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FROM MAESTRO TO VILLAIN OF MODERN MONETARY POLICY: A CRITICAL ASSESSMENT OF THE “GREENSPAN PUT” AS THE MAIN CAUSE OF THE GLOBAL CRISIS¹

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Abstract:

This paper discusses the conventional view that the main cause of the current crisis is the accommodative monetary policy followed by Greenspan’s Fed in the early 2000s. It assesses the merits and the drawbacks of this view by looking at the close relationship between the role of monetary policy in modern economies, and its theoretical frame of reference, namely the New Consensus Macroeconomics (NCM) model. The paper concludes that there is little evidence that the monetary policies in the early 2000s are the cause of the credit and house bubbles, which have then led to the financial crisis.

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1. INTRODUCTION

Since the summer of 2007, the world has faced and will continue to face at least for the next few years what in retrospect it is likely to be judged the most virulent global financial crisis ever recorded, together with a recession which is second only to the Great Depression of 1929 (Eichengreen and O' Rourke 2009). Among the conventional interpretations of the current crisis which can be found in the growing literature on the nature and cause of the crisis, much attention has been paid to the loose monetary policy of early 2000s, what has also been labelled the 'Greenspan put': central banks and especially the Fed came to the rescue of financial markets by lowering the short-run interest rate significantly and consistently. This paper assesses the merits and the drawbacks of this conventional explanation of the crisis, looking at the peculiar type of relationship between this explanation and its theoretical frame of reference, namely the New Consensus Macroeconomics (NCM) model. The structure of the paper is as follows. Section 2 presents a brief chronology of the financial crisis, with a particular focus on the key stages of the crisis. Section 3 assesses the argument that an accommodative monetary policy in early 2000s has fuelled the housing and credit bubbles, which have then led to the financial crisis and related recession. Section 4 provides a summary of the main arguments and then concludes.

2. A BRIEF CHRONOLOGY OF THE FINANCIAL CRISIS

There are several important dates marking key stages of the crisis. Originating primarily in the United States, the first sign of the crisis appeared with rising defaults in its subprime market, i.e. the market for borrowers with high default rates, excessive debt experience as well as a history of missed payments, or recorded bankruptcies (Temkin *et al.*, 2002). In May 2007, the credit agency Moody's indicated that it was going to reduce the assessment of creditworthiness of 62 tranches of mortgage-backed securities (MBS), namely debt obligations

representing a claim on the cash flows generated from mortgage loans. In June and July 2007 further tranches were downgraded. On the 9th August 2007 the large French bank BNP Paribas temporarily halted redemptions on three of its funds because it could not reliably assess the value of the US subprime mortgage securitisations held by the funds. As a result, across the world several financial institutions started to reassess the value of the collateral accepted against their lending. Suddenly trust and confidence in the system trembled. Many institutions raised doubts about the evaluation of securitized assets and started to hoard large amount of cash in order to cover potential losses in their portfolios. The market for securitisation came under stress and overnight interest rates increased sharply.

