recent crisis reinforces Hayek's call for a significant reform of monetary institutions,

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a denationalization of money, to better prevent future monetary shock caused boom-busts. The current crisis illustrates that Hayek was premature in his assessment that the effects of money creation intended to keep prices stable [inflation targeting] in a growing economy would have impacts on the structure of production “too small to worry about.” Further work, both theoretical and historical, needs to be done to assess his 1970s claim that a monetary authority needs significant discretion in time of crisis to prevent a secondary deflation.

KEYWORDS: Austrian business cycle theory, monetary policy, monetary reform, capital structure

JEL CLASSIFICATION: B21, B31, E22, E32, E58

I find myself in an unpleasant situation. I had preached for forty years that the time to prevent the coming of a depression is during the boom. During the boom nobody listened to me. Now people again turn to me and ask how we can avoid the consequences of a policy about which I had constantly warned. I must witness the heads of governments of all Western industrial countries promising their people that they will stop the inflation and preserve full employment. But I know that they *cannot* do this. I even fear that attempts to postpone the inevitable crisis by a new inflationary path may temporarily succeed and make the eventual breakdown even worse. (Hayek, 1979, p. 3)

INTRODUCTION

While Hayek, above, was commenting on the economic policies and conditions which led to the significant period of economic stagnation, recession, and inflation in the 1970s and early 1980s, the words are perhaps even more relevant as a description of the post-1995 U.S. economy. This period includes the first recession of the 21st century, the more recent financial crisis/recession of 2007–2009, and continuing with ongoing sluggish recovery. The events of the period have sparked a revival of interest in the Mises-Hayek or Austrian business cycle theory (ABCT).¹ Hayek introduced ABCT to the English-speaking world

¹ Recognition of ABCT relative to the first boom-bust period comes from the September 28, 2002 *Economist*, “The recent business cycles in both America and Japan displayed many ‘Austrian’ features” (quoted in Cochran, Yetter, and Glahe, 2004, p. 2). See Leijonhufvud (2008, p. 1), on Austrian aspects of the current crisis. Cochran (2010, p.

in the 1930s, when he delivered his University of London lectures in 1930–1931 that were later published as *Prices and Production* (first edition 1931, second revised and enlarged 1935). These and other writings by Hayek during the 1930s and the accompanying criticisms and rejoinders, often characterized as the Hayek-Keynes debate, coincided with Great Depression (Cochran and Glahe, 1999).² During the 1970s, Hayek applied the theoretical framework he developed in the 1930s to the serious—but too often overlooked in recent discussions—economic problems associated with the then-prevalent stagflation. Hayek did, however, make some modifications and concessions to positions and arguments he had made during the 1930s. White (1999, p. 1180), focusing on Hayek (1978), goes so far as to claim, “At the end of his career... Hayek was compelled to deny the practical relevance of his business cycle theory.”³ At the time, Hayek had for empirical and practical reasons, abandoned his previous arguments, which implied that a monetary policy aimed at price level stabilization (Hayek, [1933] 1966, pp. 109–121) would cause cycles. The later Hayek (1979, p. 17), referring to monetary policy in a nationalized, fiat money, central bank system, argued, “Though monetary policy must prevent wide fluctuations in the quantity of money or in the volume of the income stream, the effect on employment must not be a dominating consideration. *The primary aim must again become the stability of the value of money* [emphasis original].” A review of

43 and note 1) provides a more detailed discussion of non-Austrian recognition of the relevance of ABCT to the 2007 crisis and the 2008–2009 recession.

² Hayek’s two major early English language contributions to business cycle theory were *Prices and Production*, and the 1933 release of *Monetary Theory and the Trade Cycle*, an English translation of Hayek’s earlier foundational work in German (1929). His other English language cycle-related writings during the 1930s, many collected in *Profits, Interest, and Investment* ([1938] 1975), were, rather than systematic developments, piecemeal attempts to respond to critics. Many of these works by Hayek could perhaps be more easily accessed in Hayek (1995, 1999, 2008). Hayek’s last formal attempts, prior to the 1970s, to deal with the more technical aspects of ABCT were Part IV of the *Pure Theory of Capital* (1941) and “The Ricardo Effect” (Hayek, 1942).

³ White (2008) is very relevant to understanding Hayek’s changing views on deflation and price stability when comparing the 1930s to 1970s.

the writings, lectures, and interviews by Hayek⁴ in this period, show that Hayek did not abandon, but consistently retained the basic elements of his “monetary theory of the trade cycle.”

This paper will re-examine Hayek’s contributions, both those from the 1930s and those from 1970s. These writings, combined with extensions of ABCT in more recent literature, will show that Hayek and ABCT are extremely relevant in providing a foundation for an adequate understanding of recent U.S. macroeconomic fluctuations.

THE STYLIZED FACTS—WHAT NEEDS TO BE EXPLAINED

It was commonly acknowledged when Mises and Hayek first developed ABCT that the empirical reality that needed to be explained by any theory of the business cycle was the disproportionate fluctuations in investment or future oriented, time sensitive expenditures relative to consumption. Per Hayek ([1933] 1966, p. 54):

The task [selection of the main types of trade cycle theories] is made rather easier by the fact that there does exist to-day, on at least one point a far-reaching agreement among the different theories. They all regard the emergence of a *disproportionality* among the various productive groups, and in particular the excessive production of capital goods, as the first and main thing to be explained.

This empirical reality was recognized by Keynes (1936, p. 313), and is reflected in the data, or stylized facts, generated by the Real Business Cycle (RBC) research agenda (Romer, 2006, pp. 174–78; and Cochran, Yetter, and Glahe, 2004). Unfortunately, this reality is too frequently ignored in current policy discussions, especially by the more ardent proponents of “stimulus” through aggregate demand management.

⁴ See Pizano (2009), Hayek (1979), and the recording of Hayek’s 1975 lecture at the University of Colorado-Boulder (available at <http://mises.org/media/1366/Austrian-Economics>) as representative examples of Hayek’s updated views.

Figure 1.

