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The monetary policy response to the financial crisis  
in the Euro area and in the United States: a comparison

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# The monetary policy response to the financial crisis in the Euro area and in the United States: a comparison

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## Abstract

The paper aims at drawing a comparison between the reactions to the recent financial crisis by the European Central Bank and by the Federal Reserve. Though the tools used have been largely the same, the quality and quantity of the interventions has been very different depending on the different structure of financial markets in the two areas. In particular, the ECB has not replaced private markets that did not work any more as the Federal Reserve did. The policy design behind those interventions is different too. The Federal Reserve through the quantitative easing policy aims at lowering both short term and long term interest rates and has recently stated that this policy may continue in the future. The European Central Bank does not justify in this way its own interventions in the market and apparently seems not have given up its traditional goal, fighting inflation. The evolution of financial markets both in the U.S and in Europe after the crisis reflect different initial conditions and expectations for the future. Thus many differences in the structure of markets and in policy design exist. This, however, will not save Europe from the consequences of future disorders in the Us markets. The crisis spread to Europe largely because of the global dimension of the inter-bank market. Given that the interconnections between European and US banks have survived the financial crisis, nothing ensures that the same thing will not happen again.

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## Introduction

The financial crisis of 2007-08 has caused the melting down of the financial markets over the world. Globalization jointly with increased inter-connectedness among financial institutions in different countries has caused a real freezing of many transactions on financial markets. The global aspect of the last crisis is what distinguishes it from other previous episodes of financial crises and also from other recent world's financial crises such as the Asian crisis. The policy response to the crisis has also been quite similar in the euro area and in the United States with differences arising from the respective legislative backgrounds. The striking point is that all the most important central banks seemed to be unaware of the dangers of the increasing volume of transactions in financial markets and of the complicated web of mutual relations among financial institutions all over the world for a long time after the crisis started in the United States in August 2007. The Federal Reserve started with a modest lowering of the interest rate which was followed by many rounds of further falls but it did not realize the gravity of the problem until the half of 2008, when it started using less conventional tools and acting, rather than as a lender of last resort, as a market maker of last resort. The ECB's awareness of the global dimensions and gravity of the crisis was even scarcer, since in the middle of the financial turmoil, it decided to raise the interest rate, which was already higher than the Federal Reserve's rate, by 0.25 base points. In the following months, however, the ECB aligned its policy to that of the other central banks by lowering policy rates and starting a programme of acquisitions of troubled financial assets from the markets. This programme has been intensified in the last year because of the difficulties that European banks had in the light of the crisis of some European countries' government debts. Thus the ECB's role of market maker of last resort has been strengthened in the last year through the covered bond programme and asset purchase programme. The main beneficiaries of this intervention have been commercial banks, which had bad quality assets on their balance sheets. For example Irish and Spanish banks, suffering from the consequences of real estate bubbles in their countries, largely used this facility.

At the moment of writing, both the Federal Reserve and the ECB are unwinding the extraordinary emergency measures taken during the crisis by closing the special facilities that have been created to address the problems of liquidity and lack of confidence in counterparties in the markets. The unwinding of these measures will have consequences on market volumes and rates, which are different according to the situations faced in each country by financial intermediaries.

The late recognition of the gravity of the crisis by central banks has allowed the repercussions on the real sector to be enormous. However, the introduction of facilities, tailored to the market, in the last two years has helped markets to work again. This apparent success notwithstanding, monetary policy is now laying in a sort of standstill situation. It can do nothing more than it has already achieved and, according to the evolution of the macroeconomic variables, it might even make things worse. In all countries we are in what is labelled as a liquidity trap situations. The monetary policy objective of normalizing markets and make them return to do their jobs has partially been reached albeit at the cost of severe fiscal expenses but there are very weak signs of economic recovery and the world risks to fall in a situation of abundant money, high unemployment and falling incomes. In the United States the main fiscal expenses have been directed towards the rescue of big financial institutions and thus the stimulus to the real economy has been weak, producing weak recovery signs. In Europe, after a wave of countercyclical fiscal expansions in some countries, heavy fiscal contractions in many countries jeopardizes any hope of recovery in incomes and production.

The paper is organized as follows. In the first section there is a review of the evolution of the crisis in the United States and of the Federal Reserve's measures to contrast it, up to the present situation. The second section deals with the ECB's response to the crisis, distinguishing among three main phases, non recognition of the problem, alignment to interest cuts and finally direct interventions into the markets. The third section and the fourth sections will evaluate the achievements of these policies up to now in the U.S.A. and in Europe respectively. Conclusions will follow.

