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## Article

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*Article*

# The Formation of New Monetary Policies: Decisions of Central Banks on the Great Recession

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**Abstract:** The effect that the Great Recession had on monetary policies has led to the profound reorientation of central banks' actions from 2007 to 2013. The purpose of this work is to analyze the monetary policies applied by the main central banks, mainly the European Central Bank, the Federal Reserve System of USA and the Bank of Japan, in order to raise thoughts on the guidelines that central banks should follow in the future. In the first section the bases of monetary policy before the crisis are described; in the second we explain the change in the orientation of the role of central banks during the crisis; and finally, we synthesize the bases on which the economic debate is taking place on the orientation of future monetary policies. We conclude that, in so far as the inoperativeness of transmission mechanisms still persists, monetary policies will remain in a process of change.

**Keywords:** monetary policy; central bank; monetary transmission mechanisms

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## 1. The Bases of the Orthodox Monetary Policy: The Relevance of Monetary Transmission Mechanisms

The monetary policies applied by central banks in developed countries in the two decades before the Great Recession of 2008 took the search for the stability of prices as a priority target. This was not only a reference for macroeconomic balance, but it was also considered to be a guarantor of financial stability. Trust was placed on the functioning of monetary transmission mechanisms and on the stability of markets. The denial of the possible formation of bubbles, of general excess risk or of lack

of transparency in transactions in financial markets—which in practice were operating on a global scale—led to questioning the very idea of the economic cycle (Lucas, [1]). In fact, the formulation of models of economic policy based on the “new consensus” (*cf.* Blanchard, [2]) did not take credit variables into consideration (Goodhart and Tsomocos, [3]; Stiglitz, [4]).

Monetary policy was drawn up, following Taylor’s Rule (Taylor, [5]), as an accommodating policy. To articulate their policy under these postulates, central banks opened themselves up to a scenario with a high degree of independence from political power, as this evidently enabled them to fight better against inflation and favored financial stability. Monetary policy gradually grew apart from the control of finance and focused its efforts on monetary stabilization; therefore its connection with the less and less rigorous structures of prudential regulation was gradually eliminated. These changes were not exclusive to monetary policy but also affected economic policy as a whole.

Furthermore, the growing acceptance of the endogenous nature of the money supply convinced monetary authorities to configure quick and precise instruments, whose most relevant effect was projected onto interest rates. The “REPO open market operations” are a good example of this. It implied lessening the relevancy of those instruments whose main effects operated via the credit channel. Monetary impulses were channeled through different routes, the most relevant of which was the one operating through interest rates, and, in another dimension, the one doing so through expectations.

### *1.1. Monetary Policy Transmission Mechanisms Operated by Central Banks until 2008*

There are four channels through which central banks get their monetary impulses affect the decisions of economic agents. Successful intervention strategies depend on such channels to be operational (Mishkin, [6]).

#### *1.1.1. The Interest Rate Channel*

Through variation of reference interest rates, central banks attempted to affect the real sector of the economy through their influence on the relevant interest rates in the decision making of economic agents (Boivin *et al.*, [7]). The transmission among official interest rates and interest rates on financial institutions’ loan and deposit transactions, and public and private bond issues, is not immediate. The effectiveness of interest rate channel depends: on the rapidity and intensity with which changes in the interest rates fixed by the Central Bank are transmitted to other interest rates in the system; on how agents react to changes in the cost of financing or the profitability of assets; and of influence projected by the mechanism of expectations.

The effect on aggregate expenditure finds its way through four fundamental routes of transmission: the cost of capital effect, the income effect, the balance sheet effect and the wealth effect. *The cost of capital effect* is related to the well-known effect that changes in interest rates cause in investment. The magnitude thereof depends on the term of the investment, on the capacity of companies to obtain external financing, and on whether the investment is public or private.

*The income effect* is associated with the change in aggregate consumption, derived from a modification in agents’ revenues, caused by changes in interest rates. The end effect depends on the net financial position of the agents and on debtors’ and creditors’ marginal propensity to consume being different.

*The balance sheet effect* is the most relevant of all. It includes the phenomena that are related to changes in securities portfolio, derived from changes caused by official interest rates. The replacement of certain assets by others determines the end effect on consumption and investment. Hence, insofar as economic agents prefer the tenancy of assets directly linked to real investment as opposed to others, this channel ends up affecting aggregate demand. However, when the favorite asset is “cash” this channel is shown to be inoperative. Until the explosion of the “Great Recession”, this possibility was considered to be more theoretical than real<sup>1</sup>. The weight of this route of transmission is more relevant in economies with highly developed financial markets.

