

Cordoba 2013

## **Central Banking, Stability and Income Distribution<sup>1</sup>**

Axel Leijonhufvud

UCLA (emeritus) and University of Trento (professore emerito)

### Introduction

The stability or instability of the market economy is an issue that has been all but ignored in macroeconomics for several decades. Within monetary economics, the distribution of income has been similarly ignored. The recent crisis tells us in no uncertain terms that we have to pay more attention to these two topics.

Stability and Distribution make up two thirds of my title. The remaining third is Central Banking. I will argue that changes in financial regulation and in the conduct of monetary policy have not only played a very significant role in generating the financial crisis but have also been important in bringing about a large shift in the distribution of income over the last two or three decades.

*Stability.* The lack of attention to the stability of the financial system is at first sight surprising. Every economist knows about bank runs after all. But in the United States, deposit insurance had eliminated runs on deposit banks ever since the Great Depression. Runs on banks in other parts of the world –

---

<sup>1</sup> Lecture given at the University of Cordoba, September and at the Central Bank of Iceland, October 2013.

of which there was a significant number – made no impact on an American dominated economics profession which regarded the problem as solved.

The crisis dictates a reappraisal. It also demonstrates that the problem had metamorphosed for old-fashioned bank runs were basically not involved.<sup>2</sup> We have much to learn before we can be confident that we know how the present day financial system can be reliably governed.

*Distribution.* For a very long time, monetary economics has been dominated by theories in which money is *neutral*. In such theories, monetary policy has only evanescent effects on the allocation of resources and affects the distribution of income or wealth only in so far as people fail to anticipate the inflation rate correctly when entering into nominal contracts.

But money is not neutral in the present monetary regime. It is obvious that monetary policy has had very significant effects on the allocation of productive resources in the long run-up to the crisis. It is perhaps less obvious that it has also affected the distribution of income. But I believe it has.

## **A Look Back**

The two great names in monetary economics a century ago were Knut Wicksell and Irving Fisher. Both were intensely preoccupied with the distributive consequences of monetary management. In fact, it was very largely this concern that motivated their work in monetary economics.

---

<sup>2</sup> The one exception was the run on Northern Rock in the UK. It had depositors lining up on the street in a most traditional way.

Wicksell sought to find a way to manage money so as to stabilize the price level and thus to avoid price changes that would change the real outcome of nominal contracts. Fisher advocated the *compensated dollar* – a scheme to “correct” the distributional effects of changes in the price level.<sup>3</sup> Both of them saw distributive effects of changes in the price level as offenses against social justice and consequently as a threat to social and political stability.

Wicksell and Fisher were of course both aware of the potential instability of fractional reserve banking systems and of the recessions resulting from bank runs – as were all their contemporaries. But both tended to believe two things, namely, that – *provided* the price level was kept more or less constant -- the economic system was basically stable<sup>4</sup> and that (with that same proviso) the distribution of income was determined by the marginal productivity of the factors of production.

Today, distributive issues have not been of interest to monetary economists for many decades. Not only are they no longer a central concern – they are ignored and forgotten altogether.

Turning next to the greats of monetary theory of *half* a century ago I would single out Friedrich von Hayek and Milton Friedman. It is noteworthy that these two icons of free market conservatism agreed on *nothing at all* in the field of monetary

---

<sup>3</sup> Wicksell similarly argued for *ex post* compensation for the losses in real purchasing power incurred in the World War I inflation in Sweden.

<sup>4</sup> During the early years of the Great Depression, Fisher made numerous public predictions that the economy was about to rebound. His “Debt-Deflation theory of Great Depressions”, **Econometrica**, Vol. I, 1933 was his eventual response to having been so persistently wrong. But by the time it appeared he had completely lost his audience.

economics.<sup>5</sup> Friedman always took the basic neutrality of money for granted. Hayek, on the other hand, was one of the two most prominent advocates of the Austrian theory of the business cycle – and in that theory money was anything but neutral but responsible for large and long-lasting effects on the employment and allocation of resources.