# 1 The Federal Reserve's policy response to the crisis.

The crisis started in the August 2007 in the United States and the first sign was a slight increase in the rate of delinquent mortgages. In a way apparently not very reasonable this very small disturbance created a disruption in a market whose value was infinitely greater (see Dodd 2007). The way the crisis spread itself to all markets was through the linkages among financial intermediaries balance sheets. In particular even markets for assets that were considered as totally safe, such as commercial paper issued by firms for their short term financing needs, were affected. The reason behind this rapid spreading was that the intermediaries in the commercial paper market were having on their balance sheets other assets linked to the mortgage market. The failure of mortgage purchasers to honour their debt would have affected the value of the assets resulting from the securitization of mortgages. Intermediaries, which were poorly capitalized and under-regulated, were the dealers in this very important segment of the market. The sudden awareness of counterparty risk that arose in the market meant that their assets found no purchasers. Because they had no other means of financing than that, they were compelled to give up their function of market makers. They had no right to central bank refinancing. After this first episode the Federal Reserve continued to lower interest rates but it seemed unaware of the fact that lowering the rates did not solve the liquidity problems of the financial institutions that used to finance themselves on the market. The liquidity offered flowed to banks that, however, would not lend it to other financial institutions but rather keep it on their balance sheets as idle or excess reserves. At some point the monetary authorities realized that they had to allow many financial institutions which were not eligible to refinancing to access credit facilities and that they could mobilize excess reserves by ordinary banks offering an interest on reserves held at the central banks.

Since the money injected into the market through the normal channel, banks refinancing, did not reach the parts of the financial system where it was badly needed the authorities changed the rules by allowing non financial institutions to be refinanced by the central bank. At the same time they introduced a form of remuneration previously absent for deposits held by banks at the central bank. So they were collecting the excess reserves idle in banks' balance sheets and through various facilities they were lending to non bank financial institutions. The turmoil in the commercial paper market subsided for almost one year and a new episode of severe strain in that market was registered only after the Failure of Lehman Brothers in September 2008. Despite the freezing in the inter-bank market nothing more happened in the year before the Lehman Brothers bankruptcy which triggered a new wave of disruption, falling assets price, and the like. The reason for that slow pace of the spreading of the financial crisis is not evident by merely looking at statistics. It has been reconstructed in a very stimulating way in a narrative paper by Ferguson and Johnson (2009). In the whole year between September 2007 and September 2008 the Federal Reserve jointly with other private financial institutions participated in the so-called shadow bailout. Paulson, the Treasury Secretary in the Bush government, fearing the presidential elections scheduled to happen in November 2008, tried desperately to avoid the spreading of the crisis postponing it to the after election period. In this desperate attempt he used his political influence at the margin of law to make many institutions participate in hidden and obscure rescue packages. Particular is the role played by government sponsored institutions, namely the giant Fannie and Freddie previously public financial institutions operating in the private mortgage markets. They bought an enormous amount of mortgages that nobody wanted to buy (see Ferguson and Johnson 2009). In particular they were authorized to buy riskier mortgages. In March 2008 there was the rescue of Bear Sterns organized by Paulson and Bernanke (respectively Treasury Secretary and Chairman of the Federal Reserve). J.P. Morgan bought Bear Sterns. Before this happened, the New York Fed took over 30 \$ billion of bad assets in Bear's portfolio for its own account. The transaction was intermediated by a corporation to which the Fed loaned 30 billion. Paulson had a role in the transaction in so far as it wrote a letter allowing that the NY Fed's losses could be deducted from what annually the Fed remits to the Treasury. The losses would thus become a burden of the Us taxpayer. Then J.P.Morgan Chase bought Bear and saved a lot of money which would have lost if Bear had declared bankruptcy (see Ferguson and Johnson, 2009, p.19-20). Later on, the government took over the two giant intermediaries in the mortgages market whose assets were 40% of the US GDP . It also promised to

purchase mortgage securities from them, which was forbidden by the law. As a consequence of this, the government opened short term credit lines for both of them at the New York Fed. In September 2008 Lehman Brothers declared bankruptcy and was not rescued while Aig, the giant insurance company, was. The rescue of Aig meant that the government actually paid all the money that Aig should pay to other big counterparties like Goldman Sachs for betting by means of CDS. After the shadow bailout failed and the inter bank market was still frozen, the Fed started its special facilities programme, which meant that, as Johnson and Ferguson write, it was no more supporting private markets but replacing them (Johnson and Ferguson, 2009, p.41). It took all this time for the Fed to understand that the inter-bank market or better the market for fund exchanges among financial institutions was no more governed by the federal funds rate. Now many studies have reported what happened, there were extensively runs on commercial paper, on the repo and on the money market mutual funds markets (see Gorton 2008, 2009, Kacperczyk and Schnabl 2010). The “haircut”, the borrowing rate on repurchase agreements, skyrocketed in the period 2007-2009. The markets for some credit derivatives, which were used as collateral in the repo market practically ceased to exist (see Gorton and Metrik 2010). The Fed seemed not to have realized that a liquidity problem to these markets might have destroyed the whole payments system. Though its interventions into the markets have been successful in so far as they have replaced markets that had suddenly disappeared, no much effort has been made to avoid that the same disgraceful situation may repeat itself in the future. The measures taken by both the Fed and the Treasury have been shaped as emergency measures, which had to be temporary. Most of the special facilities have already expired and the unwinding of these emergency measures is depicted as successful. The insight that, if all these emergency measures were necessary, the financial system architecture in itself may have been flawed, has not yet arisen in official institutions’ declarations neither the question has been tackled in the recently approved new law on the financial system.