*The wealth effect* measures the sensitivity of consumption with regard to changes in the value of assets provoked by changes in interest rates. Clearly, the larger the absolute quantity of loss or profit of short-term assets preserved to finance consumption, the greater the link to aggregate expenditure will be.

To sum up, aggregate demand ends up being affected as a result of the aggregation of the previous effects.

### 1.1.2. The Mechanism of Expectations

The real sector of the economy might also be affected by the influence of the Central Bank on the long-term expectations of the private sector. The after-effects of monetary policy announcements on the formation of agents’ expectations will affect their decisions concerning spending and saving. The efficiency of this channel depends on the credibility of the Central Bank as far as the achievement of its targets is concerned. The mechanism of expectations enhances or weakens the effects of other mechanisms (Boivin *et al.*, [7]).

The effect on demand does not differ here from the effects that take place as a result of actions taken by authorities different from the central banks.

### 1.1.3. The Credit Channel Mechanism

An action by the Central Bank that leads to changes in the quantity or availability of money will end up affecting aggregate demand, provided that the banks pass on the liquidity injected to the credit supply. The effect will be greater if there is a discontented group of potential borrowers prepared to get into debt, as they are more interested in the availability than in the cost of credit. Its effectiveness also depends on to what extent alternative financing sources to a bank loan may exist. Once the agents obtain credit, the empirical evidence induces us to think that it is hardly probable for the liquidity obtained be saved, thereby making growth in demand possible.

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<sup>1</sup> The “liquidity trap”, closely linked to the Keynesian theory of demand for money, was considered to be a valid hypothesis to explain unique and specific historical experiences, fundamentally during the “Great Depression” in the 1930s.

#### 1.1.4. The Exchange Rate Mechanism

Variations in the exchange rate influence prices in several different ways, namely, through the price of imported goods, whether end products or intermediate inputs, through the effect on the competitiveness of national goods abroad and through the monetary effects associated with variations in the balance of payments. The intensity of the effects depends on the openness of the economy. In this case, the real effects necessarily affect the volume of demand and the monetary effects do so to the extent we have already explained in previous mechanisms.

#### 1.2. Strategies of Monetary Policy

Until 2008, there was widespread trust in the possibility of monetary actions to achieve the aforementioned effects on the volume of demand. The possibility that these variations in demand would end up affecting revenue and employment was not even considered in the orthodox approach to monetary policy. Indeed, trust in the functioning of the market mechanism, as mainstream economic thought has postulated from the classical period up to the modern reformulation by Milton Friedman, convinced central banks of the need to boost such actions for demand to adapt its dynamics to that of aggregate supply, and thus to prevent tension on prices. At a theoretical level, a growing consensus on the application of the Taylor rule developed in the implementation of this policy, which, in a more or less strict way, some central banks tried to introduce into their operating schemes.

Such is the case of the inflation targeting scheme, which in the 1990s became the benchmark of anti-inflationary policies in many countries. The unquestionable success of the “disinflation” process that took place in this decade, both in developing and high-income countries, can explain the progressive convergence of central banks with very dissimilar traditions. In effect, New Zealand was the first country to adopt this scheme of intervention in 1990. It was followed by Canada, the United Kingdom and Sweden over the following years. Spain adopted the scheme in 1995, once the reform of the European Monetary System extended the autonomy of monetary policy by freeing it from the narrow exchange discipline. Towards the end of the decade and early in the new century, Brazil, Chile, Colombia, Mexico and also Korea, Norway and Iceland, among others, followed suit (Roger, [8]).

The intervention mechanism of inflation targeting is built around a strategy with no intermediate targets; monetary authorities simply pursue the inflationary target via the control of an operating variable—in general, a *price variable*. Taking a medium term perspective, authorities take their decisions by observing the evolution of numerous variables that provide information on the evolution of the economy, the monetary and financial markets and the exchange rate; nonetheless the mere recording of changes in these variables does not automatically lead to action by the Central Bank (Bofinger *et al.*, [9]).

A mix of rules (known by economic agents) and discretionality (to the extent that a detailed follow-up on the evolution of informative variables is carried out) seems to converge in this scheme. This fact is crucial to understand the essence of the economic policies of many countries during the expansion phase.