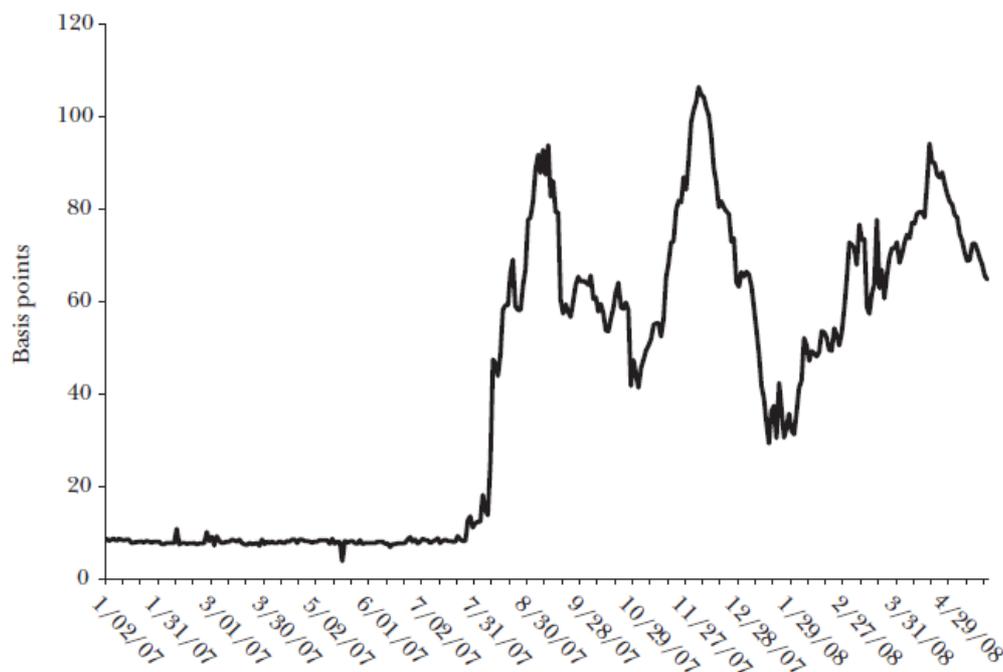


Figure 1: Spread between 3-month LIBOR and 3-month expected Federal funds rate, from January 2007 to May 2008, Daily (Source: Cecchetti, 2009)

Figure 1 above shows the daily spread between the 3-month London Inter-Bank Offered Rate (LIBOR) and 3-month expected Federal Funds rate between January 2007 and May 2008 (Cecchetti, 2009). The LIBOR is the benchmark rate for interbank lending, which is the basic rate used for determining other interest rates

in the economy, including consumers and business loan rates. Normally, the difference between the LIBOR and the 3-month expected Federal Funds rate, the so-called LIBOR spread is less than 10 basis points. However, on the 9th August the spread jumped to 40 basis points, and then it fluctuated between 25 and 106 basis points.

In the matter of few weeks, the interbank lending market dried up. Banks suddenly realised that they could not be sure of the value of their balance sheets, hence they could not properly assess the risk attached to their lending. For the sake of avoiding any confusion, it may be worthy to recall one of the main propositions of the endogenous money theory (Fontana, 2009), namely that banks do not need monetary reserves in order to make loans. Banks first make loans, and then look for reserves in order to preserve the smooth functioning of their economic activities. However, loans represent risky assets in the balance sheets of banks. Therefore, when making loans banks assess their impact on the balance sheets. Starting in August 2007, banks realised that they could not assess the impact of further lending activities on their balance sheets. As a result they kept a tight rein on new lending. Many financial institutions started to experience severe liquidity problems.

Liquidity problems were amplified by the increasing reliance on the “liquidity through marketability” approach, namely the practice of many financial firms to hold long term maturity assets funded by short term liabilities on the grounds that these assets could be easily and readily sold in markets when circumstances required. As explained in the Turner Review (2009, p. 21; see also House of Lords, 2009) “this assumption was valid at the level of firms individually in non-crisis conditions, but became rapidly invalid in mid 2007, as many firms attempted simultaneous liquidation of positions”. One of the major casualties of this new situation was the failure of the British bank Northern Rock in September 2007. Interestingly, US total commercial bank credit extended rose by \$575 billion in the last five months of 2007, before coming to a sharp decline in the first

quarter of 2008 (Cecchetti, 2008; see, for a similar situation in UK, Bank of England, 2008). This rise in commercial bank credit is consistent with the view that during the same period the interbank lending market dried up. The credit extension in USA and UK is in fact explained by the involuntary lending of banks: as financial institutions were unable to get liquidity from the market, as long as their contract allowed it, they rely for their liquidity needs on the credit lines with banks.

As the crisis progressed rating agencies increasingly downgraded their credit ratings of securitised assets. On 30th January 2008 Standard and Poor's downgraded in one single report over 8000 securities. This steady process of downgrading credit ratings added further uncertainty to the value of the balance sheet of financial institutions. Banks responded by changing the composition and the size of their balance sheet, namely they replaced risky assets with safer assets, while at the same time contracting their balance sheets.

In part, this situation was exacerbated by the pro-cyclical nature of some aspects of the regulatory framework. In the face of the downgrading of the value of their assets and more generally of the liquidity problems described above, financial institutions tried to dispose of their assets in order to meet accounting rules and capital requirements. In order to do it, they were required to value assets according to mark-to-market principles. Unfortunately, these principles are inherently pro-cyclical. They push up profits and reserves when asset prices increase, but when prices decrease they imply significant writing down of assets, which leads to a vicious cycle. A financial institution makes "fire sales" in order to maintain capital requirements. However, these sales further reduces assets price and hence force other institutions to "fire sales" in order to maintain capital requirements. This action in turn affects the mark-to-market value of the assets for the original institution, which then triggers further "fire sales" and so on.