Minsky had repeatedly written in his work that in a system with a large non bank financial institutions sector the central bank is no more able to control the money market. Securitization in turn adds further difficulties to the central bank’s action (see Minsky 1982, Minsky 2008, Tropeano 2010a).

The market for securitization has almost ceased to exist since 2007. Most of the new securitizations are in reality re-securitizations of products that were previously rated AAA and the half of the new issue of securitized products has been made through the Talf, the term auction liquidity facility (IMF, 2010). The danger arises that when banks and other institutions will try to roll over existing securitized products, either they will not succeed or they will succeed but only at increasing costs. In turn this will raise the cost of financing for small and medium enterprises (see Imf 2010). In the opinion of the writer, the only possible solution is that the Federal Reserve intervenes again in the market and purchases massive amounts of these securities. In the last year the Fed has already bought a large quantity of asset backed securities. The possibility of further interventions in this direction, with the Fed continuing to use non conventional tools, has not been excluded by Bernanke (2010).

Also Krugman, in a recent contribution on the NYT, has stressed that in order to avoid that the current situation triggers a double dip recession, the Fed should purchase other risky assets even if this means to increase the risks it bears on its balance sheets. He advocates also a role for a more expansionary fiscal policy and strongly opposes the so-called deficit hawks. In his previous work on the liquidity trap and the financial crisis in Japan (see Tropeano 2010b) he seems to share the same ideas that Bernanke has expressed on how to get out of a liquidity trap. Essentially, in order to avoid deflation, the central bank has to make people believe that it is targeting a reasonably high level of inflation. Bernanke (2010) agrees that one of the tools still at disposal by the central bank is precisely to create inflation expectation.

The market for derivatives instead has never ceased to work and some of the most dangerous products from the viewpoint of systemic instability, such as credit default swaps, have even experienced an increase in the volume of issues and in the liquidity of the market. Some scholars even recommend their use in their proposal for reform of the financial regulation. They argue that, since the reform of regulation must be market-based, the cds are the ideal tool to evaluate how risky financial institutions are (see Hart and Zingales 2010).

The shadow banking system has not shrunk after the crisis. The non banks such as money market mutual funds still receive a lot of money as a sort of deposits. The awareness that, as Gorton and Metrick (2010) argue, shadow banking is effectively banking, has not inspired any revision of their role by the authors of the recently passed law on financial reform. Even now Paul Volcker, when asked in an interview why the money market mutual funds are not eligible to central bank refinancing in the financial reform law that has been approved by the US Parliament, seems not to grasp the problem at all (see Levy Economics Institute 2010).

*To summarize, the Fed did not understand the structural problems that had accumulated in the US financial system before the crisis erupted and those structural problems are still present.* Chairman Bernanke has theorized and implemented a quantitative easing policy mainly consisting of massive injections of liquidity into the system through both usual and unusual tools. Being now aware that the macroeconomic problems linked to the financial crisis have not been solved, he is planning to use more doses of the same remedies. Thus, presumably, the short run interest rate will be kept near zero for a longer time than previously thought and eventually the large scale asset purchase programme will be continued to lower further the long-term interest rates.

## 2 The ECB's response.

The ECB's response to the crisis, apart from the initial mistake of raising interest rates, was similar to that of the Fed. The ECB, however, did not intervene in the rescue of failing big financial institutions, contrary to what the Federal Reserve has been doing during the "shadow bailout" period. The recapitalizations of banks have been performed instead by the governments of the countries where the banks were located. The ECB has injected in the system a lot of liquidity and issued guarantees for private bonds. Some of these measures are being withdrawn. The liquidity given to banks a year ago, for example, has been returned back at the maturity without big problems.