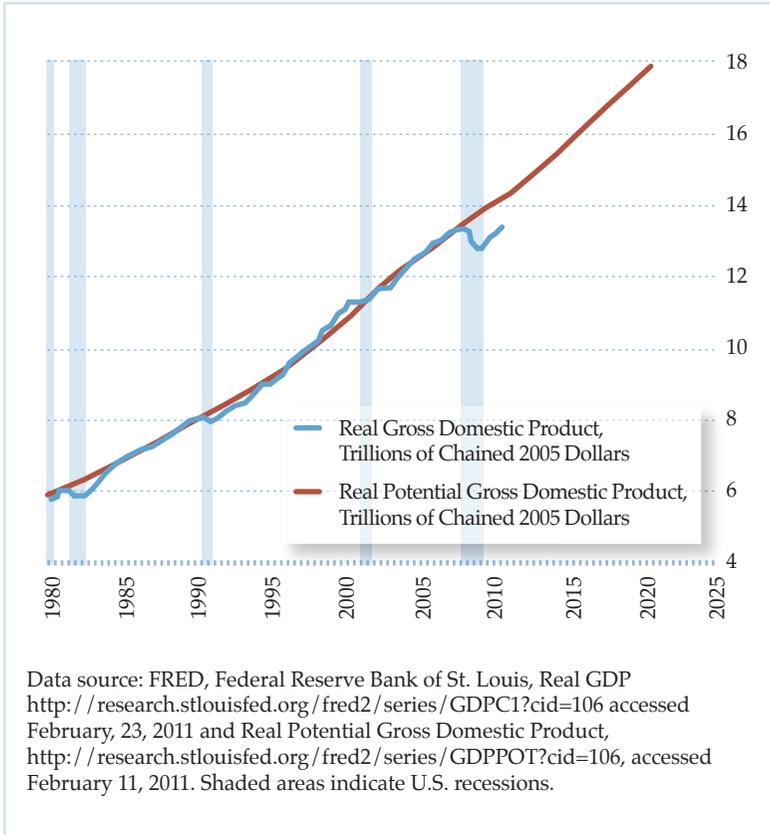
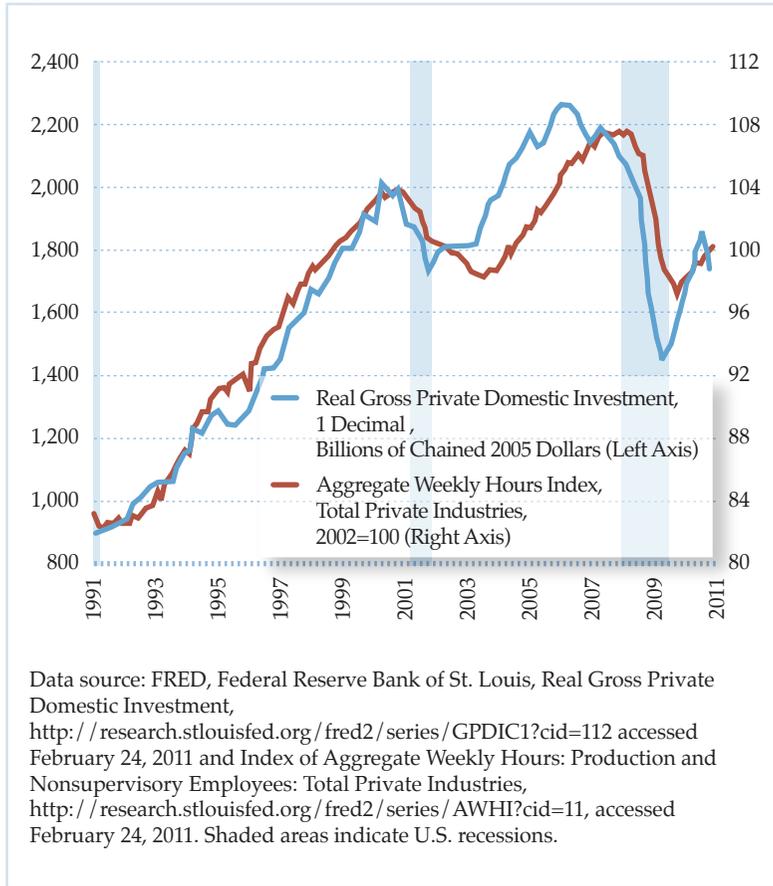


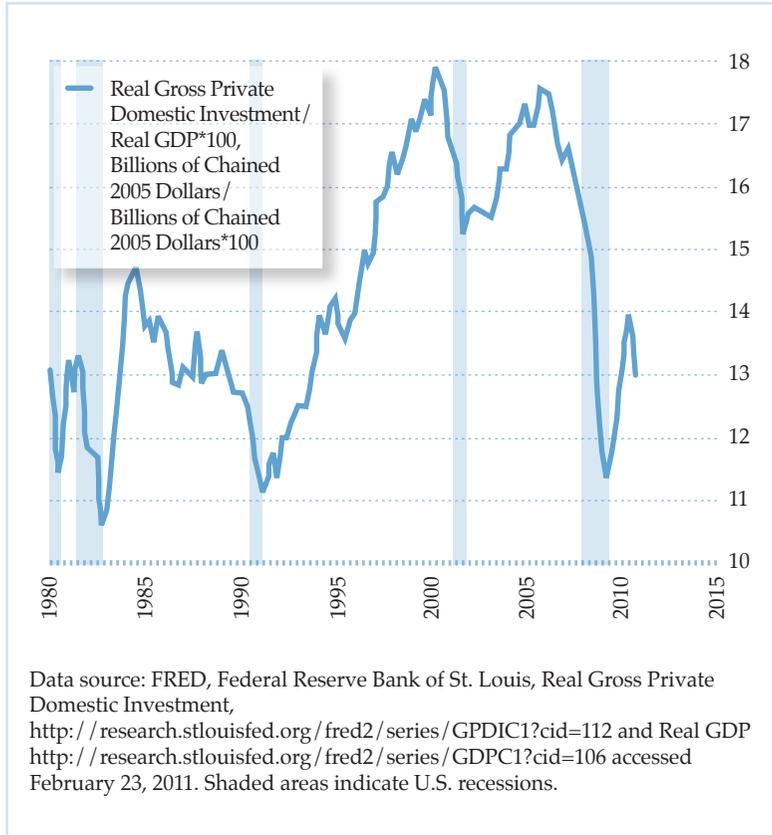
Figure 2.