The liquidity problems in the financial sector worsened throughout the summer of 2008, and soon turned into solvency problems for major financial players. The housing market problems had intensified from the start of the year, and they were now recognised as widespread in US but also UK, Spain, and other countries. On the 7th September, the two publicly traded but government-chartered institutions Fannie Mae and Freddie Mac were taken in federal conservatorship. Fannie Mae and Freddie Mac held a large fraction of U.S. mortgages. Their failure raised further concerns about the value of mortgage-backed securities, and the solvency of the institutions that were exposed to them. On the 15th September Lehman Brothers went into administration after a late attempt by Timothy Geithner, president of the Federal Reserve Bank of New York, to secure a future for the investment bank with Barclays and Bank of America. The day after, the stock price of AIG, a large international insurance company, fell more than 90 percent. Worried for the situation in the credit derivatives, the US Federal Reserve quickly organized a bailout of \$85 billion in exchange for an 80 percent equity stake. What the US Treasury and Federal Reserve officials failed to realise were the effects of letting Lehman Brothers into administration. In this regard, it is noteworthy to remember that the deal with Barclays and Bank of America was unsuccessful because the US authorities refused to offer a government guarantee. The bankruptcy of Lehman Brothers produced a massive loss of confidence in the financial system: the market preconception that no large financial institution would be allowed to fail was destroyed. The remaining financial institutions responded by attempting to diminish their exposure to each other. Therefore, in mid 2008 not only the liquidity problems described above got worse, but solvency problems appeared, and soon they became widespread. At the same time, the crisis which started and developed in the financial market spread to the real economy, with dramatic consequences on the level of output and unemployment in many developed and developing countries. There are several mechanisms that explain the contagion to the real economy. First, in the face of growing liquidity problems and solvency risks many banks tried to replenish their capital by maintaining liquid portfolio, and hence they refused or severely curtailed new

lending. Secondly, with the collapse of the price of financial assets prices and of houses, households suffered negative wealth effects which constrained their demand of goods and services. Finally, in the face of an uncertain future, firms postponed their investment and preferred to use their cash flow for restoring more prudent debt to own capital ratios. The overall effect of all of these contagion mechanisms was a generalised decrease of aggregate demand with deleterious effects for the level of output and employment. For instance, the unemployment rate in US rose from 4.7 percent in the fourth quarter of 2007 to 9.2 percent in the second quarter of 2009. Similar types of increases of the unemployment rate were recorded for the same period by many countries: UK moved from 5.1 percent to 7.76 percent, France from 7.54 percent to 9.11 percent, Spain from 8.61 percent to 17.9 percent, and Ireland from 4.64 percent to 12.02 percent (OECD, 2010). As a result of it, huge interventions of the monetary and fiscal authorities around the world followed in order to contain the effects of the financial crisis and related recession. The generalised weakness of aggregate demand continued during the entire 2009 and the first months of 2010.

3. THE FAVOURABLE MACROECONOMIC ENVIRONMENT OF LOW INTEREST RATES

In the opinion of most academics and practioners there is one major feature of the macroeconomic environment of the past few years that is the main culprit of the financial crisis and related recession, namely the accommodative monetary policy strategies followed by the monetary authorities of US and most advanced countries. Accommodative monetary policy strategies, facilitated by growing international macroeconomic imbalances and the modern features of the securitization process, are accused to have created the low interest rate environment that has fuelled the recent housing and credit bubbles. The following quote from Jacques de Larosière, chairman of the high-level group on financial supervision in the EU, giving evidence to the Select Committee on Economic Affairs of the House of Lords in UK is typical of this view.

“The main fundamental cause of what happened was the piling up over 10 or 15 years of easy - too easy - monetary policies, very large current account imbalances in the United States in particular, matched by large structural surpluses in a number of emerging countries which pegged their currencies to the dollar more or less and therefore injected very large amounts of liquidity into the system. This easy money, easy credit condition propagated a search for higher yields than those that were offered by very low interest rates which were associated with this easy monetary policy; financial institutions’ investors engaged in search of higher yields, therefore paying less attention to the quality of credits, accepting relatively low spreads for high risks, therefore undermining the fundamental prudence of the banking system. This was the basic set of circumstances that led to the present crisis. So it is an accumulation of international balances and what I would call loose monetary policies”.