The European Central Bank has not used facilities aimed at particular markets because of the different structure of European markets with respect to those in the U S. For example, given that money market mutual funds are not so important in the European financial structure, there has been no run on them. The crisis has not caused a contraction in the volume of transactions in the commercial paper market either given its scarce weight for the financing of enterprises in Europe. The run on repo instead may have passed the ocean because it has been one of underlying causes of the freezing of the inter-bank market. The rise in the haircuts and the margins for derivatives transactions have surely hit European financial institutions. The problem was aggravated by the foreign exchange denominations of all these securities. It is noteworthy that, though the crisis developed in the US, the dollar has been appreciating throughout the year 2008. All the payments linked to the repurchase agreements and derivatives, whose underlying assets were denominated in dollars, had to be made in dollars. Though the European banks could access liquidity by the ECB, the euro funds had to be swapped into dollars, which needed willing counterparties and a liquid foreign exchange swap market (see Pozsar Z. et al. 2010 p.33). The problem was eased by the swap operations between the Fed and the ECB. Though the European banks had in their portfolio many toxic assets, those assets however were issued and sold by foreign counterparties. The complex piling of markets and intermediaries' interconnections that triggered the diffusion of the crisis in the United States was not present in Europe. In particular, securitization has been more limited in amount in Europe with respect to the United States as it is shown in the charts below:

The transmission of the crisis in Europe was rather linked to cross-border transactions and financial globalization. Though the toxic assets were not generated in Europe and in Europe as a whole there has not been a real estate boom leading to a bubble, all of these products, which were the byproduct of excessive lending in the housing market in the US, passed to the other side of the ocean. In this environment, the task of the central bank was *simply to restore the working of the inter-bank market rather than to replace the private financial markets.*

The only relevant intervention in the private markets made by the ECB has been in the market for covered bonds. Covered bonds are bonds secured by a pool of cover assets on the issuer's balance sheet. Cover assets consist mainly of mortgage loans and public bonds, assets which are considered

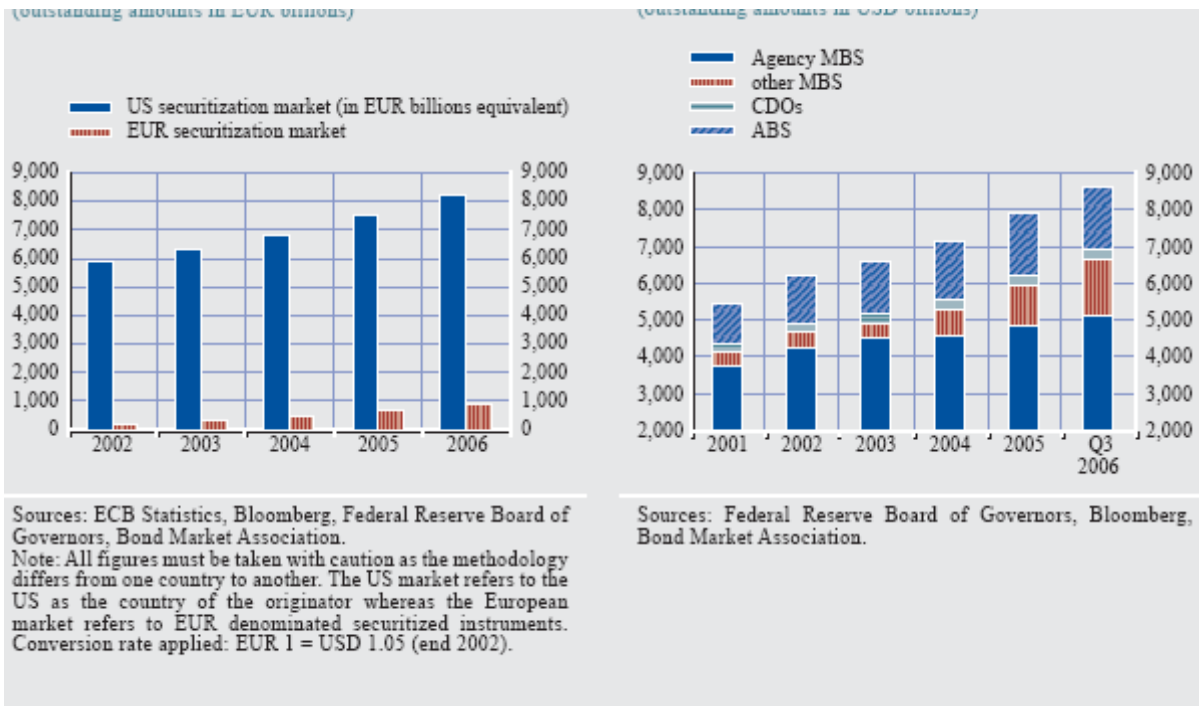


Figure 1: Source: Ecb (2007, p.26)

as safe. Covered bonds, in contrast to asset-backed securities, are claims of the bond holders against the monetary and financial institutions that have issued them. About 30% of all debt securities issued by monetary and financial institutions in the euro area are covered bonds (see ECB, 2007). Since July 2009, the ECB has been purchasing covered bonds for a total amount of 60 trillion euro. Recently, the ECB has launched another facility, the Securities Markets Program, which allowed the bank to buy not only private securities but also public bonds. The total amount of securities purchased up to now under the two programs is 100 billion euro.

