

# Wicksell, Hayek, Keynes, Friedman: Whom Should We Follow?<sup>1</sup>

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The short answer to the question in the title<sup>2</sup> that your President has set for me is: None of the Above. But there are things of relevance to be learned from each one of them, so I will not stop there. I will first briefly discuss the views of these giants of the profession and then also try to explain how my own diagnosis of our troubles differs from theirs.

## Wicksell

In 1896, Wicksell lived in a gold standard world in which the bulk of the means of payment consisted of bank notes issued by private banks. Given the stock of means of payment, the quantity theory determined the price level. Predictability of the price level he considered essential to the just functioning of the economy and thus also to social stability.

The problem that concerned Wicksell was this. Since the days of Ricardo, the non-bank public's demand for minted gold had gone basically to zero. At the same time, the British banking system in particular had evolved methods to economize on gold reserves until, as described by Walter Bagehot in *Lombard Street*, the entire enormous structure of credit was balanced as an inverted pyramid on the slender gold reserve of the bank of England. Wicksell asked the question: What would happen if both the gold coin to bank note ratio and the bank's gold reserve ratio went to zero in the limit? The answer was his "pure credit economy" model, in which the supply of bank notes was indeterminate. This meant that the *economy would not have a market determined equilibrium for the price level*.

Although the price level does not have an equilibrium, Wicksell explained, it was possible in principle to keep it constant by central bank policy. A level for the interest rate, the *natural rate*, should exist such that if the central bank set *market rate* at that level the price level would not move. Increasing prices could be countered by raising bank rate, falling prices by lowering the rate. *Inflation targeting*, in other words.

Wicksell's Day of Judgment, as I have called it, was postponed for roughly a century by two crucial changes in monetary regulation. Note issue was everywhere made a government monopoly and reserve requirements were imposed on banks. These changes effectively prevented the demand for base money from vanishing and gave the ancient and honorable Quantity Theory a new lease on life that lasted until a bit more than a decade ago, albeit with varying fortunes.

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<sup>1</sup> Talk (given *in absentia*) at Mont Pelerin Society Conference "The End of Globalizing Capitalism? Classical Liberal Responses to the Global Financial Crisis," New York, March 5 – 7, 2009.

<sup>2</sup> I will add one name to the ones we should consider, namely Hyman Minsky, even as I recognize that so doing puts the men fit to be charter members of the Society into the minority.

There is reason to remember Wicksell's more-than-a-century old book. We now live in a world where reserve requirements are basically abolished, where new substitutes for the use of paper currency are constantly being invented, where money market funds offer substitutes for bank deposits, and where the monetary base varies endogenously. We live vanishingly close to his theoretical case of the pure inside money economy. So far the private sector has not been able to come up with a perfect substitute for federal funds. That is basically the only remaining difference.

Harking back to my title: Should we follow Wicksell then? *Not so fast*. Learning the right lesson from Wicksell has turned out not to be simple. Inflation-targeting failed in the United States.<sup>3</sup> The Federal Reserve's policy of keeping the federal funds rate extremely low helped the economy recover from the crash of the dot.com boom. In the years that followed, the CPI stayed within the Fed's inflation target range, which seemed to show that the central bank had found the "right" level for the interest rate. But the absence of significant CPI inflation was misleading. Consumer prices were kept in check by a number of countries intent on keeping their currencies undervalued in relation to the dollar so as to maintain large positive trade balances vis-à-vis the United States. American consumer prices were kept from rising faster by competition from these imports.

The Federal Reserve was in effect misled into keeping interest rates far too low for far too long. This was not the only factor in the inflation of asset prices and deterioration of credit standards that have followed. But it has certainly been a major factor.