This disproportionality over the cycle is apparent in the U.S. data post-1995 to the present, in which the U.S. economy went through two post-2000 cycles in a relative quick succession. The first recession ended a long period of relative growth and stability, roughly 1983–1999, known as the Great Moderation (Garrison 2009). Figure 1 plots real GDP relative to potential real GDP. The figure clearly shows a productivity driven boom in the late 1990s with real GDP consistently above potential GDP followed by a mild recession early in the current century. A brief recovery in which real GDP returned to trend potential GDP was followed by a major

financial crisis and an economic downturn. Fluctuations in gross private domestic investment are even more pronounced during this period, both in absolute terms (Figure 2, blue line) and relative to GDP (figure 3). From a Hayekian perspective, investment as measured by product and income accounts, greatly understates the role of capital or future-oriented expenditures in the economy. Hayek ([1931] 2008, p. 156) raised the point in his criticism of Foster and Catchings. Expenditures on “raw materials, semi-finished products and other means of production” greatly exceed “the value of consumption goods that *are simultaneously offered in the markets for consumption goods*.”⁵ Skousen ([1990] 2007, pp. xi–xxxix) provides an excellent summary. Skousen recommends a measure of Gross Domestic Expenditures to get a more realistic picture of the importance of business spending (future-oriented) in total current economic activity. Whereas consumption appears to be approximately 70 percent of the economy based on GDP, measures of economic activity more in line with a capital structure view of the economy drop this number closer to 30 percent (Skousen, [1990] 2007, p. xvi).⁶

⁵ Hayek ([1931] 2008, p. 156 note 43), in support of his argument, cites work by M.W. Holtrop, based on data developed by I. Fisher and the NBER, that shows for 1912 the sum of money payments was ‘more than twelve times larger than the sum of all money incomes.’

⁶ See Skousen (2010) chapters 14–17. In private correspondence Professor Skousen has indicated that his capital-structure friendly measure of economic activity, GDE, for the US, is more than twice the size of GDP and more volatile, and thus a better indicator of business cycle activity. See Cochran and Glahe (1999, pp. 107–117) for a more detailed comparison of Hayek’s framework relative to product and income accounts.

Figure 3.

Notice however, even with the narrower concept on capital spending, how employment measured in an aggregate weekly hours index dramatically increases and decreases with investment spending over the cycle (Figure 2). The Austrian explanation is consistent with the data presented in all three figures, and provides, as we will show later, an explanation of the boom-bust followed by a stunted recovery and another even more dramatic bust.

HAYEK OLD—THE GENERAL FRAMEWORK⁷

The Austrian boom-bust cycle theory is an application of a general principle of monetary theory known as Cantillon effects (Thornton, 2006). Monetary changes/shocks alter spending patterns, including both “real spending” and spending on classes of assets. These temporary spending pattern changes affect relative prices and hence the pattern of use of productive resources. These two factors alone make possible a pattern prediction that monetary changes will misdirect production and create a potential economic crisis. When the monetary shock abates or ends, the misdirection of production and the accompanying “existence of discrepancies between the distribution of the demand among the different goods and services and the allocation of labor and other resources among the production of those outputs” (Hayek, 1979, p. 25) will be discovered and resources will have to be reallocated to uses more consistent with underlying real factors.

The above is a generalized cycle theory. The framework establishes the fact that the allocation of resources and the valuation of assets (bubbles) are temporarily shaped by the non-neutrality of monetary changes. But since misdirections will depend on where and how new money spending enters the spending or income stream, it does not yet provide a cycle theory consistent with the stylized facts. Hayek (and Mises) supplemented the more general theoretical framework with two empirical generalizations. First, money creation is accompanied by credit creation. Banks in a fractional reserve banking system extend loans to entrepreneurs. Credit is made available in excess of available savings by creating money. The process reduces interest rates relative to equilibrium

⁷ See Cochran and Glahe (1999), pp. 83–87 for a more detailed discussion of the theoretical foundations of Hayek’s cycle theory. The four points are as follows: 1. In the long run, money affects money prices, and real factors determine relative prices. 2. Monetary changes cause relative prices to temporarily diverge from relative prices consistent with real factors. As the economy adjusts to the monetary shock, these money-induced relative price changes will be reversed or moderated. 3. In a system with well-developed credit markets and fractional reserve banking, new money enters the system through credit creation in the banking system, which alters a key relative price, interest. 4. Additional credit flows and money-induced changes in the rate of interest have a predictable pattern of effects on the structure of productive activity.

rates. This keeps the *interest rate brake* from working effectively. Second, the resulting pattern of money expenditure directs resources into more labor saving and “roundabout” methods of production.⁸ In this scenario, what sets in motion the boom-bust cycle is credit creation facilitated by the central bank action. This in turn lowers or keeps market interest rates below the “natural rate” (Garrison, 2006). During the credit creation process, the central bank may be an active participant if it initiates the process, i.e., is the exogenous factor undertaking open markets purchases or other actions that expand the monetary base, or as is often the case under current central banking operations, acts as a passive participant by setting the interest rate or an inflation target. In this case, the central bank passively provides reserves to support an increased demand for credit (Cochran, Call, and Glahe, 2003). With market rate of interest below the natural rate, firms invest more. In addition, while the lower interest rate may provide an incentive for reduced saving (higher consumption), the lower interest rate used as a discount factor combined with an inflation induced illusion of higher expected profits creates a “wealth” or “net worth” effect which increases consumption expenditures (Salerno 2011). While, as illustrated by the “stylized facts,” capital expenditure activities increase relative to expenditures on goods ready for consumption, the boom is a period of malinvestment and overconsumption.⁹

⁸ General, detailed descriptions of the processes underlying such a boom, which provide a foundation for understanding the nature of a bust, are available in Garrison (2001, pp. 33–58) and Sechrest (2006, pp. 28–29). Mises, especially, and often Hayek, in their models begin a cycle with a central bank-driven expansion of money and credit. Cochran, Call, and Glahe (2003) and Cochran (2001) provide discussion of the variety of ways this cycle process could begin. In an economy in which the central bank targets an interest rate, the central bank may often be a passive enabler of a cycle rather than an aggressive initiator. Credit is created as banks respond to a productivity-driven increased demand for credit. A central bank targeting an interest rate now below the natural rate will provide reserves needed to support the newly created loans and deposits.