Credit driven boom-bust cycles are temporally asymmetrical. The build-up is slow and long, the collapse quick and sudden. In Hemingway's **The Sun Also Rises**, one of the protagonists asks his friend: "How did you go bankrupt?" "Two ways", went the answer, "gradually, then suddenly."<sup>6</sup>

The period leading gradually to the recent sudden crisis has the hallmarks of an "Austrian" boom. For a great many years, the Austrian theory of business cycles was kept just barely alive by a small and rather marginal group in the economics profession. For the last 60 or 70 years, macroeconomics was dominated first by "Keynesian" theory<sup>7</sup>, then by Monetarism and most recently by Dynamic Stochastic General Equilibrium theory – an evolutionary sequence of theories that ended up in a fool's paradise conducive to much mathematical elaboration and thus very congenial to modern economists. Intertemporal equilibrium models incorporating no financial markets did not offer much help in understanding the events of recent years.

Interest in the Austrian theory will presumably revive. In its original form, however, it predicted that an overinvestment boom would be accompanied by inflation. Mises and Hayek had of course lived through the great post-WWI inflations and

---

<sup>5</sup> So much so in fact that when Hayek moved from LSE to the University of Chicago in 1950, he was kept out of the Economics Department and did not get to teach the economics for which he was known.

<sup>6</sup> Ernest Hemingway, **The Sun Also Rises** (1926), Chapter 13, para 31.

<sup>7</sup> ... or, I should say, by what was widely thought to be Keynesian theory.

knew first hand not only the great redistributions of wealth that they brought but also the social and political upheavals that followed.

There was not much in the way of CPI inflation in the run-up to the recent crisis. So some modification of the original theory is in order. Moreover, we have to consider whether monetary mismanagement may have significant distributive effects even when the price level does not change significantly.

### **Losing Control: Structure, Regulation, Policy**

*Deregulation and industry structure.* For some sixty years after the Great Depression, the financial system of the United States remained basically stable. The Glass-Steagall regulations successfully constrained the potential instability of fractional reserve banking. A number of developments in the last twenty years undermined this stability and, in 2007-08, the system suddenly proved dramatically, disastrously unstable.

The financial structure inherited from the 1930s divided the system into a number of distinct industries: commercial banks, Savings & Loan institutions, credit unions, etc. It also divided it spatially. Banks located in one state could not branch across the line into another. This structure of the financial sector gave it great resilience. On another occasion I used the metaphor of a ship with numerous watertight compartments. If one compartment is breached and flooded, it will not sink the entire vessel.

In the field of System Design, this would be seen as an example of “modularity.”<sup>8</sup> Modular systems have several advantages

---

<sup>8</sup> Cf., e.g., Carliss Y. Baldwin and Kim B. Clark, **The Power of Modularity: Design and Rules**, Cambridge, MA: MIT Press, 2000.

over “integral” system. The one relevant here is that failure of one module leaves the rest of the system intact<sup>9</sup> whereas failure in some part of an integral system spells its total breakdown. In the old US modular system of financial intermediaries, the collapse of the Saving & Loans in the 1970s and early 80s<sup>10</sup> was contained to that industry. It did not bring down other types of financial intermediaries and it had no significant repercussions abroad. In the recent crisis, losses on mortgages of the same order of magnitude threatened to sink the entire American financial system and to spread chaos worldwide.

The deregulation that turned the US financial industry into an integral system is one of several instances where the economics profession failed spectacularly to provide a reasonable understanding of the subject matter of the “discipline”. The social cost of the failure has been enormous. At the time, the abolishment of all the regulations that prevented the different segments of the industry from entering into one another’s traditional markets was seen as having two obvious advantages. On the one hand, it would increase competition and, on the other, it would offer financial firms new opportunities to diversify risk. Economists in general failed to understand the sound rationale of Glass-Steagall. *The crisis has given us much to be modest about.*

*Deregulation and incentives.* Deregulation did great damage also in another respect. It allowed the great investment banks to incorporate and one by one they all did so in the late 1980s and early 1990s. Historically, they had been partnerships with