### **Hayek versus Friedman: Divergent Paths**

Hayek and Friedman both professed themselves influenced by Wicksell. But the two of them hardly agreed on a thing in the entire field of monetary economics. The two are representative of two divergent theoretical developments stemming from Wicksell. Somewhat paradoxically, while Hayek was more thoroughly steeped in Wicksell's work, Friedman was more true to Wicksell in one fundamental respect

Wicksell thought of his contribution as a theory of the general price level and of how to control it. Monetary effects on relative prices and on resource allocation would be transitory. The same may be said of Friedman. On the other hand, Wicksell disapproved rather strongly of those who, like Mises and Hayek, adapted his basic analytical idea to business cycle theory.

In Friedman's theory, the *real* rate of interest is determined by the real factors of productivity and thrift. The central bank cannot have any but the most transient effect on it. Except for an evanescent liquidity effect, an expansionary monetary policy will simply serve to raise *nominal* rates of interest through its effects on inflationary expectations. Friedman reasons throughout as if his real rate can be identified with Wicksell's natural rate. Moreover, given the natural rate of interest, there will be a *natural rate of unemployment* corresponding to it. If the capital markets can be depended upon to coordinate the intertemporal plans of households and

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<sup>3</sup> Leijonhufvud, "The Perils of Inflation Targeting," VoxEU June 2007.

business firms, flexibility of wages will suffice to bring the economy to full employment. Monetary policy might make it deviate from the natural rate but only transitorily. So, in this theory, as we all remember, the Phillips Curve is vertical.

There is not much to be found about credit markets in Friedman. Before monetarism, the main responsibility of central banks had been to ensure the stability of credit markets. Friedman made stability of the price level the main concern – almost the sole concern

## Macroeconomics after Friedman

Over the last 40 years macroeconomics has by and large developed out of the theory outlined by Friedman in 1968. His assumptions that market forces would (with some lags) bring the economy to the natural rate of interest and the natural rate of unemployment were elaborated by Robert Lucas and the New Classicals into a model of stable general equilibrium determined solely by technology and taste fundamentals.

The rational expectations theory pretty much emasculated Friedman's monetarism<sup>4</sup> and evolved in a few years into Real Business Cycle theory in which neither money nor finance played a role of any consequence. However, the technical capabilities of macroeconomists also progressed rapidly in the course of this development with the result that the dynamic stochastic general equilibrium (DSGE) model became the common "workhorse" of macroeconomic theorists in recent years. Models of this class assume that the economy can be modeled as a *stable* intertemporal stochastic general equilibrium. New Keynesians have adopted this technology while New Classical economists have joined them in introducing a variety of "frictions" or "imperfections" to improve the empirical verisimilitude of these models. This convergence of the two traditions is now known as the "New Neoclassical Synthesis".<sup>5</sup>

It is worth noting that economists of this modern school have also tackled the old riddle of the depth and duration of the Great Depression and have come to the conclusion that the "frictions" and "imperfections" introduced by the Roosevelt administration explain why the economy did not recover prior to the outbreak of the war.<sup>6</sup> It is true that his administration experimented with all sorts of new policies, not all of which look wise in retrospect. Of course, the economists of his time could not provide Roosevelt with much guidance.

Should we follow Friedman's successors in order to deal with our current problems? *Not so fast.* It is difficult to see that DSGE theory has provided any policy guidance whatsoever. Our policy makers have confronted the threat of depression with an incredible array of improvised measures, most of them enacted in desperate haste. Like Roosevelt. If we have learned one thing

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<sup>4</sup> I do not think that Milton Friedman ever conceded to the Lucasians that only "unanticipated" monetary impulses could have real effects.

<sup>5</sup> The original Neoclassical Synthesis put wage rigidities into a simple GE model to produce Keynesian results. Those who, like me, regard the Neoclassical Synthesis as an intellectual fraud are bound to take a jaundiced view of the New one as well.

<sup>6</sup> It is difficult to see how by using the DSGE model they could possibly have come to a different conclusion.

since the 1930's, it is the importance of acting quickly and decisively<sup>7</sup>. But that is not a lesson drawn from formal theory.