⁹ This point was originally brought to the attention of modern macroeconomists by Garrison (2004). Salerno (2011), relying heavily on Mises, expands on (and corrects) Garrison. Salerno then applies this expanded interpretation of ABCT, with its even greater emphasis on the overconsumption aspect of the boom, to the current crisis.

A ten¹⁰ point summary of the key propositions of Hayek's theory was provided by critics Hansen and Tout (1933, pp. 133–35).¹¹

1. A depression or economic downturn is the result of “shrinkage in the structure of production.” In dynamic terms, an economy will experience difficulties in traversing from a higher to a lower growth path, or in static terms, in moving from a more to less capitalist structure of production.

2. The leading cause of a depression is “forced saving”; a term best thought of as a shortened way of highlighting the money and credit creation induced expansion of capital spending.

3. A more capitalist production structure caused by voluntary saving will tend to remain intact—Garrison's (2001) sustainable growth.

4. An elongation of the production structure induced by the money / credit creation process is unsustainable; it will be reversed in the absence of an exogenous increase in voluntary saving.

5. An increased demand (relative) induced by a money shock provided to consumers, would create relative price pressure to shorten the structure of production and hence could trigger a recession and/or impede a recovery.

6. “(E)xcessive public expenditure and taxation by increasing the ratio of spending to saving” may cause or prolong depression, or cause stagnation, or delay a recovery.

7. To prevent money-induced cycles, the supply of money should be kept constant except to offset changes in velocity of circulation and/or changes in spending flows which may be caused by introduction of “non-monetary” means of payment and/or changes in money spending patterns induced by changes in vertical integration of firms or industry.

¹⁰ My summary below includes only 9 points. In my interpretation, Hansen's and Tout's 9th point combines his 2nd and 5th points and is omitted in the summary above.

¹¹ Hayek ([1935] 1967, p. 135) in a reply charitably agrees, “With one minor exception, I fully agree that this formulation of my views is a fair and accurate summary of my position.” Hayek then makes clear that in his view forced saving does not *directly* [emphasis original] bring about a “shortening of the process of production.” Forced saving generates a lengthening of the structure which is “likely to be partly or wholly reversed as soon as the cause of the forced saving *disappears*” [emphasis original].

8. Increased production and/or productivity provide no justification for a monetized increase in bank credit.

9. A period of depression should not be counteracted by any inflation of the money supply.

Points 7, 8, and 9 imply a Hayekian monetary policy norm very consistent with Selgin (1997).

I would add an additional point based on Hayek ([1938] 1975).

10. While money creation when the economy is not fully employed may be initially stimulative; the employment thus created is the result of a misdirection of production and is not sustainable.

In this early period, Hayek was a staunch critic of Fisherian price stabilization as a monetary policy target. Hayek argued that money expansion in a growing economy would be significantly destabilizing, especially when the expansion was the result of the extension of bank credit to entrepreneurs, designed to maintain stable prices (money or money spending stream inflation in the absence of price inflation). During the 1930s, he argued for a monetary framework/policy that, in the absence of changes in industry-wide vertical integration, would maintain a constant money spending stream,¹² a policy consistent with a “productivity norm” (Selgin, 1997 and White, 2008). Appropriate monetary policy could reduce the frequency and severity of credit cycles. Better yet, reform of monetary institutions might even eliminate cycles altogether. However, the correction following a bust would be best achieved by reliance on market forces. He did ([1939a] 1975, p. 176) recognize that the necessary “process of liquidation” and adaptation, in the face of a rigidity of prices and wages, would be delayed. The delay could cause a “secondary deflation” which might “intensify the depression.” But during this period, the 1930s, he leaned toward accepting this secondary deflation as most likely to help overcome rigidities and on balance speed recovery.

¹² With Hayek’s emphasis on a structure of production, the relevant money spending stream, while not as inclusive as Fisher’s $MV = PT$, is much broader than nominal income as measured by nominal GNP or GDP used in most modern texts. Cf. note 7.

HAYEK—NEW

Hayek in the late 1920s and early 1930s developed the ABCT as a credit cycle; based on a combination of monetary and capital theory with antecedents in Mises and Wicksell. The cycle had monetary causes with real effects. The theory he developed predicted patterns of economic activity which were consistent with the structural irregularities observed in actual cycles. Monetary changes over the cycle impact the structure of production. Many of his cycle writings in the later 1930s were supplementary works, which attempted to provide clarifications and responses to critics. Hayek ([1935] 1967), as does Garrison (2001), analyzed the effect of a monetary shock on an already fully employed economy. Hayek ([1939b] 1975) provides analysis of a monetary shock on an economy in an “initial situation where considerable unemployment of material resources and labour exists...” (Hayek, [1939b] 1975, p. 5; and Cochran *et al*, 2003). In this model, the monetary expansion at first appears to aid “recovery”; production and employment increase. Alas, the effects are temporary and illusory. The monetary shock misdirects production, just as it does when begun from a period of full employment. The long run consequence is boom, and again bust; the re-emergence of unused resources and rising unemployment. In these works he also attempted to better explain a key proposition which he attributed to Ricardo, “an increase in the demand for consumers’ goods will tend to decrease rather than to increase the demand for investment goods” ([1939b] 1975, p. 3).¹³ For many critics, these explanations muddied the water and made the theory more, not less incomprehensible. Keynes (1936, p. 183) thus wrote in the *General Theory* (in comments aimed at, but not directly mentioning, Hayek), “But at this point we are in deep water. ‘The wild duck has dived deep down to the bottom—as deep as she can get—and bitten fast hold of the weed and the tangle and all the rubbish that is down there, and it would need an extraordinary clever dog to dive after and fish her up again.’”