---

<sup>9</sup> I used the metaphor of a ship with numerous watertight compartments. The flooding of one compartment will not sink the entire vessel. Cf, Leijonhufvud (20xx)

<sup>10</sup> The S & L industry was destroyed by the inflationary policies that raised the interest rates required to attract or maintain deposits high above the rates earned on previously issued 30-year mortgages.

the partners subject to essentially unlimited liability. For a long, long time, the public perception of bankers was that they were cautious, conservative people who would not lend to anyone who actually needed money. Incorporation meant limited liability for the investment bank and no direct liability for its executives. The incentives for executives in the industry changed accordingly. In a few years, the public perception of investment bankers also changed. Now they are seen as jet-setting high-rollers. Economists in general failed to predict this change in bankers' risk attitudes. *We have much to be modest about.*

*From Money Stock Control to Interest Targeting.* In the same period, there occurred a dramatic change in the operating doctrine of central banks. Deregulation and financial innovations had combined to render the velocity of various monetary aggregates increasingly unpredictable. As a result the monetarist policy doctrine, that only a few years earlier had held sway in a many central banks, was quickly abandoned. It was replaced by the Wicksell-inspired doctrine of *interest targeting*.<sup>11</sup>

In practice, the rule was now that the central bank should maintain the repo rate constant as long as the rate of change of the CPI did not move outside a narrow range around what was thought to be constant purchasing power. If CPI inflation went above this range, the repo rate should be raised to counter this tendency; in the opposite case, of course, the bank should lower it. At the ruling repo rate, bank reserves were in highly elastic supply.

The consumer price level was indeed successfully controlled in this manner. But the volume of bank credit issued on

---

<sup>11</sup> Michael Woodford, **Interest and Prices**,.....

mortgages expanded at a great rate fuelling a great boom in both commercial and residential real estate. This was a development that Wicksell or Mises or Hayek would not have anticipated. In their day, it was taken for granted that bank credit was always of short term and created against “real bills” which would be “self-liquidating”. If too much credit was flowing into the market, rising consumer prices would quickly signal the Central Bank that policy had to be tightened. In the early years of the present century, the credit was being created against long-term mortgages that may take up to 30 years rather than 90 days to self-liquidate.

The great expansion of credit in the long end of the market had virtually no effect on consumer goods prices. The feedback that the Fed was relying on kept signaling “steady as you go.” There were a couple of reasons for this. Competition from Chinese imports kept the prices of American produced goods in check. In addition, the financial boom raised incomes mostly among people in the financial industry whose consumption demand was not much exercised on the goods of the standard CPI basket.

*One Instrument for Two Goals.* Here is an exam question for central bankers: *Does Bank rate control the price level or the real “price” of credit?* The correct answer, of course, is that under present arrangements, *we don’t know* – or, rather, we don’t know how much of each. In the run-up to the recent crisis, central banks thought they were controlling the price level but they were also keeping the real interest rate too low and ended up funding a huge credit boom. The problem is obvious: *1 instrument for 2 goal variables.*

What do we do about it? The DSGE models, that had become increasingly influential in central banks over the ten or



fifteen years leading up to the crisis, did not alert policy makers to the problem. In intertemporal GE models markets will establish the right price and volume of credit. But, that solution hinges on the transversality condition which postulates that all debts will be paid on the day before Judgment Day. is a piece of mathematics with no empirical counterpart whatsoever.

Alan Greenspan belatedly recognized the problem. His recommendation was to reserve Bank rate (the repo rate) for interest targeting to stabilize the price level. To prevent bubbles from developing he would use regulation. It is not clear what he would have the central bank do in the case of a collapse of credit. Deregulate perhaps?

Milton Friedman would never have put faith in transversality, I am sure. He would have insisted on holding the growth rate of M2 constant. An incipient credit bubble would come to strain against this nominal anchor and this would cause *real* rates of interest to rise. This might not take all the air out of a bubble but it would surely prevent it from getting very big.