## 2. The Period of the Reorientation of Economic Policies

The first answers that monetary authorities put together to face the alarming monetary effects that came to light in 2008 can be understood in the context of the formulation of the orthodox monetary policy (Arias and Costas, [10]).

The effects that the chain of non-payments of subprime mortgages had on monetary aggregates led central banks to inject a great amount of monetary base, with the purpose of restoring the volume of the money supply (Roubini, [11]). The first bank insolvencies implied *de facto* an increase in liquidity preference, sufficiently significant for the Federal Reserve System (FED) to act promptly before the subsequent fall in the money supply. The influence of these actions on the financial systems of the main European economies produced the same effects and similar responses from their central banks.

With the benefit of hindsight we know that, at the time, the main links of monetary transmission mechanisms were already broken, while the authorities kept acting in a context of absolute normality. Their actions made sense in the orthodox approach that characterized the previous period, entrusting financial stability to the implementation of an accommodating policy.

Towards the end of 2008, several recessive phenomena came together with an intensity that finds no precedent. The bankruptcy of Lehman Brothers was a radical alteration in the state of things. The fall in income, the rise of unemployment, the contraction in the volume of world trade, the succession of bank insolvencies and the generalization of the “Credit Crunch”, among other phenomena, caused fear of a return to a similar situation to the one suffered in the 1930s. All the novel actions in economic policy that were applied from that time endeavored to avoid another Great Depression.

The leading role of fiscal policy, in a Keynesian way, introduced powerful stimuli by means of spending programs in all the economies affected by the financial paralysis in 2008. In other words, monetary policy ceased to be orthodox and intervention used the main conventional tools for stabilization that had not been actively used for decades to achieve this target (Blinder, [12]). The idea of a *policy mix*, so long forgotten, was recaptured in view of the needs derived from the crisis (Blanchard *et al.*, [13]; Romer, [14]).

### 2.1. The Decisions of Central Banks in the New Scenario

With regard to central banks' actions, it should be highlighted that we witnessed a succession of measures without precedent since the years of financial liberalization in the 1980s. Among these novel measures, we could underline the vertiginous fall of interest rates<sup>2</sup>, the enlargement without precedent of the central banks' balance, the narrowing of the corridor of official interest rates, the generalization of “full allotment” in liquidity auctions and the content of the public declarations made by governors at the central banks. The large volume of money injected into the economy shows the intensity of the

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<sup>2</sup> ECB reduced from 4.25% (October 2008) to 1% seven months later. FED reduced from 5.26% (July 2007) to 1.98% in May 2008 and to 0.16% seven months later.

measure: in the case of the USA the monetary base from 2007 to the second quarter of 2013 grew by 390%; 160% in the Eurozone and 170% in Japan<sup>3</sup>.

From 2010 to 2013, in many countries, especially in the Eurozone, monetary policy was the only possibility to prevent the fall in GDP. This was a result of the fiscal policies applied. The vertiginous increase in public debt in all the economies prevented authorities of almost all countries from increasing tax costs.

From that time on, the existence of divergent strategies followed by the main central banks becomes evident. Even when they all moved away from the type of intervention that characterized their actions before the Great Recession, there are differences in the extent to which they started their heterodox strategies.

Among all the central banks, the Federal Reserve was the one that maintained greater continuity and coherence in its expansion policies. Chairman Ben Bernanke had been responsible for the inactivity of the North American monetary authority in 2006 and 2007, even when the bubble of the subprime loans had already burst. However, his immediate reaction after the bankruptcy of Lehman Brothers was fulminating. Bernanke was one of the first top level policymakers in the world to perceive the severity of the threat at that time, and also he was the first who implemented the strategy of resisting with all possible means “another Great Depression”. Undoubtedly, the fact that he was one of the most significant academic experts in the monetary component of the great crisis of the 1930s had a heavy influence on this. On this point Bernanke is in line with Milton Friedman and Anna Schwartz, according to whom it were the mistakes of the Federal Reserve, restricting credit from 1930 to 1932, which turned something that according to them would not have been any more than a sharp but momentary contraction into the enormous catastrophe that it actually became (Friedman and Schwartz, [16]).