Given the different weight that in Europe banks have with respect to non bank financial institutions, the main problem that now Europe is facing is linked to the conditions in the markets when, and this will happen very soon, these banks will have to refinance huge amounts of maturing bonds. Since most banks still have government guarantees on their bonds and the situations of governments is not terribly healthy, the risk premia for holding both banks' and governments' debts of certain countries may well increase.

Purchases of public bonds by the ECB have been implemented because of the difficulties of some weak members of the European Union. *They were not part of a deliberate strategy to lower long term interest rates as it has been in the US.* This would not work in the same way as in the US in any case. In the European Union there are many public debts belonging to different states but denominated in the same currency. The action by the central bank is aiming at lowering the interest rates on the debts of the states that have been attacked by speculation. Those countries were compelled to pay very high interest rates on new debt issued because of the increase in risk premia. *Ultimately, the aim of the central bank may be to reduce the interest differential between different European countries' public bonds rather than to lower long term interest rates.* In official writings, the ECB many times has expressed worries about inflation and made plans to raise interest rates but, fortunately, it did not do this.

### 3 The current state of the financial markets in the U S.

In the US the measures taken by the central bank to inject liquidity have produced an increase in the monetary base M1. This increase, however, has not affected the supply of credit. Strangely enough M1, is bigger than broad money aggregates (Keen 2009). The data on commercial and industrial loans, which are strongly decreasing, confirm this point:



Figure 2: Source: Federal Reserve (2010)

The reason is that the demand for credit supply is missing. In the US, the lack of demand may be explained by the fact that the households are saving more to pay past debts and investment has not started to grow again after the crisis. Thus, all the liquidity goes to the giant financial institutions generated by the disorderly rescues made up during the crisis, which may speculate again on anything, from the weak European states debts to commodity and raw materials prices. All the menu of derivatives products that were available before the financial crisis is still there. Even if markets have been revitalized there is still no one that warrants liquidity for those markets.

Interest rates are at their historical lows both short term and long term. Stock prices instead have risen again near to their pre-crisis levels. But if this may bring relief to some financial institutions' balance sheets, it does not resolve the problems of all the people who now have to repay a loan which is higher than the value of their house. The prospects for recovery are thus dim.

The price levels of different assets are showing different tendencies. The producer price levels had fallen during the first year of the crisis, thus making deflation possible. It has been rising, though slowly, until last March 2010 but now it is falling again because of the falling consumers' confidence and the persistent high unemployment.

The stock price index, instead, shows a very pronounced recovery with respect to the post crisis period. The home price index has been falling heavily during 2008 while the fall has been mitigated in 2009-10 by the intervention of the Fed to sustain the mortgages market and by fiscal discounts to home purchasers, which now have expired. In the following graph we see the fall in home price index because of the crisis:

Another effort of the administration is to keep very low interest rates at all maturities to help people who took a variable rate mortgage, to service it. Most mortgages have a fixed interest rate for the first years and then become variable rate mortgages. For those which have not yet reset to variable, the lower interest rates may help. The problem is that, if the value of the house falls too much with respect to the mortgage value, foreclosures and/or strategic defaults are likely to occur. IMF (2010) forecasts an increase in the rate of strategic defaults in the next years. The evolution