(de Larosière, House of Lords Report, 2009, p. 100)

De Larosière explicitly refers to a long decade of accommodative monetary policies followed by many central banks around the world as one the main factor behind the recent financial crisis. He also mentions the modern features of the securitization process², and the growing international macroeconomic imbalances. Since, the latter two factors are often presented as additional mechanisms of transmissions of the deleterious effects of monetary policies, the focus in the rest of the paper is on the effects of the favourable macroeconomic environment created by the low interest rates (see, for a discussion of the international macroeconomic imbalances, Obstfeld and Rogoff, 2009; Caballero, 2008, 2009, and Whelan, 2010).

The standard argument against the long decade of accommodative monetary policies usually goes along this line: when a crisis arose many central banks around the world came to the rescue of financial markets by significantly and consistently lowering the short-run nominal interest rate, which in turn affected a

variety of interest rates in the economy, and by doing it, it fuelled housing and credit bubbles in many countries. This explanation goes also under the name of ‘Greenspan put’, in recognition of the role played by the Greenspan’s Fed in setting the pace for accommodative interest rate policy decisions by many central banks around the world. Figure 2 below gives support to the first part of the so-called Greenspan put. It shows the target nominal federal funds rate from August 2000 to August 2009: in response to the 2001 recession the Fed rate fell from 6.5 percent in December 2000 to 1.75 percent in December 2001 and then to 1 percent in June 2003, the latter being the lowest rate since the 1950s.

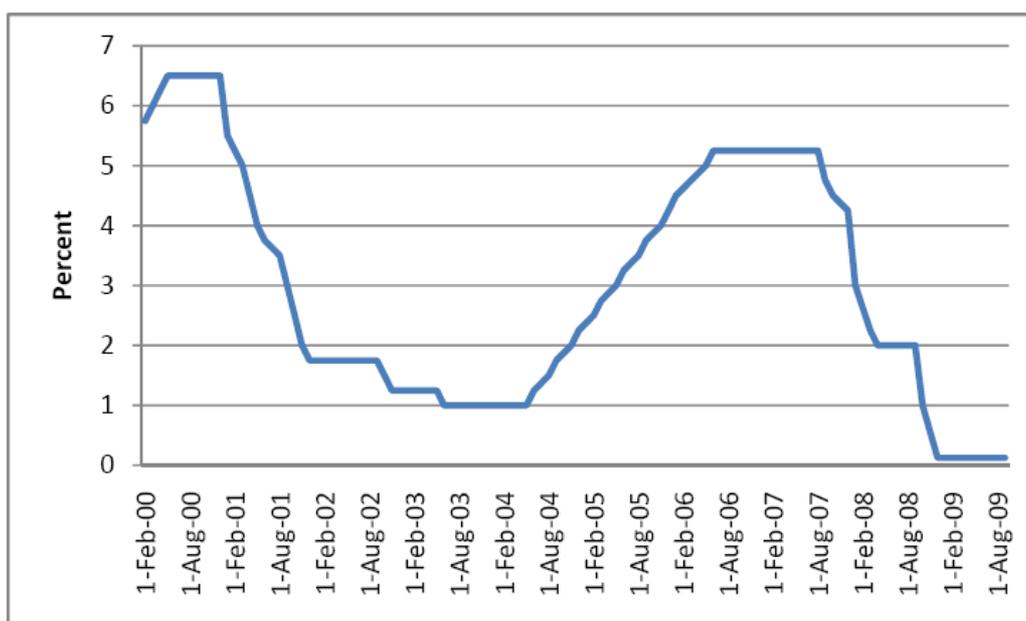


Figure 2: The Target Nominal Federal Funds Rate (Source: Federal Reserve Board, USA)

Figure 3 below supports the second part of the so-called Greenspan put. It presents the time series for the share of nominal residential investment in GDP: residential investment averaged 4.5 percent of nominal gross domestic product over the period from 1974 to 2001; after 2002 the share rose substantially and

reached 6.25 percent of nominal GDP in late 2005. This represents the highest share in fifty years.