The striking thing about the one instrument for two goals issue is that we should have known better. We used to know better. Jan Tinbergen, 60 years ago, taught us that the number of instruments had to be at least as large as the number of goals. John Gurley and Edward Shaw, 50 years ago, insisted that a central bank needed two instruments to control money and credit. They thought that the two could be either two nominal quantities, or one quantity and one interest rate, or two interest rates. But they were corrected by Don Patinkin on that last score – just two interest rates will not provide

inflation control.<sup>12</sup> It seems our profession forgot all this.  
*Another thing to be modest about.*

In my view, the complete endogeneity of the monetary base associated with inflation targeting has failed us. Probably the best way to handle the two goals/one instrument problem is to move back towards control of a nominal quantity.<sup>13</sup> We no longer have the trust in the stability of money demand functions that the monetarists once had. Nonetheless, the feedback effect on the real interest rate that I just described would help curbing bubbles.

In the United States, I would have the Fed retake control of the monetary base. I would tie demand liabilities of all sorts – that is, not just bank deposits but also deposits with money market funds – to the monetary base by reserve requirements. To implement this recommendation, starting from the situation as it is today, would not be a trivial task. The tripling of the Fed’s balance sheet has left us with an enormously inflated monetary base –and that is not a magnitude that we would want to stabilize at this time. Moving back towards quantity control would moreover dictate a complete change in the way that the repo market for federal funds has operated in recent years. So we must first find a way out of our present troubles before these suggestions can be seriously considered.

---

<sup>12</sup> John Gurley and Edward S. Shaw, **Money in a Theory of Finance**, Washington: The Brookings Institution, 1960. Don Patinkin, “....” **American Economic Review**, ...

<sup>13</sup> Ottmar Issing while still with the Bundesbank kept insisting that central banks had to monitor and control at least one monetary aggregate. But the instability of various velocity measures that had arisen in the 1990s, caused economists to ignore his advice.

## The Unstable Web of Contracts

On any given day, the functioning of a market economy is governed by an intricate web of contracts and less formal promises and understandings. Errors occur. Some promises are broken. For the system as a whole to work reliably, it must isolate these cases and deal with them in more or less short order. But in some circumstances, one default will trigger another. Under normal conditions, such chains of default will be short.

But financial systems can become “fragile”. When this is the case, one default can trigger an avalanche of defaults. Most avalanches are small and self-limiting. But in extreme cases they can take down very large portions of the web of contracts. A major collapse of the web will be associated with a breakdown in the economic organization of a country and widespread unemployment of labor and other resources. But it is more serious than that. A default avalanche leaves a myriad of broken promises in its wake. Social relations are disrupted by distrust and recriminations all around. Effective political action becomes almost impossible. Extremist movements on the right and on the left threaten the stability of the political order. It is of the utmost importance, therefore, that a great collapse of the web be stopped – somehow.

But halting a collapse brings intractable political problems as well. A financial crash reveals a large, collective miscalculation of economic values. The *incidence* of the losses resulting from such miscalculations has to be worked out before the economy can begin to function normally again. Because the process of a crash is unstable, it cannot be left for the markets and bankruptcy courts to work out the eventual incidence. If we

had done so this time, it would simply have led us into another Great Depression.

This means political choices have to be made to determine who bears the losses from this collective miscalculation. Obviously such choices are terribly difficult. Yet, temporizing can prolong the period of subnormal economic performance indefinitely – as the history of Japan over the last twenty years illustrates. But the questions that demand an answer are of the utmost political difficulty: *Who must be paid? Who does not get paid? Who must (in effect) pay for someone else's debt? Who gets away without paying? Etc., etc.*

Once the issues are spelled out the impossibility of a broad political consensus becomes clear. The distribution of the losses will strike a great many people as “without rhyme or reason.” The room for effective political action in a democracy is obviously very tightly circumscribed.

In practice, governments are apt to rely heavily, if not exclusively, on monetary policy. Massive injections of liquidity will postpone explicit distributional measures and may make some avoidable (since postponement of reckoning will enable some debtors to save themselves). Most of all, reliance on monetary policy has the inestimable advantage that its distributive consequences are so little understood by the public at large.