By the 1970s, several of these views had been moderated or modified (Hayek, 1978 and 1979; White, 1999; and Pizano, 2009). Hayek (1979, p. 41) placed more emphasis on misdirection of

¹³ Garrison (2005, pp. 486–489) presents this phenomenon in terms of the time discount versus derived demand effect.

production from general Cantillon effects. Hayek came to believe (an empirical observation) that it was no longer true that the dominant way new money and credit entered the spending stream was through credits to entrepreneurs. He reduced his emphasis on the more specific capital structure, credit-induced distortions. He continued and made clearer his emphasis on the monetary causes and on the microeconomic nature of the consequent unemployment and on why such unemployment cannot be cured by inflationary policies. As expressed during this later period, "(t)he correct explanation [of unemployed resources] appears to me to be the existence of discrepancies between the distribution of the demand among the different goods and services and the allocation of labor and other resources among the production of those outputs" (Hayek, 1979, p. 25). Such an understanding also provides a guide to a solution, if "unemployment indicates that the structure of *relative* prices and wages have been distorted," then "to restore equality between the demand for and supply of labor in all sectors" requires "changes of relative prices and wages and some transfers of labor" and of capital goods.

On monetary policy, at least if tied to a fiat currency under the auspices of a central bank, Hayek (1979, pp. 17–18) retreated or retrenched from his strong anti-price stabilization position and from what was perceived, wrongly according to White (2008), to be his rigid liquidationist views of the 1930s. In the presence of an on-going boom, the way to prevent the boom from becoming an uncontrollable inflationary spiral was to stop increases in the quantity of money, or at least reduce the rate to the "rate of growth of production," ...but "[i]t does not follow that we should not stop a real deflation." He continued to maintain that deflation was *not* the "original cause of the decline in business activity," but came to believe that the effects of the secondary deflation may be worse than warranted by the money-induced misdirection of production and would provide "no steering function." He thus argued, absent significant institutional monetary reform, "Though monetary policy must prevent wide fluctuations in the quantity of money or the volume of the income stream ...[t]he *primary aim must again become stability of the value of money.*" To paraphrase, in normal times there is a need to get back, *a la* Friedman, to a more or less automatic monetary framework. While such a policy would

not entirely eliminate cyclical misdirection of production, the consequences of such a policy would, per White (1999, p. 118), be “too small to worry about.” Where policy deviated and generated a boom-bust, then, to prevent “liquidity crises or panics” there is a need “to ensure convertibility of all kinds of near-money into real money” For this, “the monetary authorities must be given some discretion” (Hayek, 1979, p. 18).

WHAT CAN WE LEARN? WHAT SHOULD WE HAVE KNOWN?

The macroeconomic developments in the U.S. economy from 1995 to present cannot be understood without a reference to a capital-structure based macroeconomic framework.

The first boom-bust of the period, 1995–2000, should have provided evidence that Hayek was premature in de-emphasizing the empirical importance of distortions in the structure of production caused by money and credit creation in a growing economy with relatively stable prices (Cochran, Yetter, and Glahe, 2004, pp. 13–14). A monetary shock which accommodated a productivity shock generated a significant boom as exhibited by real GDP above potential GDP (see figure 1). The resulting malinvestment during this period and its effect on employment are illustrated in figures 2 and 3. The resulting “bust,” at least measured in terms of the cycle impact on GDP, was relatively mild.

The significance of this cycle for the role of monetary policy was perhaps missed because it occurred at the end of the relatively long period of growth and stability known as the “Great Moderation.” This period was a time of better—at least compared to monetary policy of the 1960s and 1970s—but not necessarily good policy (Garrison, 2009). During this period, central banks were heavily influenced by macroeconomic events of the 1970s which seemed to discredit the prevailing neo-classical synthesis/Keynesian consensus. A vast economic literature from the consequent policy effectiveness debate emphasized central bank policies that—at least in the long run—aimed at price stabilization as a dominant policy goal. The Fed, while not explicitly inflation targeting, followed a policy that mimicked a Taylor Rule policy. Garrison (2009) characterizes this as a “learning by doing policy” which,

based on events post-2003, would be better classified as “so far so good” or “whistling in the dark.”

The mildness of the first recession of the 21st century was followed by a relatively slow, jobless recovery, which could be viewed as trading depth for duration. This led many economists and pundits to encourage the Fed to re-inflate—create another boom or bubble—to ignite growth and employment. Thus the Fed turned to monetary excess. Interest rates were kept too low for too long, which led to “a boom and an inevitable bust [emphasis mine]” (Taylor, 2008). This housing bubble-led boom-bust is an excellent example of Hayek’s ([1939b] 1975) misdirection of production that results from monetary stimulus of an economy currently operating below potential. This attempt to use monetary policy to reduce unemployment in the short run, as predicted, became a cause of “more unemployment than the amount it was originally designed to prevent” (Hayek, 1979, p. 11). Following this extended period of historically low federal funds rate circa 2002–2004, investment and GDP recovered relatively rapidly as employment also eventually increased. The economy appeared healthy and at least temporarily returned to its potential GDP growth path. The health was only apparent.

With this second bust, unlike the first recession of the 21st century, the real economic slowdown was accompanied by a significant financial crisis and if not a public panic, definitely a policy panic. Policy makers feared that the financial crisis would lead to a collapse of the banking and credit system. The fear was deflation. The model was monetary events of 1929 to 1932. The Fed and the federal government responded with an unprecedented bailout of both financial and non-financial firms with the creation and use of new monetary policy tools and Fed-Treasury coordination accompanied by aggressive use of more traditional policy instruments (Cecchetti, 2009 and Decca *et al*, 2009). The result has been a massive expansion of the Fed’s balance sheet as well as massive re-structuring of the type of assets held by the Fed. The picking of winners and losers has moved the Fed very close to a policy which is even more dangerous to liberty and prosperity than an ordinary fractional reserve banking system supported by a central bank; a *mondustrial* policy; monetary policy as an agency not only of irresponsible fiscal policy, but of industrial policy as well.