The North American monetary policy implemented all kinds of instruments: (1) a constant creation of liquidity by *quantitative easing*. This non-conventional policy has helped to keep credit channels open in the economy, in spite of the advances of deleveraging that were greater in the United States than in Europe (McKinsey Global, [17]), making the balance of the FED grow disproportionately. The three successive rounds of monetary stimuli were decisively directed to the economic growth target, linking their programs to the need of reducing unemployment; (2) nominal rates of interest between 0% and 0.25%; (3) a wide range of non-conventional procedures to reach liquidity targets, including reviled operations of monetizing the public deficit.

The case in Japan was radically different. After almost two decades of deflation and financial paralysis, the effects of the Great Recession were seen in all their force, aggravating the complex internal situation. The country's authorities, however, had already become convinced of the need to reorient economic intervention by distancing it from orthodoxy. In fact, the public debt had some time previously already surpassed levels unimaginable in any other economy that did not have such a high rate of internal saving. And furthermore, the rate of intervention of the Bank of Japan was located at levels of 0.5%, and even lower, from 1995 onwards. In spring 2013, the Bank of Japan, in line with the policy driven by Prime Minister Shinzo Abe, implemented a program of monetary expansion that

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<sup>3</sup> Cf. McKinsey [15]. Obviously the figures for Japan do not include the start of the monetary expansion driven by the government in the spring of 2013.

overshadowed the one started by the Federal Reserve. In order to move away from the path of deflation, the BOJ undertook to inject a monetary base equivalent to 30% of the GDP over a period of two years. The originality of this policy justified the invention of the term *Abenomics*, to refer to a set of monetary and fiscal actions of an ultra-expansive slant. It is still early to evaluate the potential results. In any case, the differences in the intensity with which the measures of monetary intervention were applied by the different central banks mean that their effectiveness will possibly also be different (McKinsey Global, [15]).

The ECB was the central bank that delayed the implementation of heterodox measures the longest. This is not a question of interpretation *ex eventu*. In fact one of the major controversies within the Eurobank council itself took root on this point. Some members radically denied that the ECB should have this function that others were claiming for. This meant that the general action of the ECB was much less coherent over the last five years than that of the other central banks, which caused certain oscillations in the European monetary policy, which were not seen in the case of the United States.

This incapacity to abandon old conceptions and criteria is directly responsible for two serious mistakes in ECB monetary policy, at two specific times namely the beginning of the summer in 2008 and 2011. Just when it was becoming possible to catch a glimpse of the imminence of highly recessive contexts, they decided to increase intervention rates in Europe, and shortly afterwards they were forced to revert this decision. The existence of inflationary pressure in the medium term, in perfect tuning with the intervention scheme, was the argument the ECB used to justify the adoption thereof. Beyond the real effect that such decisions had on the rhythm of the economy, we find it important to emphasize that the adoption of restrictive actions in a context of sharp contraction is extraordinarily revealing of the prevailing atmosphere and the basic conceptions of the Euro bank. The exaggerated fear of potential inflation kept their hands tied, in an environment of sharp contractive threats. On the other hand, it seems quite clear that the rise in prices that was seen at some times over those years was almost exclusively related to the costs of certain raw materials at origin; that is to say, the only real inflationary dynamics was related to cost inflation (of non-wage costs), and in no case related to demand. It does not seem that a restrictive monetary policy is the most suitable mechanism to contain this type of inflationary dynamics.

More interesting and controversial than the ECB rate policies is its strategy of quantitative intervention. At this point it is necessary to state two facts. First, intervention procedures have scarcely changed in relation to those that were in place before the crisis (the only significant change were OMT). Second, the line of monetary expansion has been very limited, and clearly insufficient for the needs of productive sectors in the Eurozone, mainly in countries subject to tough processes of deleveraging. Barry Eichengreen most suitably referred to it as “*the ECB’s lethal inhibition*” (Eichengreen, [18]). It was lethal because the obvious insufficiency of its support for liquidity at many times between 2008 and late 2011, a consequence of the denial of its function as a lender of last resort, which is one of the main causes of the problems in many countries in the European periphery. This most serious failure of the monetary policy was a determining factor for another macroeconomic policy—extreme fiscal austerity—leading to the disastrous consequences that we have pointed out (De Grauwe and Ji, [19]).