### Vienna vs. Chicago

Hayek and Friedman are patron saints of the Society. However, both cannot be right about the events of recent years. On that criterion, old Vienna does better than Chicago.

In the Austrian theory, the banking system can bring the real rate to the “wrong” level and maintain it there for quite some time. If the banks set a market rate below Wicksell's natural rate, too much money will be created with inflation as a result. At the same time, rather than productivity and thrift determining the equilibrium real rate of interest, the bank determined interest rate *distorts* productivity and thrift incentives. In the inflationary upswing, too little is voluntarily saved and too many resources are being invested in capital that is too durable. The Federal Reserve was clearly able to reduce the real interest rate for a period of several years and this, equally clearly, was a major factor in our recent housing overinvestment boom and the associated financial shenanigans.

Hayek was convinced that, although banking policy could keep the economy above its equilibrium capital accumulation path for years, fundamental market forces must eventually reassert themselves and bring the overinvestment (or malinvestment) boom to an end and that the end must come with a financial crash. But what he had to say about the financial side of the cycle was not very convincing to his contemporaries and has little to teach us about the financial system of the 21<sup>st</sup> century.<sup>8</sup>

So, since the Hayekian explanation of our late boom makes sense, should we follow him in dealing with the consequences of the crash? *Not so fast*. The Austrian theory presumes that the market system is *stable* even though it may require years for it to coordinate the time structures of durable capital, on the one hand, and of household consumption, on the other. The end of the boom signals an overdue market-driven correction of the misallocation of resources. The government should stay out of it, therefore. It can only make matters worse.

This, again, presumes the *stability* of the system. The forces unleashed in the crisis will bring the economy to a new equilibrium by the shortest route. All destruction will be “creative.” The possibility that the system will spin out of control and end up in a state of such economic misery as to endanger social stability is not taken seriously.

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<sup>7</sup> Even so, Roosevelt was a lot quicker in dealing with the banking situation in his day.

<sup>8</sup> The Austrian theory is not without problems. It makes too tight a link between inflation and overinvestment. Japan in the 1980s has an extreme overinvestment boom without inflation – like the United States in this decade. And the evidence from high inflations is that they are associated with extremely *low* levels of capital formation. Cf. Daniel Heymann and Axel Leijonhufvud, **High Inflation**, Oxford: Oxford University Press 1995

## Stability

The natural way to think about stability issues is in the control theoretic terms of *negative* and *positive feedback* loops.<sup>9</sup>

In markets, negative feedback reduces the discrepancy between supply and demand or between market price and supply price. They drive self-limiting adjustments that are equilibrating. Excess demand causes price to rise, which reduces the excess. A market price above supply price causes output to rise, and reduces the profit margin. The market participants need not be “quants” for this to work. Simple sensible rules of behavior will suffice to coordinate activities, to regulate market price and output in an appropriate manner.

A positive feedback loop takes the variable which it controls farther and father away from some initial value. Normally, the range is bounded – it does not go from zero to infinity. But the bound may be a complete breakdown of the system of which the variable is part.

Our faith in unfettered “free markets” is based on the belief that they work by positive feedback control. The rest of this lecture will deal with some doubts concerning the universal stability of our economic system.

## Keynes

Keynes does not have anything directly to teach us about the boom preceding our present crisis. It developed in a manner quite contrary to that presupposed by the *General Theory*. The background to the Great Depression in Britain, as Keynes saw it, was the declining trend in the return to investment since the end of World War I (at which time it had been exceptionally high). Britain had returned to gold at an overvalued parity and the imperative of defending the exchange rate had caused it to maintain too high a level of interest rates. The combination of a declining marginal efficiency of capital and interest rates that did not decline propelled the country into a recession that was deep even before the United States slipped into depression.

The process leading up to today’s American financial crisis had the dollar exchange rate supported by foreign central banks exporting capital to the United States. The Federal Reserve System has not had to defend the dollar (so far). On the contrary, this capital inflow was not even to be discouraged by a Federal Reserve policy of extremely low interest rates. So the recent boom does not make a Keynesian story. It is rather an Austrian or, as we shall see, a Minsky story.