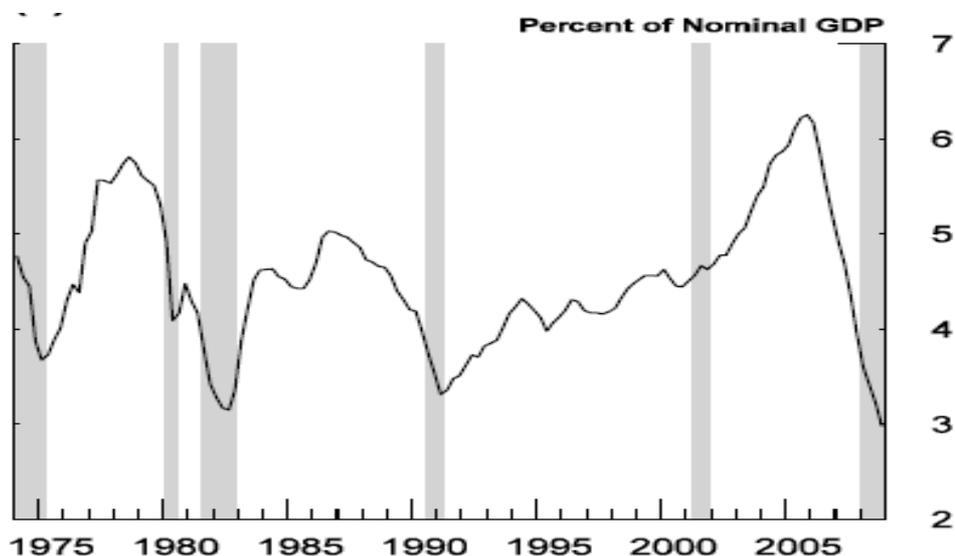


Figure 3: Residential investment as a share of nominal GDP
(Source: Bureau of Economic Analysis, USA)

One of the most strenuous defender of the causal link between accommodative monetary policies and the housing and credit bubble has been John Taylor. In a long succession of papers (e.g. 2007, 2008, 2009a, 2009b, 2010) and a recent book (2009c) aptly titled *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis*, Taylor explains the argument in terms of the divergence between the actual Fed funds rate and the Taylor rule rate. According to him during the period 2002-2005 the Fed maintained the target rate too low, in the sense that a Taylor rule predicts substantially higher target Fed funds rate in this period than actually occurred. Not surprisingly, this argument has attracted the criticism of Greenspan.

“Mr. Taylor unequivocally claimed that had the Federal Reserve from 2003-2005 kept short-term interest rates at the levels implied by his “Taylor Rule,” “it would have prevented this housing boom and bust.” This notion has been cited and repeated so often that it has taken on the

aura of conventional wisdom. ... while I believe the “Taylor Rule” is a useful first approximation to the path of monetary policy, its parameters and predictions derive from model structures that have been consistently unable to anticipate the onset of recessions or financial crises”.

(Greenspan, 2009).

By keeping the target rate too low, the Fed indirectly contributed to the housing and credit bubbles, which have then led to the financial crisis and related recession. Figure 4 below shows the target Fed funds rate and two policy rates which are calculated according to the following Taylor Rule (Taylor, 1993):

$$i_t = i^* + \pi_t + \alpha(\pi_t - \pi^*) + \beta(Y_t - Y_t^*) \quad (\text{Equation 1})$$

Where i_t is the target Fed funds rate, i^* is the equilibrium real rate, which is assumed to be 2 percent, π_t is the current inflation rate, π^* is the target inflation rate, which is again assumed to be 2 percent, Y_t and Y_t^* are the current and potential level of output. The difference between current and target inflation rates, and the current and potential levels of output are usually called the inflation gap and the output gap, respectively. Finally, α and β are the weight for the inflation gap and the output gap, respectively. They are assumed to be equal to 0.5.



Figure 4: The Target Federal Funds Rate and Taylor (1993) Rule Interest Rates (Source: Dokko *et al.*, 2009)

Figure 4 shows the evolution of three short-term nominal interest rates in US from early 2000s. The solid line represents the actual target Fed funds rate, where the dashed line shows the Taylor rule rate when inflation is measured with the headline consumer price index (CPI), and the output gap is calculated with current data using the FRB/US model. Finally, the dotted line presents the Taylor rule rate when inflation is measured using real-time data on core personal consumption expenditures (PCE), which is the favourite Fed measure of inflation, and real-time estimates of the output gap from the FRB/US model. Both Taylor rule rates are calculated by assuming that the weights for the inflation gap and the output gap, namely α and β are equal to 0.5. Looking at the evolution of three short-term nominal interest rates from early 2000s, it is immediately evident that a comparison between the solid line and the dashed line offers plenty of support to the argument that between 2002 and 2005 the monetary policy of the Fed was too accommodative: on average over this period the Fed rate is about 200 basis point below the Taylor rule rate calculated by using headline CPI inflation and current