The situation changed markedly throughout 2012, when the ECB repeatedly used two very powerful instruments in its arsenal that were practically unheard of. First, the successive rounds of



expansion of liquidity that took place. The effect was powerful on this plane, although its effective repercussion on economic activity was practically non-existent. The transmission channels towards productive activities were virtually blocked by the banks' desire to hoard liquidity, collapsing the velocity of money. This is the persistence of the situation of liquidity trap, with which the economy of many developed countries has coexisted since 2008. Moreover, the neutrality of these operations from the point of view of an active monetary policy was emphasized by the ECB itself, underlining that the purchase of bonds should be sterilized, that is to say, it should not affect the monetary supply or inflation.

Second, the old and powerful instrument of moral suasion came to light. The simple warning by Mario Draghi that the Bank would use all its firepower to save the Euro was sufficient to direct investor behavior with regard to the public and private debt of countries in the Eurozone, eliminating the most speculative components. The fundamental element here was the *Outright Monetary Transactions* (OMT) program, consisting of purchases of sovereign bonds on the secondary market, never on the primary one, which helped relax the financial stress on the continent.

The decisions taken by the ECB during the meeting held in November 2013 seem to indicate that following the expansive policies like other central banks is inevitable. The reduction of the interest rates to 0.25%, by surprise, in a non-unanimous agreement of the Governing Council, and its declaration of maintaining a program of unlimited liquidity until at least 2015, point in that direction.

## 2.2. The Collapse of Monetary Transmission Mechanisms

During the whole crisis period, the mechanisms of monetary transmission stopped operating as they had done before 2008 (International Monetary Fund, [20]). In spite of the intense reduction of official interest rates and massive injections of liquidity by the main central banks, the collapse of markets caused a rupture in the link between the reference interest rate and the other rates in the system. This was especially evident in countries most devastated by the crisis, such as the peripheral countries of the Eurozone and also the United States. The gap between the official interest rates and the rates applied by banks on the limited loans granted to companies and families grew considerably as the crisis became worse. When this first link in the transmission mechanism had been broken, the possibility that the policy of low interest rates would become effective greatly diminished.

In the first months after the bankruptcy of Lehman Brothers the difference between the official rates and the market rates implied a significant rise of the financial intermediation margins, both in the Eurozone and in the United States. Once the months of greatest instability in financial markets had passed, the situation changed in Europe. In effect, the *de facto* bankruptcy of the single market, a consequence of the financial institutions' decisions to introduce the variable of a *country risk* in their financing transactions, enlarged the margins in the peripheral countries and reduced them in the central ones. The situation reached such a dramatic point that it became necessary to implement financial bailouts in Greece, Ireland and Portugal.

Simultaneously with the fracture of the interest rate mechanism, the credit channel was interrupted by the inability to achieve financing in the interbank market and by the perception of the risk of bankruptcy in financial institutions, which forced central banks to act like *lenders of last resort*. In this chaotic scenario, financing was only channelled through central banks. Their target was to recover lost liquidity levels, or in the case of the more leveraged financial institutions, to meet their payment

commitments. Thus, a situation of liquidity trap emerged, which made it impossible for monetary impulses from central banks to reach the economic system.

As a result of the fracture of the mechanisms that make it possible for actions on prices and on the amount of money to get transmitted to the real sector, monetary policies were only shown to be efficient in avoiding the bankruptcy of financial institutions. Any other target, in this state of things, lay outside their scope.

Months later, when the risk of the consecutive bankruptcy of the financial institutions had passed, the central banks chose to persist in their monetary actions. They tried to make use of the weak impulse that credit and interest rates mechanisms were transmitting. In the light of the results, after adopting those measures, it became clear that monetary transmission mechanisms were far from working as they did in the past. The need to reinforce the mechanism of expectations as far as possible can thus be understood. The fact that the senior managers of central banks have used forward guidance as a tool to drive their policies seems to prove this. Ben Bernanke explicitly referred to it in his speech in November 2013 (Bernanke, [21]). We can also perceive it in Mario Draghi's statements, which we have already referred to, as well as in the way in which the Japanese Minister of Economy announced his ultra-expansive new program.

### 3. Towards a New Monetary Policy?

The difficulty of the monetary policy applied from the beginning of the crisis in restoring the link between saving and investment requires a profound change in the way of conceiving this form of intervention in the coming years. A change is necessary in the instrumentation of policy, whose effect makes the functioning of monetary transmission mechanisms possible if the goal is for the policy to be effective.