However, Keynes has several things to teach us about the stability properties of systems of multiple interconnected markets. First, he realized that if financial markets failed to coordinate investment with saving from full employment income, flexible wages would not bring the economy to full employment. In other words, Friedman’s vertical Phillips Curve presumes the

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<sup>9</sup> The terminology is often misunderstood. The Fed has recently begun to refer to “*positive* feedbacks” as “adverse”. The layman might confuse “adverse” with “negative.”

prior achievement of intertemporal coordination. It does not always hold -- and it certainly does not hold in our present situation).

Second, when the preconditions for the stability of the natural rate of unemployment are not fulfilled, a high degree of wage flexibility will be dangerous rather than beneficial. Rapidly falling wages and prices will “derange” the financial markets, as Keynes put it. Using latter day terminology, rapid wage deflation would trigger positive feedback processes in the financial markets. In the worst case, it would set in motion a Fisherian debt deflation<sup>10</sup>.

Third, Keynes understood that, in a modern economy where money intermediates virtually all exchanges, the feedback of information on which markets depend for their functioning may be interrupted. An increase in present saving does not constitute an effective demand for future consumption and thus may not stimulate investment. The offer of to work by the unemployed does not in itself constitute an effective demand for consumption goods output. These “effective demand failures” will not be of much consequence in normal times. In the wake of a financial crash, however, when a great many agents are liquidity constrained, they can seriously impair the equilibrating capabilities of the economy.

There is good reason to remember these Keynesian lessons today, therefore.

## **Minsky**

Minsky saw finance as *the cause* of the instability of capitalism. Hence he paid more attention than anybody else to working out the financial side of business cycles. In Keynes finance can amplify fluctuations but, in his theory as in that of Hayek, financial developments are endogenous to the fluctuations in real activity which are due to other causes. In Minsky’s view, the capitalist economy had an ever present, inherent tendency to generate speculative booms. Although Minsky always professed to draw his inspiration from Keynes, this *upward instability* hypothesis stands in stark contrast to the economy’s tendency, in Keynes’s theory, to gravitate to a state of unemployment equilibrium.

The concepts of hedge, speculative and Ponzi financing are central to Minsky’s theory of *systemic fragility*. A unit is hedged if expected cash flow from operations substantially exceeds its debt servicing commitments. It is engaged in speculative finance if it has to depend on periodically refinancing debt. A Ponzi unit has to constantly borrow more in order to meet its debt servicing commitments. A prolonged period of stability, Minsky argued, would induce some units to migrate from hedge to speculative and from speculative to Ponzi finance. This makes the system as a whole increasingly *fragile*. In a highly fragile economy, no identifiable exogenous shock is needed to unleash a crisis. Some trivial, random event can be the trigger.

In Minsky’s view, stability germinates the seeds of instability. The recently highly touted “Great Moderation”, which has now come to a crashing end, fits his theory perfectly. And the unmasking of Bernard Madoff, the biggest Ponzi operator of all time, has made the Minsky story sadly almost too perfect!

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<sup>10</sup> I ought to have included Irving Fisher among the great economists whose work is of value in understanding present predicaments. However, this omission will have to be remedied on another occasion.

It cannot be doubted, however, that the low interest policy of the Federal Reserve System gave significant impetus to the speculative boom. So there is a definite Austrian element to the events of the last few years. Austrian economists might press their case and argue that it makes the Minsky hypothesis of the upward instability of capitalism otiose. But “squared”, “cubed” and multisectoral CDOs fit more naturally into the Minsky story – and so, of course, does Bernard Madoff and all the other swindlers that are now coming out of the woodwork almost daily. Both theories contribute to our understanding of how we ended up in the present predicament. How much validity should be accorded to each I am not prepared to say.