But relying exclusively on monetary policy has some unpalatable consequences. It tends to recreate large rewards to the bankers that were instrumental in erecting the unstable structure that eventually crashed. It also runs some risks. It means after all doubling down on the policy that brought you into severe trouble to begin with.

## **Distribution**

In the years leading up to the Great Depression of the 1930s, there was a great shift in the distribution of income in the United States. It became more unequal. The big gainers were at the top of the distribution *and* they were in banking and finance.

In the years leading up the recent financial crisis, the same type of change in the distribution of income also occurred. The gains are all at the top end and almost all in finance.

Is this coincidental? I doubt it.

In interpreting events in these two periods I have relied on the Austrian theory of business cycles. I argued that the lack of CPI inflation in the upswing, which the Austrian theory would normally predict, had been due to the change in income distribution in favor of income classes whose marginal propensity to spend on the goods in the CPI basket is low. But this leaves the question of how to explain the change in income distribution. The literature on the Austrian theory is extensive and I am far from familiar with much of it. But to my knowledge Hayek and Mises did not pay much attention to income distribution.

A great part of this change in the distribution of income is due, I believe, to the privileges that bankers have come to enjoy under our present monetary arrangements. Three of these privileges are worth discussing at some length.

## The Banker's Privilege I

Generations of economics students have been taught that “banks create money.” However, the context in which the money creation process is usually explained is one in which the volume of high-powered money is fixed and bank reserves, therefore, a scarce resource. Competition between banks ensures that banks – and bankers -- earn no more than a normal return.

This is no longer descriptive of the conditions under which banks operate. Today, total reserves in the banking system vastly exceed the reserves required against deposits. Even when this is not the case, the big conglomerate investment banks face a highly elastic supply of reserves at the repo rate set by the central bank.

That is *not quite the same thing as a license to “print money”* but -- when reserve requirements pose no constraint and the repo rate is significantly below the rate on assets that the banks can acquire -- it is the *next best thing*. With a central bank that is practically committed to not allowing the yield curve to go downward-sloping, the banks feel safe operating at high leverage, making lots of money and letting their managers take home big slices of the proceeds.

Let me take this argument two steps further. First, suppose we do give the banks the privilege to “print” legal tender! Suppose the government charges a fee for the exercise of the privilege – lets say 0.2%/year or whatever the repo rate is today. Would that make a significant difference vis-à-vis present arrangements? I don't think so.

Secondly, then, why reserve the privilege for the banks? Why don't we let ordinary citizens borrow in the repo market at the same rate as the banks (against good collateral, of course)? The transactions cost of having the central bank engage in this kind of retail lending would be considerable, of course. But they might not be higher than some other government programs, such as agricultural subsidies or oil depletion allowances or a few days worth of war on foreign soil. If subsidizing access to the repo window is found objectionable, the citizen-borrower in the repo market might be charged the transaction cost. He might still consider it profitable to refinance his mortgage in this manner! Admittedly, the operation would not be without risk since the maturity mismatch is rather extreme and the ordinary citizen would know himself to be "too small to save". But for the time being, his housing costs would be very low indeed.<sup>14</sup>

I would not have you take my proposal altogether seriously. But the analytical exercise does, I submit, throw light on our present arrangements. Allowing non-bank agents to compete in this way would obviously do away with abnormal profits in the banking industry and reduce the fortunes of bankers to something more like what the rest of us are accustomed to.

## **Bankers' Privilege II: The Shell game**

I mentioned before that both Fisher and Wicksell thought that price level stability was a sufficient condition for avoiding distributive effects. This may have been true in their time but it is no longer true.

---

<sup>14</sup> And American law allows the house owner to walk away from a mortgage debt scotfree.

To see this, consider:

- The Fed is supplying the banks with reserves at a near-zero rate. Not much in the way of bank lending to business results, but banks can buy Treasuries that pay 3 to 4%.
- This hefty subsidy to the banking system is ultimately borne by taxpayers. One should note that neither the subsidy, nor the tax liability has been voted by Congress.
- The Fed policy drives down the interest rates paid to savers to some small fraction of 1%. At the same time, banks leverage their capital by a factor of 15 or so, thus earning a truly outstanding return from buying Treasuries with costless Fed money or very nearly costless deposits.