output gap. However, the same conclusions do not hold when the solid line is compared with the dotted line: from 2003 the latter is only marginally above the Fed rate. More generally, several authors have shown that the magnitude of the deviations of the Fed rate from simple policy rules like the Taylor rule hinges on the choice of the appropriate measures of inflation, output gap and the weights α and β assigned to such factors, as well as on the preference for real time data or current data (see, e.g. Kohn, 2007; Orphanides and Wieland, 2008, and Dokko *et al.*, 2009). Once all these factors are taken into account, there is little evidence that monetary policy in US was too accommodative in the 2002-2005 period. Furthermore, looking at longer historical periods, there is even less evidence that the magnitude of the deviations of the Fed rate from simple policy rules is higher in the 2000s than in previous decades: if any these deviations were highly significant in the pre-1987 period, but they have since become modest, especially for the controversial 2002-2005 period.

Another way of assessing the argument linking accommodative monetary policy to the housing and credit bubbles is to look at the international evidence. Figure 5 below shows the actual interest policy rates (policy rates for short) along with Taylor rule policy interest rates (policy rules for short) for several countries, including France, Germany, UK, Switzerland, and US. The Taylor rule policy interest rates are computed by the International Monetary Fund (IMF) for the fall 2009 *World Economic Outlook* (WEO) according to equation (1) above. It is worthy to note that the inflation rates used in Figure 5 are the PCE index for US and the CPI for all remaining countries, while the target inflation rate is assumed to be 1.9 percent, and the output gap is estimated using the Hodrick-Prescott filter.