So should we follow Minsky? *Not so fast*. Minsky did not believe that regulations could provide a permanent solution to the financial instability of capitalism. The markets would always find innovative ways around any system of regulation. His solution: *Big Government*. -- I think I will leave it to the members of the Mont Pelerin Society to make up their minds about that one.

### **Leverage dynamics**

The overall level of leverage in the economy is not stabilized by market forces under present arrangements. It is subject to positive feedback processes that render it unstable.

When leverage is increasing in the system as a whole, with everyone buying on credit, everyone is also booking a profit. Leverage makes for high profit as long as the going is good. But it is also risky and makes for large losses when the process goes into reverse.

On the upswing, competition forces also those who realize that risk is increasing to follow along. Those who do not run with the herd will show lower rates of return than others and be forced out of the game. Meanwhile, securitization and credit default swaps obscure the systemic risks and help individual decision-makers rationalize risky policies. When competition compresses the margin between the rates on assets and on liabilities, the banks can respond by increasing leverage further or by moving into riskier asset classes promising higher returns. Thus the recent boom ended with leverage ratios at historic highs and risk premia at historic lows.

At high leverage ratios a loss of just a couple of percent on assets renders an institution insolvent. If it has a substantial portfolio of residential mortgages or mortgage backed securities, a loss of this magnitude is easily reached given that the prices of the ultimate collateral has declined by more than 20% -- and has not reached bottom yet. Once the process goes into reverse, therefore, the pressure to deleverage becomes extreme because the survival of the institutions is immediately at stake.

The situation of a highly leveraged institution can be improved by obtaining fresh capital, by selling assets to pay down debt or by using current net revenues to reduce debt. Obtaining new private capital is not easy when the reason for it is to replace losses incurred by the current management. In practice, government “bail-outs” become virtually the only option for recapitalizing the banks.

There is good reason why so many governments all over the world are pursuing a variety of schemes for recapitalizing financial institutions despite their unpopularity with voters. General deleveraging is a *profoundly destabilizing*, dangerous process.<sup>11</sup> When many banks are trying to sell the same class of assets in order to pay down debt, asset prices will fall. Rating agencies and regulators will then demand that the banks increase their capital. Moreover, asset prices might easily fall to the point where their debt-to-equity ratios actually increase. For the last 18 months or more the authorities have been scrambling to help the big banks avoid this particular vicious circle. This has enabled the financial institutions to proclaim that the markets are “frozen” and that the market value of many of their assets cannot be objectively determined.

The third way to reduce leverage is to spend less than you take in. For banks this means not relending the funds flowing back in the servicing of loans but to use them instead to clean up their balance sheets. When the banks are all operating in this mode, ordinary commercial and consumer credit dries up. When most units in the non-financial sector try to spend less in order to pay down debt, the net result is that revenues decrease all around. The drop in income then reduces the ability to service debt – and the banking sector is weakened even further.

### **Keynes Again**

The decline in asset prices resulting from financial deleveraging will come to affect also reproducible assets – in the present situation particularly (but not only) house prices. The production of these assets will fall, therefore, and so will employment in construction and capital goods producing industries. American households are also fairly highly levered at this time and virtually the only way for them to reduce debt is to increase their saving.

A decline in investment combined with an increase in attempted household saving: surely, this sounds like the Econ 2 textbook diagnosis of a Keynesian recession? Furthermore, we recognize that present financial conditions are such as to render the automatic adjustment tendencies of free markets peculiarly ineffective in producing a recovery from a recession of this type.

So, should we follow Keynes? *Not so fast.*

The great weakness of Keynesian income-expenditure analysis is that it fails to deal systematically with the state of balance sheets. And this is a balance sheet recession.<sup>12</sup> Our troubles start with the condition of private sector balance sheets, particularly of our financial institutions, and this is the problem that must be solved if the troubles are to end any time soon.