One might view this expansion of Fed (and Treasury) powers and balance sheet as a response to a liquidity crisis and hence an appropriate use of the necessary discretion to prevent panic and to ensure convertibility of near-moneys into real money.¹⁴ Such an explanation should stretch credulity even if one accepts Hayek's new-found belief that a secondary deflation must be prevented. While the slight decline in nominal GDP (Figure 4) which occurred during the recent recession might provide support that a monetary response was necessary to prevent a more widespread decline in monetary aggregates and nominal spending which might have occurred as either a collapse of the money supply driven by default and its potential multiple impact on a fractional reserve based monetary system or a money multiplier-driven deflation caused by a flight to liquidity,¹⁵ the extreme measures taken by the Fed will most likely be seen in retrospect as a significant overkill which set up the economy for massive inflation, stagflation, and another bout of a boom-bust cycle.

CONCLUSION

Hayek did NOT, as per White (1999, p. 118) "essentially repudiate his earlier business cycle theory." Hayek emphatically reaffirmed its relevance:

Booms have always appeared with a great increase in investment, a large part of which proved to be erroneous, mistaken. That, of course, suggests that a supply of capital was made apparent which wasn't actually existing. The whole combination of a stimulus to invest on a large scale followed by a period of acute scarcity of capital is consistent with the

¹⁴ Taylor (2008 and 2009) makes a convincing argument that the problem was not liquidity, but counter party risk. Hence, much of what was attempted was unnecessary and, in the long run, counter-productive. Cecchetti (2009) provides another good overview of the response from a mainstream perspective. Duca, DiMartino, and Reneir (2009) discuss the period from the perspective that the actions were necessary for opening up the arteries of credit flow in response to a liquidity crisis driven by asset value uncertainty.

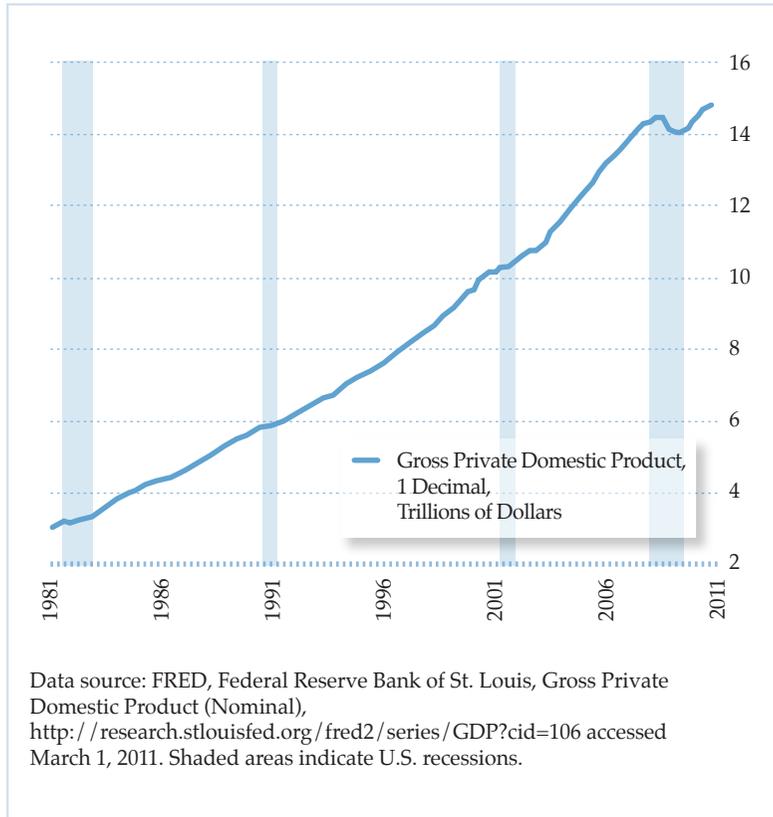
¹⁵ See Bordo and Landon-Lane (2010) for an overview of the relative importance of liquidity-driven versus banking solvency problems as drivers of the deflation of the 1930s.

idea that there has been a misdirection due to monetary influences. And that general schema, I still believe, is correct.¹⁶

The underlying theory was NOT wrong, just not as widely applicable in its full form as he originally argued. His change was based on a reassessment of the two empirical aspects of the ABCT. His conclusions relative to the 1970s were: 1. Developments in the structure of the economy and particularly in the financial markets and banking sector had made it harder to be confident that credit creation primarily supported expansion of the capital structure relative to consumption; and 2. The amount of money and credit creation required to maintain price stability in a growing economy would not generate misdirection of production of sufficient magnitude to destabilize the economy enough, absent a massive secondary deflation, to cause a major depression. He retained the key theoretical elements, which he argued provided a model supportive of his conclusion in regard to “unemployment and monetary policy”; government was the “generator of the ‘business cycle.’” The best way to deal with a crisis would be to prevent the crisis in the first place. Prevention requires monetary institutions that limit—or better yet, prevent—monetary policy-caused misdirection of production.

¹⁶ From an interview conducted by Jack High as part of the UCLA Oral History Program (1978). Quoted from Garrison (2003).

Figure 4.