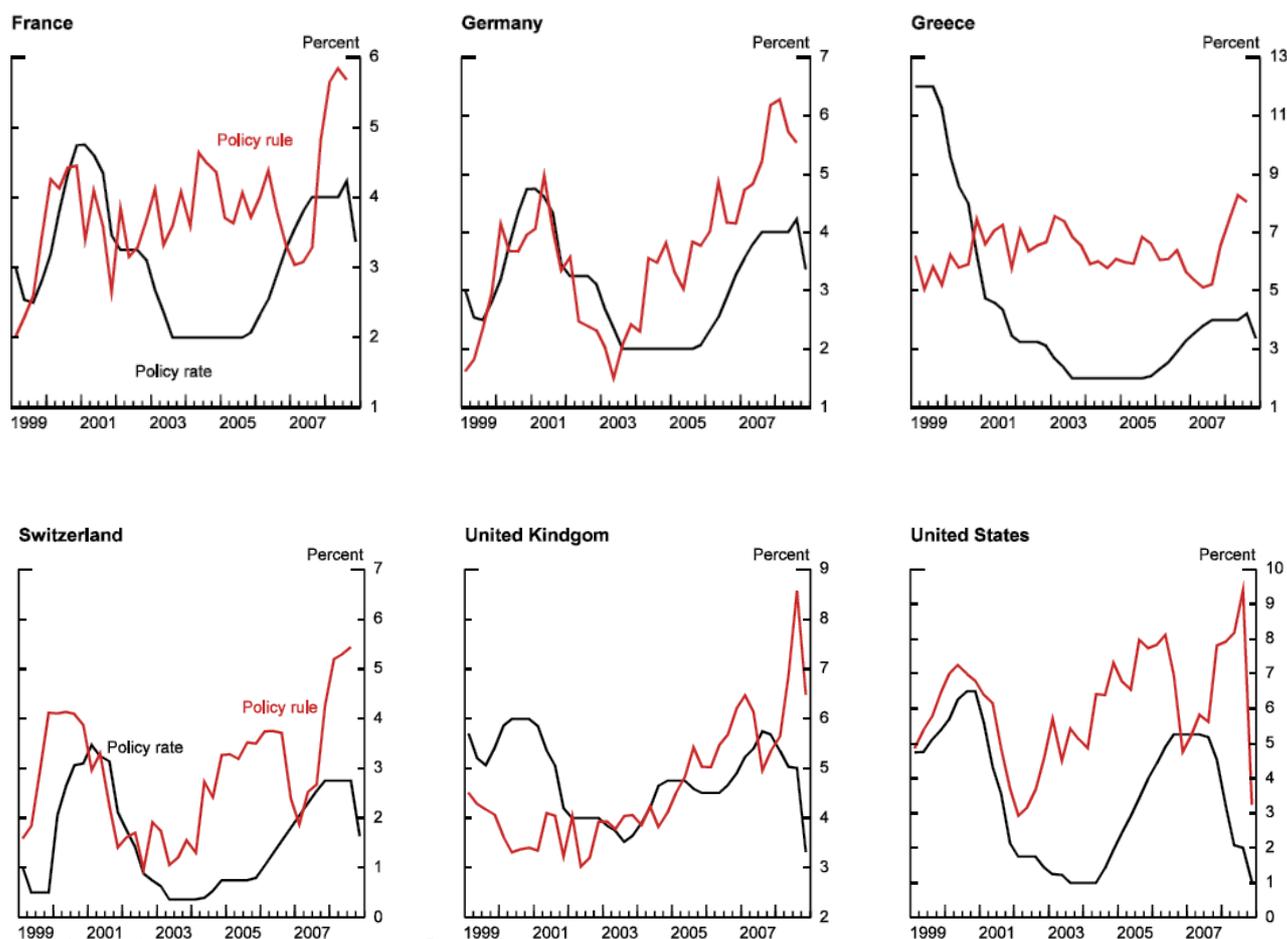


Figure 5: Comparison between the actual policy rate and the Taylor rule rate in France, Germany, Greece, Switzerland, United Kingdom, and United States (Source: IMF 2009, Dokko *et al.* 2009)

Overall, the international evidence presented in Figure 5 does not seem to support the argument that between 2002 and 2005 the monetary policies followed by many central banks around the world were too accommodative. For instance, while France and Greece seem to experience a significant difference between the Taylor rule rate and the actual policy rate, this experience is not replicated in other countries. More interestingly, United Kingdom had a housing bubble even bigger than US, but for most of the period the Taylor rule policy rate is often below rather than above the actual interest rate. At the same time, a bit like in the case of US, Germany and especially Switzerland did record a positive divergence between the Taylor rule policy rate and the actual interest rate between 2002 and

2005. However, Germany and Switzerland did not experience any housing bubble.

In conclusion, there is little evidence that the monetary policies followed by many central banks around the world are the cause of the credit and house bubbles which have led to the financial crisis and related recession. Of course, whether monetary policies were too accommodative or not, it does not exclude that monetary policies could be questioned for not preventing or limiting the effects of the financial crisis. But this criticism calls into question the role of monetary policy in modern economies rather than if monetary policy followed or not a simple policy rule à la Taylor. In this case, there are different questions to be asked. What is the role of a central bank in modern economies? What is the transmission mechanism of monetary policy? Are low interest rates a problem, how and when? The answers to these questions have been provided by the so-called New Consensus Macroeconomics model (Arestis, 2007; Fontana, 2010). Therefore, if any, the critiques of central banks must be directed to the NCM model and the way in which according to the NCM the central bank is supposed to affect the working of modern economies.

As matter of fact, as late as August 2008, Olivier Blanchard, the current chief economist of the International Monetary Fund, claimed that the state of macroeconomic was good. “Macroeconomics is going through a period of great progress and excitement, and that there has been, over the past two decades, convergence in both vision and methodology” (Blanchard, 2008, p. 26). This was a view shared by many academics and practioners: the degree of consensus achieved in macroeconomics has been unprecedented since the ‘Golden Age’ of the 1950s and 1960s. It is not a case that this view was labelled the New ‘Consensus’ Macroeconomics (NCM). This view is usually represented with the help of a 3-equation model made of an *IS*-type curve, a Phillips curve, and a Taylor rule representing the conduct of the central bank. All three equations can be derived from explicit optimizing behaviour of individual agents in the presence