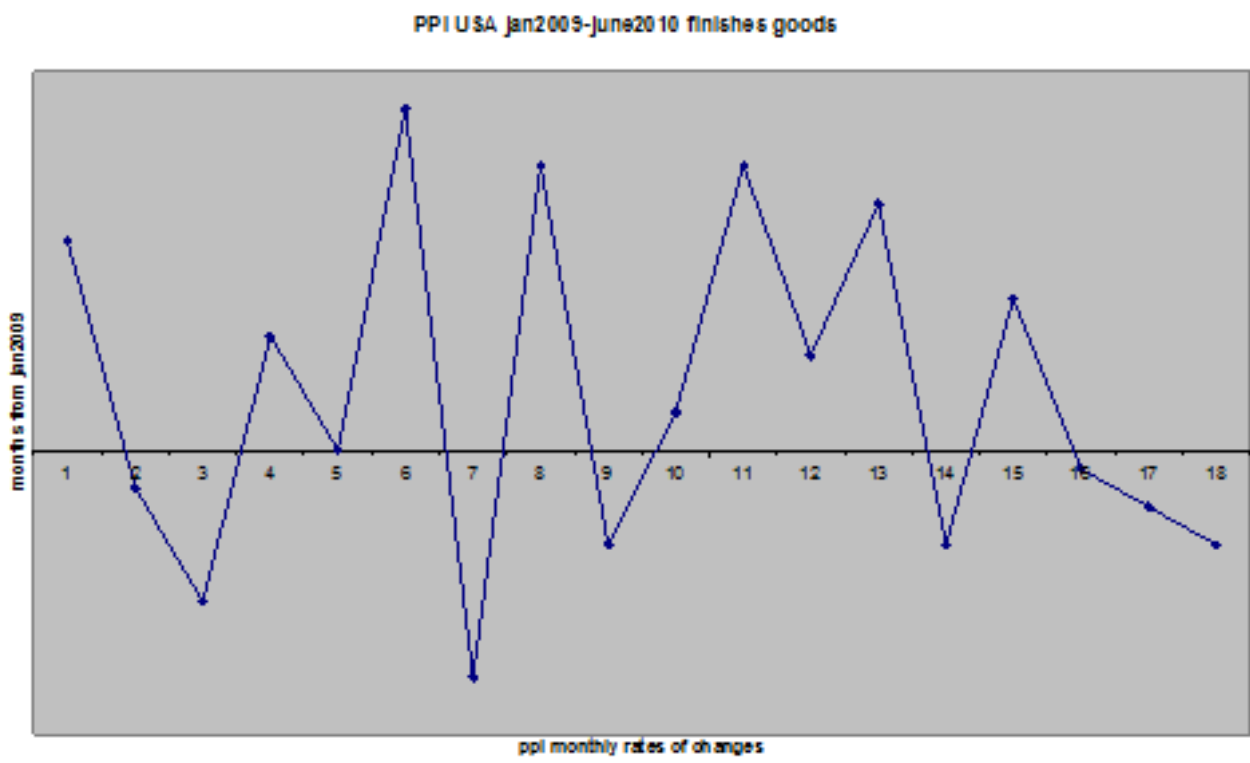


Figure 3: Source: Federal Reserve Board of Governors Statistics.

15. Change in prices of existing single-family homes, 1990–2009



Note: The data are quarterly and extend through 2009:Q4; changes are from one year earlier. The LP price index includes purchase transactions only. For 1990, the FHFA index (formerly calculated by the Office of Federal Housing Enterprise Oversight) includes appraisals associated with mortgage refinancings; beginning in 1991, it includes purchase transactions only.

SOURCE: For LP, LoanPerformance, a division of First American CoreLogic; for FHFA, Federal Housing Finance Agency.

Figure 4: Source: Federal Reserve (2010).

of home prices in the following years is thus decisive. The government has done until now a lot to sustain the prices of financial assets but has not introduced any measure to relieve the conditions of distressed home owners. It is reasonable to expect that they will have to restrain consumption to pay out their debt. Thus, after years of falling saving ratios, the saving rate is and will be increasing.

*The effects of rising stock prices with very low interest rates on the balance sheets of financial institutions is very different according to the specialization of the same institutions.* The big financial institutions that have survived the crisis through public money infusions and mergers, now may continue to do their business under improved conditions. They have posted a gain in last year balance and this gain comes from trading activity. Even without considering arbitrage and speculation, if they just charge a fee for trading in assets, which is calculated as a percentage of the value of assets, the recovery of assets prices obviously causes an increase of their trading revenues. Moreover, their interest margin has increased rather than decreased. This may be due to the fact that now, thanks to their bigger size and to the moral hazard speculations induced by the rescues, they are getting funds at a rate which still lower than that paid before the crisis. Due to their size and to the implicit government guarantee, they are now perceived as safer than they were before the crisis. On the contrary, the large number of smaller commercial banks dispersed through the country have a reduced interest margin due to the very thin difference between lending and borrowing rates and have to cope with increasing non performing loans and perspective recapitalizations (Federal Reserve 2010).

As a conclusion, it can be stated that the main beneficiaries of this policy of quantitative easing have been the big banks, which have increased their trading revenues and the rentiers, the owners of wealth in the form of financial assets. If the trend in the relative prices of assets continues in the future, it will increase inequality as measured by the ratio of stock prices to house prices. The richer households, whose net wealth is positive and whose wealth has a higher share of financial assets, will be favoured in comparison to the poorer households, who have a negative net wealth due to the mortgage debt (Tropeano, 2010b forthcoming).