Before 2008, the hypothesis of the rationality and efficiency of markets were predominant (Fama, [22]), whereas recent years have given way to hypotheses that focus on its unstable nature, the existence of irrational behavior and asymmetric information (Shiller, [23]; Stiglitz, [4,24]). Furthermore, the idea of the economic cycle has once again become an essential reference for knowing how the economy works, especially in everything related to monetary and credit variables (Borio, [25]). It is this way of understanding the functioning of the economy that enables us to conclude that the policy applied by central banks in a more or less near future will be different from the current one. Moreover, the revision that has taken place with regard to the value of fiscal multipliers, underestimated for so long, endows monetary conditions with greater significance (Blanchard and Leight, [26]; De Long and Summers, [27]; Auerbach and Gorodnichenko, [28]).

One of the major macroeconomic problems which authorities face at present is the real possibility of deflation. The decisions taken by the ECB in the meeting held in November 2013 seem to indicate that this is so. The economic policy of Japan, immersed in a process of stagnation for several decades, is more forceful.

The research teams of certain international organizations, such as the BIS and the IMF, have played an important role in this revision of the basic ideas of monetary policy. We could also highlight the studies by the Committee on International Economic Policy and Reform [29,30], part of the Brookings

Institution (Think Tank 20, [31]), written by prestigious economists as Reinhart and Rogoff [32], Rodrik [33], and Eichengreen [18].

The redefinition of the monetary policy is moving in four fundamental directions:

### 3.1. Review of Inflation Targeting

As Blanchard *et al.*, [34] point out, the crisis has shown the need to broaden the targets of monetary policy, making room for variables related to GDP or to the price of assets (see also Blanchard *et al.*, [26] and Reichlin, *et al.*, [35,36]). They also think that monetary policy should not displace the policy of regulating financial markets in the search for stabilization targets. And of course, it should not displace a new and necessary fiscal policy as a tool for stabilization; this implies the necessary definition of better and more efficient automatic stabilizers.

The most probable substitute of the inflation target—at least, the one on which a greater degree of consensus seems to be spreading—is nominal output. It would establish a sequential pattern to monetary policy, making the inflation target remains subject to developments in the real economy. A low inflation target for expansion periods and higher during recessions.

The redefinition of targets in this regard could also serve to prevent central banks from not detecting the appearance of symptoms of *financial embolism*, as happened during the first months of the crisis. Since summer 2007, the nonexistence of deviations with regard to the inflation target coexisted with the gestation of a scenario of financial paralysis. Even the existence of expectations of inflation can lead central banks to adopt measures that accelerate such paralysis, as in fact happened. To the extent that the target of monetary policy incorporates real variables, the appearance of any problems in the scope of transmission mechanisms will require the adoption of corrective measures.

G. Frankel [37] argued that, with a target of this type, it would have been more improbable for the ECB to make the mistake it made in July 2008, raising the interest rates when the economy was moving towards recession<sup>4</sup>. What might happen, nevertheless, is that given that the target pursued by central banks in the scheme of inflation targeting is an expectation of prices, the introduction of a new target is not sufficient. The root of the problem lies in the incapacity of authorities to perceive a profound change in economic behavior. In any case, as usually happens with simple rules, a universal and uncritical application might also involve significant danger; but it is the capacity of adaptation to cyclical dynamics that in the present circumstances makes it particularly attractive.

### 3.2. Extension of Inflation Targets

The need for a notable change in the very notion of a desirable inflation rate is also being discussed. As it is already known, before 2008 the limit fixed by most central banks in the developed world was 2%. If the general economic environment is dominated by deleveraging, as at present, this target could lead to serious problems as a result of the increase in the preference for liquidity that takes place in this context. In other words, economic agents and financial institutions, in view of the problems of liquidity

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<sup>4</sup> Even though it is of a different nature, it would also avoid problems in an expansive scenario. In effect, the Federal Reserve would also have avoided making the mistake it did before the crisis, when it maintained—from 2004 to 2006—a direction of great monetary relaxation, when the nominal GDP was growing at around 6% (Frankel, [37]).