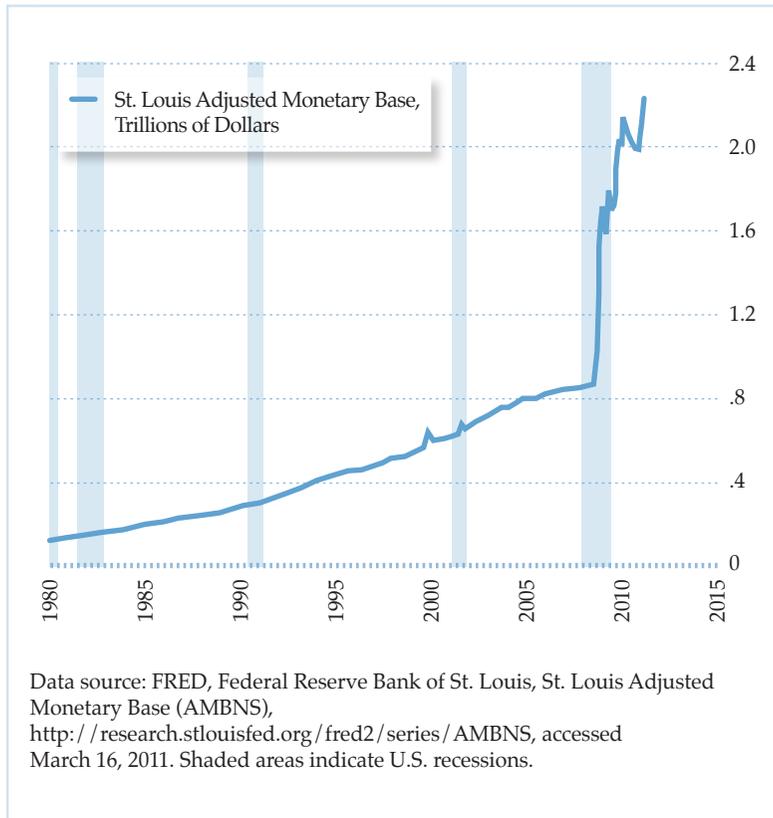


Events of the period under analysis clearly undermine these empirical judgments. As recognized by Leijonhufvud (2008, p. 1), “Operating an interest-targeting regime keying on the CPI, the FED was lured into keeping rates far too low far too long. The result was inflation of asset prices combined with a general deterioration of credit quality. This, of course, does not make a Keynesian story. It is rather a variation on the Austrian overinvestment theme.”¹⁷ The misdirection of production caused by money creation in a growing economy can be significant and can set up conditions that can cause a threat of a massive secondary deflation. Further

¹⁷ See also William White (2006).

research, both historical and theoretical, is urgently needed to re-assess what is actually meant by secondary deflation and what are the consequences of such a secondary deflation. Is a secondary inflation 1) a solvency *cum* money and debt deflation problem (Bordo and Lane, 2010) which would negatively impact the money supply and money spending stream, 2) a money demand/liquidity problem reducing the money spending stream through velocity changes and monetary aggregate changes from a buildup of reserves held by financial institutions (Bordo and Lane, 2010 and Salerno, 2011), or 3) a Keynesian income-constrained reduction in aggregate demand and spending (Garrison, 2003; and O'Driscoll Jr. and Rizzo, 1985)? Is secondary deflation a necessary part of the correction process (Salerno, 2011 or early Hayek) or per the later Hayek and many monetary disequilibrium theorists, something that must be prevented to keep a minor bust from turning into a prolonged crisis and depression? Whatever the answer, it should be clear that even if a secondary deflation, however defined, must be prevented, a near-tripling of the monetary base (see figure 5) was policy response overkill. This policy response to the current situation has set up future monetary conditions that may be very difficult to unwind without significant inflation and/or a continuing boom-bust pattern; Hayek's "tiger by the tail" (Garrison, 2009).

Figure 5.



Hayek highlighted the complexities of the dynamics of capitalistic production embedded in a structure of production. Maintaining a structure of production, which takes place through time, requires constant replacement of used up, consumed, capital goods. While Hayek's development of capital theory was initially part of his attempts to provide a better foundation for his cycle theory, the capital structure concept provides the foundation for a better understanding of the modern economy's complexities that make stimulus ineffective, whether conducted by a central bank or by fiscal authorities. Understanding capital structure is of extreme

importance in better understanding the nature of economic development, growth and hence recovery (Cochran, 2010).¹⁸ Perhaps the lesson from this current crisis is not that the duck should be left tangled in the weeds, but that the profession should have been more diligent in sending clever dogs down into the murky waters of capital theory and worked more diligently on its multiple implications for institutions and policy in a dynamic economy.

REFERENCES

- Bordo, Michael and John Landon-Lane. 2010. "The Banking Panics in the United States in the 1930s: Some Lessons for Today." *Oxford Review of Economic Policy* 26, no. 3: 486–509.
- Cecchetti, Stephen G. 2009. "Crisis and Responses: The Federal Reserve in the Early Stages of the Financial Crisis." *Journal of Economic Perspectives* 23, no. 1: 51–75.
- Cochran, John P. 2001. "Capital-Based Macroeconomics: Recent Developments and Extensions of Austrian Business Cycle Theory." *Quarterly Journal of Austrian Economics* 4, no. 3: 17–25.
- . 2010. "Capital in Disequilibrium: Understanding the 'Great Recession' and Potential for Recovery." *Quarterly Journal of Austrian Economics* 13, no. 3: 42–63.
- Cochran, John P., Steven T. Call, and Fred R. Glahe. 2003. "Austrian Business Cycles: Variation on a Theme." *Quarterly Journal of Austrian Economics* 6, no. 1: 67–73.
- Cochran, John P. and Fred R. Glahe. 1999. *The Hayek-Keynes Debate—Lessons for Current Business Cycle Research*. Lewiston, N.Y.: The Edwin Mellen Press, 2009.
- Cochran, John P., Noah Yetter, and Fred R. Glahe. 2004. "Capital-Based Macroeconomics: Boom and Bust in Japan and the U.S." *Indian Journal of Economics and Business* 3, no. 1: 1–16.
- Duca, John V., Danielle DiMartino, and Jessica J. Reneir. 2009. "Fed Confronts Crisis by Expanding Role as Lender of Last Resort." *Economic Letter: Insights from the Federal Reserve Bank of Dallas* 4, no. 2.

¹⁸ Capital structure as a key component of economic development is explored in detail and in a historical context by Shenoy (2007).