of market failures, including imperfect competition, incomplete markets, and asymmetric information. These market failures generate transitory price and wage stickiness, which play important role in relating the monetary policy rule to the *IS*-type curve: due to these nominal rigidities, by changing the short-run nominal interest rate, the central bank is actually able to control the short-run real interest rate. In terms of the mechanics of the model, the central bank plays a key role in adjusting the aggregate demand to the aggregate supply. It affects the consumption component of aggregate demand, and hence the current level of output. This is an important theoretical result, because it goes well with another important tenet of the NCM model, namely that low and stable inflation is conducive to growth, stability and the efficient functioning of market. When the economy is hit by shocks, taking it away from its natural path, the central bank is responsible for achieving the desired rate of inflation in the long run, and subject to that, also for bringing output and employment to their equilibrium levels in the short run. However, in pursuit of its objectives the central bank faces a short-run trade-off between inflation and output. This trade-off is captured by the Phillips curve, which can be thought as the aggregate supply component of the NCM model. In summary, the NCM model maintains a rigid separation between the aggregate demand, which is indirectly controlled by the central bank via changes in the short-run nominal interest rate, and the aggregate supply side, which depends only on exogenous changes in labour, capital and technology. This is what has been labelled the principle of independence of aggregate demand and aggregate supply, the trademark of the neoclassical economic paradigm (Fontana, 2010). Putting it slightly different, the NCM view subscribes to the neoclassical principle that money and monetary policy is neutral in the long run. This view still provides the shared benchmark for the current work of a great majority of academics and practioners. Despite all dramatic events of the financial crisis and related recession very little work has been done to challenge the long run neutrality of monetary policy (for a critique of the neoclassical foundations of the NCM model, and an alternative interpretation of the role of central bank, see Brancaccio (2009) and Brancaccio and Fontana (2011a)).

4. SUMMARY AND CONCLUSIONS

Economies around the world are still suffering from what in retrospect it is likely to be judged the most virulent global financial crisis ever recorded together with a recession, which is second only to the Great Depression of 1929: the unemployment rate in US has risen from 4.7 percent in the fourth quarter of 2007 to 9.2 percent in the second quarter of 2009. Similar types of increases of the unemployment rate have been recorded for the same period by many countries: UK has moved from 5.1 percent to 7.76 percent, France from 7.54 percent to 9.11 percent, Spain from 8.61 percent to 17.9 percent, and Ireland from 4.64 percent to 12.02 percent (OECD, 2010). As a result of it, huge interventions of the monetary and fiscal authorities around the world have followed in order to contain the most deleterious effects of the financial crisis and related recession. This generalised weakness of aggregate demand has continued during the entire 2009, and it is unlikely to disappear soon.

The main purpose of this paper has been to assess the conventional view that the main cause of the current crisis is the accommodative monetary policy followed by Greenspan's Fed in the early 2000s. Certainly, there are many problems with the accommodative monetary policy of the early 2000s. It is true that as a result of the 2001 recession many countries around the world slashed their policy rates to very low levels. For instance, in June 2003 the Fed rate fell to 1 percent, that is the lowest rate since the 1950s. However, overall there is little evidence that the monetary policies in the early 2000s are the cause of the credit and house bubbles, which have then led to the financial crisis and related recession. Germany and especially Switzerland in different ways did experience a favourable macroeconomic environment of low interest rates. Yet, they never experienced a housing bubble. By contrast, United Kingdom had a housing bubble even bigger than US, but the Bank of England has never been criticised for maintaining a policy rate too low and too long. As for the US, looking at the historical evidence, changes in the Fed rate were highly significant in the pre-1987 period, but they

have since become modest, especially for the controversial 2002-2005 period. Of course, whether monetary policies were too loose or not, it does not exclude that monetary policies could be questioned for not preventing the financial crisis. But this criticism calls into question the role of monetary policy in modern economies rather than if monetary policy were too accommodative or not. From this perspective, any critique to the role of the central bank in creating the favourable macroeconomic environment of low interest rates, which has allegedly led to the housing and credit bubbles, and hence to the financial crisis in US and then across the world, must be directed to the NCM model and the way in which according to the NCM view the central bank is supposed to affect the working of modern economies.

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¹ An earlier and longer draft of this paper titled “The Conventional Views of the Global Crisis: A Critical Assessment” is to be published in PHILIP ARESTIS, ROGERIO SOBREIRA and JOSE LUIS OREIRO (eds.), *The Financial Crisis: Origins and Implications*, London: Palgrave Macmillan, 2011.

² BRANCACCIO AND FONTANA (2011b) discuss at length the most problematic features of the securitization process. The paper argues that financial innovations and developments did not appear suddenly. They had actually started in the early 1970s as major features of the campaign for financial deregulation. These developments and innovations accelerated dramatically in the last two decades in parts as a result of a favourable culture which favoured market solutions to any form of government interventions. The paper concludes that the events of the last few years cannot but call into questions this extreme form of pro-market thinking.