that arise from the lack of credit, increase their cash holding. An inflation rate that is slightly higher—say 4 or even 6%, but in any case, stable—could be a good way of reducing the weight of debt; quite naturally, this collides head on with the established orthodoxy, but there is no doubt that it is a less costly and less traumatic way—although perhaps less democratic - of favoring the cutback of public and private indebtedness; it is no worse, for example, than a partial loss of value (Ball, [38]). And secondly, excessively low inflation targets can make the leeway for developing expansive monetary policies too narrow. This happens especially in case of a credit crunch or liquidity trap. The broadening of this leeway would provide policy instruments with more room for maneuver. It is not surprising, therefore, that in recent years the proposals for widening inflation rate targets (in general, between 4% and 6%) have been multiplied, by macroeconomists of different trends, such as Blanchard, De Long, Mankiw and Rogoff. After the summer of 2013, price variations, fundamentally in Europe, seem to indicate the existence of deflationary danger. If this perception is confirmed in time, the debate on the inflation target will doubtless end up focused on radically different parameters.

### *3.3. Integration of Monetary Policies and Prudential Regulation*

Before the crisis, monetary control and the tasks of financial regulation and supervision were clearly defined in accordance with an implicit Tinbergenian scheme of “two targets (price stability and financial stability) and two routes of instrumentation”. On numerous occasions the two policies were taken forward by different institutions: in the case of Great Britain, for example, the Bank of England and a specific regulatory agency (the Financial Services Authority); in EMU countries, the definition was between the ECB (definition of the monetary policy) and the old central banks (which conserved the regulatory tasks). Trust in the smooth functioning of monetary transmission mechanisms is the key to understanding this state of intervention (Issing, [39]).

In fact, this might seem a side issue in the decades of economic expansion. Control over financial institutions was confined to what is called “light-touch regulation”, very focused on the mere observation of whether the banks had healthy balance sheets. Nevertheless, after the experiences of the crisis, with the evidence of the extraordinary regulatory mistakes made and their devastating consequences, this situation could not be sustained [29]. The need to guarantee the stability of the financial system as a whole now receives widespread acceptance. In other words, it is accepted that transmission mechanisms may stop working. Both conventional macroeconomic intervention and financial regulation have a key responsibility for guaranteeing the perfect operation of monetary transmission.

In Europe, for example, the design of the Bank Union, despite not having specified any of its most innovative initial aspects, took into account what we have discussed here.

### *3.4. Review of the Status of Central Banks' Independence*

Most central banks were, over time, becoming independent entities, under the argument that in this way they were more effective in the struggle against inflation (Cukierman, [40]). This idea is closely linked to the trust in the automatism of monetary transmission mechanisms. Evidently, if price stability is not a priority target of monetary policy, and new assignments come to light in the stabilizing action of central banks, the argument of independence loses force.

From the beginning of the crisis, the actions of numerous governments invaded the competence of central bankers. One of the most notorious cases is Japan, where the Minister of Economy explicitly placed the central bank under his own control.

There are sound reasons for rejecting independence, or at least for defending a nuanced version thereof. A first reason is the need to find a constant and effective coordination with fiscal policy. In the scheme that previously prevailed there were two entities independent of each other (the Central Bank and the Ministry of Finance) to implement the monetary and fiscal policies, with the intention of reaching a macroeconomic balance. However, given that neither the targets nor the policies are in fact independent, the fact that the authorities so they are may cause a major problem of general consistency in economic policy. It is a question to which scarce importance was accorded during the years of expansion, but which has again become relevant with the crisis. A second reason is the well-known problem of the democratic legitimization of independent entities imposed above regular democratic bodies. This matter was scarcely considered before 2008 (Bibow, [41]). However, the new sensitivity in face of the consequences of the *golden straitjacket* imposed by capital markets onto democratic politics means that now large groups can see it from another perspective (Davies, [42]). Moreover, bearing in mind that most central bankers come from the world of the high finances, the possibility that politics will serve specific interests is reinforced. If the capacity of political control on central bankers' actions is limited, then the problem becomes almost unsolvable.

#### 4. Conclusions

The effect that the crisis had on monetary policies has led to the profound reorientation of central banks' actions. The crisis showed the uselessness of the previous form of intervention. The reorientation of central banks' strategies began from the moment when the first effects of the crisis became evident; but it affected the core of the so-called orthodox monetary policy only when the collapse of monetary transmission mechanisms came to light. The purpose of the changes implemented is to make use of the scarce impulses that these mechanisms still generate. Even when new forms in the monetary policies applied are already perceptible, while the inoperativeness of transmission mechanisms still persists, monetary policies will remain in a process of change.

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#### Conflicts of Interest

The authors declare no conflict of interest.

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