## **4 The current situation situation of the financial markets in the Euro area**

In Europe also the main stock market indexes have returned again to their pre crisis levels. The main difference with respect the US is that financial markets are less layered and non bank financial institutions are less important as to shares of assets, though there are big differences among countries within Europe. Moreover, in Europe there has not been a bubble in housing prices except in some countries, such as Ireland, Spain, some Eastern European countries that do not have the Euro as their currency yet. Private debt as a ratio to GDP is important only in countries like Ireland, Spain, Portugal but for the remaining ones this is not an emergency situation. This means that the painful process of saving more, so as to be able to generate revenues to pay past debts should weigh less on the aggregate demand of the Euro zone. Households, though enjoying low incomes should not worry about the high debt contracted in the past. In theory this should help the recovery of the Euro zone, thereby leaving more space for aggregate demand increases. However, this is not the case. The monetary policy of the ECB, like that pursued by the Federal Reserve, by getting stock prices high again may have favoured the richer part of families, which have a positive net wealth and own the biggest shares of financial assets. The same cannot be said of the rest of population. The most striking thing is that in Europe many countries have engaged in strong fiscal contractionary policies, which aim at reassuring international capital markets on the ability of governments to honour their debts. These policies have been implemented in different measure by many countries, which are in different conditions. The result is just to aggravate the consequences of the crisis and to postpone the recovery. In those countries that have started the fiscal contraction policy from a longer time, the fall in aggregate demand and the rise in unemployment is stunning (see the case of Ireland). The worsening in the public finances of many countries, though not all of them (a notable exception is Greece), is due to the expenses made to rescue failing financial institutions, which in the European accounts weigh directly on the balance sheets of the governments that have intervened. In the US,

having the Federal Reserve acted as a quasi fiscal agent of the state often in a non transparent way (see Ferguson and Johnson 2009), some of these costs are still on the balance sheet of the central bank, though improperly. In some of the fiscal contractions in Europe, the packages include explicit reductions in nominal salaries of employees, something which reminds us of the reduction in nominal wages, implemented during the 1929 crisis by the Fascist government in Italy and of its disastrous consequences.

The recovery of financial assets' prices is less important in Europe than it is in the United States:

The reasons are the following:

1) the savings propensity out of wealth is higher in Europe than in the United States. So no significant effect on consumption can reasonably be expected. In Germany the propensity to save out of wealth has increased in the period before the crisis rather than falling.

2) the weight of pension funds and other institutional investors, which have in their portfolios stocks and other financial assets, is quite limited with respect to the US.

3) though in some countries there has been a real estate bubble, there has been no extraction of rents from the value of the houses on the part of European families, as it has happened in the US. Thus a fall in the value of houses though impairing the ability of families to repay debt has no direct consequence on consumption through the wealth effect.

*The crisis in Europe has simply been a consequence of the globalization of finance and, in particular, of the global dimension of the inter-bank market. The interconnections between European and U S banks have survived the financial crisis.* The European banks, to invest the abundant savings and the many borrowed funds, have purchased huge quantities of financial assets born and packaged in the wild and unregulated US markets. The losses they have suffered because of this very unwise policy, aimed at increasing the return to shareholders through leverage, have been borne by the state and now, through taxation and spending cuts, they will be transferred to the citizens.

Since consumption was not dependent on debt, there has not been a reduction in demand due to the burst of a bubble. The strong fall in output growth is mostly due to the contraction in trade flows. In most European countries, given the stagnation of domestic aggregate demand, the most important source of income growth has been exports. European countries could not avoid the painful output contractions following the burst of the bubble in the US. Still worse, given that the weakness of domestic demand was due to low wages, not supplemented by wealth or debt injections, and high inequality, the measures taken to overcome the financial crisis risk to perpetuate the existing situation. People with low wages, unemployed or precariously employed will see their situation worsened, while the people who already enjoyed capital gains and high salaries will not notice big changes with respect to the past.

Moreover, given that the interconnections between European and US giant financial institutions are still important that the markets for derivatives are still unregulated in the U S, it is quite probable that any further disturbance or crisis in the U S market will spread itself to Europe in exactly the same way as it has done in the last three years. Securitization markets are relatively frozen in the U S but derivatives markets are flourishing again and are gaining liquidity and depth. The recent Dodd-Frank Financial Stability Act does not address the problem of systemic instability within the financial system. The more conservative attitude towards financial regulation in Europe cannot avoid the spreading of disturbances through interconnected markets.

After the financial crisis, the banking systems in the US and in Europe appear to have increased their interconnectedness. A recent study by the IMF (see IMF 2010) has calculated that the probability that a distress in one of the two banking systems spreads itself to the other one has increased after the crisis with respect to the pre-crisis level (see graph below).