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<sup>11</sup> Milton Friedman’s favorite example of the “fallacy of composition” was that when people in general try to increase their money balances but the aggregate supply of money is given, the result must be that everyone’s income falls. John Maynard Keynes’s “Paradox of Thrift” made the same point: when people in general try to increase their saving, given the rate of investment, their incomes will fall and the amount actually saved may fall as well. The fallacy of composition lesson for our own times is that when banks, firms and households are all trying to cure their balance sheets, the aggregate result will be the opposite of what the individual agents are trying to accomplish.

<sup>12</sup> The term is due to Richard C. Koo, **Balance Sheet Recession: Japan’s Struggle with Unchartered Economics and its Global Implications**, Singapore: Wiley 2003.



Japan's endless travails since the collapse of its twin stock market and real estate bubbles in 1990 provide a lesson not to be ignored. The Japanese government did not act to repair the balance sheets of the private sector following the crash. Instead, it chose a policy of keeping bank rate near zero so as to reduce deposit rates and let the banks earn their way back into solvency. This proved ineffectual. A number of long-suffering banks failed in 1997 – 7 years after the crash! – prompting limited government recapitalization of the system. Finally, late in 2002 – 12 years after the crash! -- the government took decisive steps to clean up the bad loans problem in the banking system. This took another three years.

During this entire period, the Japanese government tried to support the real sector by repeated large doses of Keynesian deficit spending, all to little apparent avail. They did however add to the national debt until it exceeded a year's GDP by a sizeable margin.

The policy adopted by Sweden following its 1992 crisis has been frequently cited in recent months. Sweden acted quickly and decisively to close insolvent banks, and to quarantine their bad assets into a special fund. Eventually, all the assets, good and bad, ended up in the private banking sector again. The stockholders in the failed banks lost all their equity while the loss to taxpayers of the bad assets was minimal in the end. Sweden did not need to supplement these capital account transactions by a large "stimulus" package because the 25-30% devaluation of the *krona* into which the country had been forced produced a long period of strong export-led growth.

The arithmetic of the income accounts tells us that, if the private sector as a whole is trying to run a positive cash flow, income can only be stabilized by the government running a deficit.<sup>13</sup> Similar arithmetic for the capital accounts tells us that, if the private sector as a whole is undercapitalized, only the government can recapitalize it.<sup>14</sup>

The lesson of Japanese and Swedish examples (and there are others) is that deficit spending will be absorbed into the *financial sinkholes* in private sector balance sheets and will not become effective until those holes have been filled.<sup>15</sup>

## Conclusion

The present contraction is not an equilibrating adjustment. It is an unstable, highly dangerous process – dangerous not only for everyone's pocketbook but for social stability here and abroad. We cannot wait it out and look for "free markets" to then pick us off the floor.

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<sup>13</sup> Unless, of course, exports can be relied on to do the job.

<sup>14</sup> Unless foreign capital can be had in sufficient amounts.

<sup>15</sup> During the years that national income fails to respond, tax receipts will be lower so that the federal debt is likely to end up larger than if the banking sector's losses had been "nationalized" at the outset..

## Postscript

I am sorry that I cannot be present at the conference to answer the questions and objections that my paper may elicit. Some of them at least will have been answered in my writings dealing with the crisis, which you may find on the Centre for Economic Policy Research and VoxEU websites.

“The perils of inflation targeting,” VoxEU, 25 June 2007

“Bubble, bubble, toil and trouble,” VoxEU, 26 October 2007

“Central banking doctrine in light of the crisis,” VoxEU, 13 May 2008

“Fixing the Crisis: Two systemic problems,” VoxEU, 12 January 2009

“No ordinary recession,” VoxEU, 13 February, 2009

“Monetary and Financial Stability,” CEPR *Policy Insight*, No. 14, October 2007.

“Keynes and the Crisis,” CEPR *Policy Insight*, No. 23, May 2008.

“Two Systemic Problems,” CEPR *Policy Insight*, No. 29, January 2009.