

## Role of central banks after the 2008 financial crisis : Price stability and financial stability

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### ملخص:

مع ارتفاع معدلات التضخم في ستينات و سبعينات القرن الماضي، بدأت المناقشات من قبل الإقتصاديين ، السياسيين و حتى عامة الناس حول التكاليف المرتفعة لظاهرة التضخم. ونتيجة لهذا فإن غالبية الدول والإقتصاديات حققت معدلات منخفضة ومقبولة للتضخم، حيث أنه من بين 223 دولة هناك 193 دولة حول العالم تبلغ معدلات التضخم بها 10 بالمائة أو أقل، وهناك 149 دولة حققت معدلات أقل من 5 بالمائة. لقد بينت الأزمة المالية الأخيرة أن تحقيق إستقرار الأسعار لوحده لا يضمن تحقيق إستقرار الإقتصاد الكلي. حيث أنه ولضمان تحقيق الاستقرار الكلي للإقتصاد يجب أن تتضمن السياسة الاقتصادية سياسات الرقابة و الحذر الكلية والتي تستهدف الحركات أو التشوهات المالية والذي لا تستطيع السياسة النقدية تحقيقه. إن تبني هذا النوع من السياسات يزيد من تحديات البنوك المركزية في المفاضلة في السياسات و الأدوات و الأهداف في مختلف الدول والإقتصاديات المتقدمة و الناشئة.

**الكلمات المفتاحية:** إستقرار الأسعار، استهداف التضخم، الاستقرار المالي، السياسة النقدية، السياسة الرقابية وسياسة الحذر

### Abstract :

*With the rise of inflation in the 1960s and 1970s, economists, and also the public and politicians, began to discuss the high costs of inflation. according to that, almost all nations in the world are in a low inflation environment. Of 223 countries, 193 currently have annual inflation rates less than or equal to 10 percent, while 149 have annual inflation rates less than or equal to 5 percent. The recent crisis showed that price stability does not guarantee macroeconomic stability. In several countries, dangerous financial imbalances developed under low inflation and small output gaps. To ensure macroeconomic stability, policy has to include financial stability as an additional objective. But a new objective demands new tools : macroprudential tools that can target specific sources of financial imbalances (something monetary policy is not well suited to do). Effective macroprudential policies (which include a range of constraints on leverage and the composition of balance sheets). This will make a serious challenges against central banks in both industrialized and emerging economies*

**Key words :** price stability, inflation targeting, financial stability, monetary policy, macro-prudential policy

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## **I) Introduction :**

With the rise of inflation in the 1960s and 1970s, economists, and also the public and politicians, began to discuss the high costs of inflation because high inflation undermines the role of money as a medium of exchange by acting as a tax on cash holdings. On top of this, a high-inflation environment leads to overinvestment in the financial sector, which expands to help individuals and businesses escape some of the costs of inflation. Some central banks geared monetary policy nearly exclusively to stabilize inflation. Others gave more explicit weight to aggregate activity as well. Few, if any, took sufficient account of risks from asset price increases or leverage. This so called “benign neglect” approach to dealing with the boom reflected three factors. First, the underestimation of the associated buildup of systemic risk, and thus the need for a response. Second, the notion that monetary policy should focus squarely on inflation and that financial stability is a task better left to prudential regulation. Third, the perception of monetary policy as too blunt an instrument to counteract asset price booms coupled with the belief that if and when booms reversed, the effects on activity could be largely counteracted through lower interest rates at that time. The crisis has reignited the debate on whether economic policy should be concerned with asset price booms (and busts) and increases in leverage. In this present paper we focus in the first section on the role of central banks until the 2008 financial crisis including the importance of price stability and both of traditional monetary policy strategy. and inflation targeting. In the second section we focus on the way how has the financial crisis has changed our thinking. In the third section we discuss the case of bank of algeria.

## **II) The role of central banks until 2008 financial crisis :**

### **II-1) the importance of price stability :**

Inflation and deflation are important economic phenomena that have negative consequences for the economy. Basically, inflation is defined as a general, or broadly-based, increase in the prices of goods and services over an extended period which consequently leads to a decline in the value of money and thus its purchasing power.

Deflation is often defined as the opposite of inflation, namely as a situation in which the overall price level falls over an extended period. When there is no inflation or deflation, we can say that there is price stability if, on average, prices neither increase nor decrease but stay stable over time. If, for instance, \$ 100 can buy the same basket of goods as it could, say, one and two years ago, then this can be called a situation of absolute price stability.

It was widely accepted (Mark A. Wynne, 2008, p1) that price stability should be a (if not the) primary objective of central banks. Even for central banks with dual mandates, such as the Federal Reserve, the achievement of price stability is often seen as a key prerequisite to the attainment of other mandated objectives such as maximum employment.

### **II-1-1) Definition of price stability :**

The Treaty on the Functioning of the European Union (**European central bank, 2011, p64**) clearly established the maintenance of price stability as the primary objective of the Eurosystem. In order to specify this objective more precisely, the Governing Council of the ECB announced the following quantitative definition in 1998 : **\*\*Price stability shall be defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%. Price stability is to be maintained over the medium term\*\***. Following a thorough evaluation of its monetary policy strategy in 2003, the Governing Council further clarified that, within the definition, it aims to maintain inflation rates “below, but close to, 2% over the medium term”.