## 5 Concluding remarks

The monetary policy responses by the Federal Reserve and the ECB to the devastating financial crisis of 2007-08 are based on some common elements but they diverge in their general philosophy. The Federal Reserve, throughout the first year of the crisis, was attempting to use traditional liquidity injections while at the same time strongly participating in Paulson's shadow bailout with

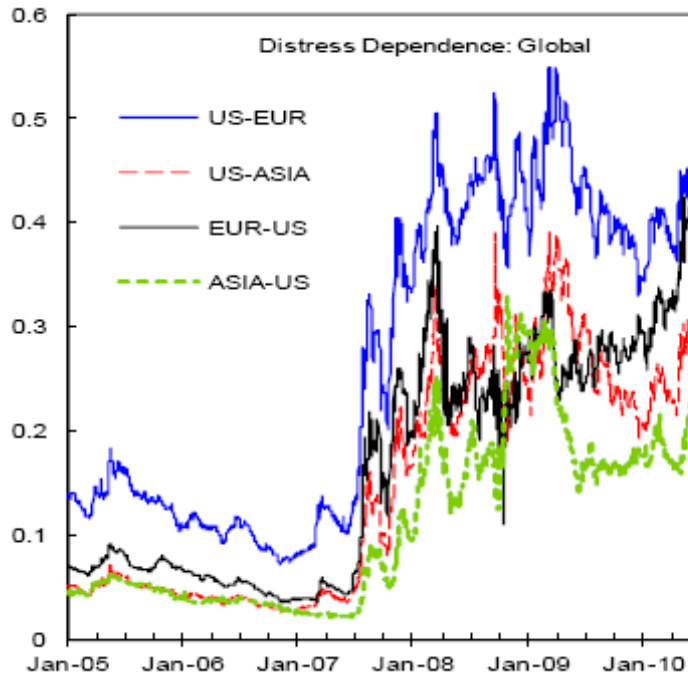


Figure 5: Source: IMF(2010)

interventions, which, in some cases, even violated existing laws. From March 2008 onwards the Fed has started the special facilities programmes that have replaced private markets rather than simply supported them. The balance sheet of the Fed has swollen and in particular it contains more than one trillion of mortgage backed securities. These interventions have been justified by the emergency situation created by the crisis and were underpinned by Bernanke's monetarist faith that in the end, by pumping into the system infinite quantities of money, inflation will rise and deflation will be avoided. The central bank never seemed aware of the structural flaws in the architecture of the US financial system. Neither did the legislators that have drafted the recent Frank-Dodd Act, which has been approved by the US Parliament. The strategy of the Fed, according to Bernanke's speeches, is to continue to keep the short term interest rate close to zero in the future and to go on with asset purchases that will lower the long term interest rates.

The ECB, after the initial unhappy move of raising the interest rate in the midst of a crisis, has done more or less the same. It has injected liquidity into the system through usual and unusual tools. It has also in part purchased middle or long term assets in the markets but its interventions in this respect have been both quantitatively and qualitatively less important than those made by the Fed. The ECB has intervened particularly in the market for covered bonds, an asset used by financial institutions to finance themselves, and recently in the market for public bonds. The difference with respect to the US is that the European financial system is less layered than that of the former. The weight of the non bank financial institutions on total assets is less pronounced and the problem of managing a complex and highly interconnected financial system less urgent. Only in some countries there has been a real estate bubble but the diffusion of derivatives products in Europe is much lower than in the U S. The problems linked to derivatives and securitization do not directly concern the ECB. This notwithstanding, however, given that the interconnectedness between U S and European banking institutions has increased after the crisis, the danger that any distress in the U S market will be transmitted to the European financial system is higher now than in the past. Moreover, while the philosophy of the Fed is to lower and lower interest rates because this will avoid deflation and will help the indebted families to repay their debt, no such philosophy - based on a sort of liquidity

trap monetarism - lies behind the ECB's action. In Europe short term interest rates are very low but the ECB has repeatedly warned that they will be raised to avoid an unlikely inflation. Long term interest rates are not so low as in the United States, probably because the risk of European average debts is perceived as higher than that of the U.S. No deliberate strategy of lowering long term interest rates by resorting to unusual tools has been announced by the ECB. It is indeed likely that because of the increased costs of funding for banks, of the recapitalizations they need and of the nonperforming loans that will emerge in the future, those rates will be higher than now. A higher interest margin, however, should favour traditional banking activity. While in the US there is a commitment by the Central Bank to maintain both short term and long term interest rates low, no such commitment exists in the Euro area. If the countries that mostly influence the decisions of the ECB, like Germany, will experience a rapid recovery, an increased pressure to raise interest rates is likely.

Unfortunately, the idea that a restrictive fiscal policy will induce markets to trust governments and thus lower the cost of debts and help the recovery is gaining consensus on both sides of the Atlantic. No attention is being paid to the mounting unemployment. Thus the combination of a very lax monetary policy and a restrictive fiscal policy will lead us to a situation where wages and aggregate demand will be depressed while eventually gains arising from arbitrage and speculation will flourish. Many references to the Japanese crisis in the '90s have been made in the current debate on economic policy. Perhaps it should not be forgotten that one of the by-products of the quantitative easing policy of the Bank of Japan was the growth of a very profitable and long lasting carry trade.

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