- Garrison, Roger W. 2001. *Time and Money: The Macroeconomics of Capital Structure*. New York, N.Y.: Routledge.
- . 2003. "Sustainable and Unsustainable Growth" 2003 edition, slide 102. Available at <http://www.auburn.edu/~garriro/ppsus.htm>.
- . 2004. "Overconsumption and Forced Savings in the Mises-Hayek Theory of the Business Cycle." *History of Political Economy* 36, no. 2: 323–349.
- . 2005. "The Austrian School." In *Modern Macroeconomics: Its Origins, Development, and Current State*, eds. Brian Snowden and Howard R. Vane. Cheltenham, U.K. and Northampton, Mass.: Edward Elgar.
- . 2006. "Natural and Neutral Rates of Interest in Theory and Policy Formulation." *Quarterly Journal of Austrian Economics* 9, no. 4: 57–68.
- . 2009. "Interest-Rate Targeting During the Great Moderation." *Cato Journal* 29, no. 1: 187–200.
- Hansen, Alvin H. and Herbert Tout. 1933. "Annual Survey of Business Cycle Theory: Investment and Saving in Business Cycle Theory." *Econometrica* 1, no. 2: 119–147.
- Hayek, Friedrich A. von. 1931. "The "Paradox" of Saving." *Economica*. Trans. Nicholas L. Kaldor and Georg Tugendhat. Original German 1929. In *Prices & Production and Other Works: F. A. Hayek on Money, the Business Cycle, and the Gold Standard* ed. Joseph T. Salerno. Auburn, Ala.: Ludwig von Mises Institute, 133–187. 2008.
- . 1933. *Monetary Theory and the Trade Cycle*. Trans. by N. Kaldor and H. M. Croome. Clifton, N.J.: Augustus M. Kelley. 1966.
- . 1935. *Prices and Production*, 2nd ed. Clifton, N.J.: Augustus M. Kelley. 1967.
- . 1939a. "The Present State and Immediate Prospects in the Study of Industrial Fluctuations." In Friedrich A. von Hayek, *Profits, Interest, and Investment and Other Essays on the Theory of Industrial Fluctuations*. Clifton, N.J.: Augustus M. Kelley, 171–197. 1975.
- . 1939b. *Profits, Interest, and Investment and Other Essays on the Theory of Industrial Fluctuations*. Clifton, N.J.: Augustus M. Kelley. 1975.
- . 1941. *The Pure Theory of Capital*. Chicago: Midway. 1975.
- . 1942. "The Ricardo Effect." *Economica* 9, no. 34: 127–152.

- . 1978. *Denationalisation of Money—The Argument Refined*. 2nd ed. London. Institute of Economic Affairs.
- . 1979. *Unemployment and Monetary Policy: Government as Generator of the “Business Cycle.”* San Francisco: Cato Institute.
- . 1995. *The Collected Works of F. A. Hayek, Vol. 9: Contra Keynes and Cambridge (Essays and Correspondence)*. Ed. Bruce Caldwell. Chicago, Ill.: University of Chicago Press.
- . 1999. *The Collected Works of F. A. Hayek, Vols. 5, 6: Good Money (Parts I and II)*. Ed. Stephen Kresge. Chicago, Ill.: University of Chicago Press.
- . 2008. *Prices and Production and Other Works: F. A. Hayek on Money, the Business Cycle, and the Gold Standard*, ed. Joseph T. Salerno. Auburn, Ala.: Ludwig von Mises Institute.
- Keynes, John Maynard. 1936. *The General Theory of Employment, Interest, and Money*. New York: Harcourt, Brace, and Company.
- Leijonhufvud, Axel. 2008. “Keynes and the Crisis.” *Center for Economic Policy Research Policy Insight No. 23*.
- O’Driscoll Jr., Gerald, and Mario J. Rizzo, 1985. *The Economics of Time and Ignorance*. Oxford and New York: Basil Blackwell.
- Pizano, Diego. 2009. *Conversations with Great Economists: Friedrich A. Hayek, John Hicks, Nicholas Kaldor, Leonid V. Kantorovich, Joan Robinson, Paul A. Samuelson, Jan Tinbergen*. New York: Jorge Pinto Books Inc.
- Romer, David. 2006. *Advanced Macroeconomics*, 3rd ed. Boston: McGraw-Hill Irwin.
- Salerno, Joseph T. 2011. “A Reformulation of Austrian Business Cycle Theory in Light of the Financial Crisis.” Paper presented at the Austrian Scholars Conference, Auburn, Alabama, March 10–12.
- Sechrest, Larry J. 2006. “Explaining Malinvestment and Overinvestment.” *Quarterly Journal of Austrian Economics* 9, no. 4: 27–38.
- Selgin, George. 1997. “Less Than Zero: The Case for a Falling Price Level in a Growing Economy,” *IEA Hobart Paper No. 132*. The Institute of Economic Affairs, April.
- Shenoy, Sudha R. 2007. “Investment Chains Through History or An Historian’s Outline of Development: ‘Using Goods of Ever Higher Orders.’” *Indian Journal Economics and Business, Special Issue*, 185–215.

- Skousen, Mark. 1990. *The Structure of Production with a New Introduction*. New York and London: New York University Press, 2007.
- . 2010. *Economic Logic, Revised 3rd ed.* Washington D.C.: Capital Press.
- Taylor, John B. 2008. "The Financial Crisis and the Policy Response: An Empirical Analysis of What Went Wrong." Retrieved from <http://www.stanford.edu/~johntayl/FCPR.pdf>.
- . 2009. *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis*. Stanford, California: Hoover Institution Press.
- Thornton, Mark. 2006. "Cantillon on the Cause of the Business Cycle." *Quarterly Journal of Austrian Economics* 9, no. 3, 45–60.
- White, Lawrence H. 1999. "Hayek's Monetary Theory and Policy: A Critical Reconstruction." *Journal of Money, Banking, and Credit* 31, no. 1: 109–119.
- . 2008. "Did Hayek and Robbins Deepen the Great Depression?" *Journal of Money, Banking, and Credit* 40, no. 4: 751–768.
- White, William R. 2006. "Is Price Stability Enough?" *BIS Working Paper, No. 205*. Bank for International Settlements. April.