Wall Street bankers are then able once again to claim the bonuses they became used to in the good old days and to which they feel entitled because of the genius required to perform this operation. These bonuses are in effect transfers from taxpayers as well as from the mostly aged savers who cannot find alternative safe placements for their funds in retirement.

The Fed's low-interest-rate policy has turned into a shell game for the general public who are unable to follow how the money flows from losers to gainers.

- The bail-outs of the banks during the crisis were clear for all to see and caused widespread outrage; now the public is being told that they are being repaid at no cost to the taxpayer.



- What the public is not told is that the repayments come to a substantial extent out of revenues paid by taxpayers for the banks to hold Treasuries.
- Both parties supported the bail-outs so neither party seems ready to protest the claim that they are being repaid at no cost to taxpayers. Political action to rectify this matter is not to be expected.

### **Bankers' Privilege III: No liability**

Not so very long ago, the American investment banks were partnerships. The law that permitted them to incorporate is only about 25 years old. Within a decade after its passage all the big investment banks had taken advantage of it.

Partnerships operate under unlimited liability and the liability falls on the partners as individuals. Corporations, of course, are limited liability companies and the limited liability does not fall on their executives. The change of legal form had a predictable effect on behavior but it is safe to say that few economists predicted how dramatic this change was going to be. *We have much to be modest about.*

At one time, bankers were generally perceived as cautious, conservative individuals who would not lend money to anyone who actually needed money. The partners of the old investment banks belonged to this breed. Their own fortunes were at stake. The new corporate investment bankers are of a different breed, jet-setting high-rollers, gambling with other people's money.

## The goals of current monetary policy

Present monetary policy achieves two aims.

- One is to recapitalize the banks and to do so without the government taking an equity stake.

The authorities do not want to be charged with “nationalization” or “socialism.” So the banks have to be given the funds outright. Economists have agonized a lot lately about the zero lower bound to the interest rate as an obstacle to effective policy in the present circumstances. The agony seems misplaced. As long as the big banks are to be subsidized, why not just pay them to accept reserves from the friendly central bank? Oh, well, come to think of it – US banks *are* paid interest on reserves nowadays!

- The second aim, of course, is to prevent the housing bubble from deflating all the way.

In this respect, the policy has had some effect. Homeowners whose houses are not “under water” can often refinance at long term rates around 4% and sometimes even lower.

Forty years ago, the American Savings and Loan industry was ruined by inflation raising the rates they had to pay to retain deposits above the rates earned on previously granted long-term mortgages. If the economy were to return to historically more “normal” interest rates, we would experience a rerun of this episode. The difference, of course, is that some of the lenders are now considered “too big to fail.”

The distributional effects of the policy do not seem to be widely understood. If they were, it is difficult to imagine that they would be let pass without so little opposition. Economists

have not done much to inform the public on this issue. *Another matter to be modest about.*

The policy is not without risks

- To the extent that it succeeds in inducing the banks to load up on long-term, low-yield assets, a return to more normal rates will spell another round of banking troubles.

If the US were to repeat the Japanese experience and suffer years of slow deflation, a return to higher rates will be long postponed. At present, strong deflationary pressures are kept at bay by equally strong inflationary policies. An uncomfortable kind of equilibrium! If the US escapes the Japanese syndrome, the Fed will sooner or later have to raise rates to stem inflation or to defend the dollar.

### **Central Bank independence?**

For the last 20 or 30 years, political independence of central banks has been a popular idea among academic economists and, of course, heartily endorsed by central bankers. Such independence has not been much in evidence in the recent crisis. But the central banks would very much like to restore their independence.

The independence doctrine, however, is predicated on the distributional neutrality of central bank policies. Once it is realized that monetary policy can have all sorts of distributional effects, the independence doctrine becomes impossible to defend in a democratic society. It is not clear that the economics profession has drawn this conclusion yet.