The Federal Reserve is perhaps unique among the major central banks in that it does not have an explicit numerical price objective. Former Federal Reserve Chairman Alan Greenspan famously defined price stability in qualitative terms as a situation in which **\*\*...households and businesses need not factor expectations of changes in the average level of prices into their decisions.\*\*** (**Greenspan, 1994,p5**)

We have noted that over the past three decades there has been a growing tendency among central banks to explicitly announce numerical targets for their objective of price stability. This reflects the widely shared consensus that price stability should be the ultimate objective of monetary policy. The announcement of a quantitative target is believed to be a powerful instrument for anchoring inflation expectations, providing a device for co-ordinating price and wage setting behaviours and thus for facilitating the conduct of monetary policy by the central bank. At the same time, while the announcement of quantitative targets is common to many central banks, the specific features of the announced targets vary across the different countries. The various practices include the announcement of a quantitative definition of price stability and inflation targets in the form of point or ranges for admissible inflation outcomes. Moreover, central banks in some countries have chosen not to announce quantitative objectives but have defined price stability only in qualitative terms.

We can say that price stability is basically a low-inflation environment where people and firms can make financial decisions without worrying about where prices are headed. Moreover, this is all the central banks can achieve in the long run.

### **II-1-2) The Benefits of Price Stability :**

With the rise of inflation in the 1960s and 1970s, economists, and also the public and politicians, began to discuss the high costs of inflation because high inflation undermines the role of money as a medium of exchange by acting as a tax on cash holdings. On top of this, a high-inflation environment leads to overinvestment in the financial sector, which expands to help individuals and businesses escape some of the costs of inflation. Inflation leads to uncertainty about relative prices and the future price level, making it harder for firms and individuals to make appropriate decisions, thereby decreasing economic efficiency. The interaction of the tax system and inflation also increases distortions that adversely affect economic activity (**Feldstein, 1997**). Unanticipated inflation causes redistributions of wealth, and, to the extent that high inflation tends to be associated with volatile inflation, these distortions may boost the costs of borrowing. Finally, some households undoubtedly do not fully understand the

implications of a general trend in prices--that is, they may suffer from nominal illusion--making financial planning more difficult. The total effect of these distortions became more fully appreciated over the course of the 1970s, and the recognition of the high costs of inflation led to the view that low and stable inflation can increase the level of resources productively employed in the economy (**Mishkin, 2007**)

we can also name a several benefits of price stability as :

- Price stability prevents the costs of both inflation and deflation and helps to achieve high levels of economic welfare

- price stability makes it easier for people to identify changes in the prices of goods expressed

in terms of other goods (i.e. "relative prices"), since such changes are not concealed by fluctuations in the overall price level

- Price stability reduces inflation uncertainty and therefore helps to prevent the misallocation of resources by helping the market guide resources to where they can be used most productively, lasting price stability increases the efficiency of the economy and, therefore, the welfare of households

- If creditors can be sure that prices will remain stable in the future, they will not demand an extra return (a so-called "inflation risk premium") to compensate them for the inflation

risks associated with holding nominal assets over the longer term (**European central bank, 2009, pp31-32**). By reducing such risk premia, thereby bringing about lower nominal interest rates, price stability contributes to the efficiency with which the capital markets allocate resources and therefore increases the incentives to invest. This again fosters job

creation and, more generally, economic welfare

- Price stability reduces distortionary effects associated with the impact of inflationary or deflationary developments on taxation and social systems

- Preventing an arbitrary redistribution of wealth and income as a result of unexpected inflation or deflation

- A low but positive rate of expected inflation may help real wages adjust appropriately and may also reduce the risk that policy will be constrained by the zero lower bound on nominal interest rates. However, the observed negative correlation between inflation and productivity growth may imply that, relative to low inflation, price stability may raise productivity growth and, by raising real interest rates, make the zero bound a less pressing problem. (**Karen Johnson, David Small, and Ralph Tryon, 1999, pp34-35**)

- Price stability plays a dual role in modern central banking : It is both an end or a goal of policy, it is also a means by which policy can achieve its other objectives.

- inflation can be interpreted as a hidden tax on holding cash. In other words, people who hold

Cash (or deposits which are not remunerated at market rates) experience a decline in their real

money balances and thus in their real financial wealth when the price level rises, just as if part of their money had been taxed away. So, the higher the expected rate of inflation, the lower

the demand by households for cash holdings

- sudden revaluations of assets due to unexpected changes in inflation can undermine the soundness of a bank's balance sheet. For instance, if monetary policy maintains price stability, inflationary or deflationary shocks to the real value of nominal assets are avoided and financial stability is therefore also enhanced.

- All of these arguments suggest that a central bank that maintains price stability contributes substantially to the achievement of broader economic goals, such as higher standards of living, high and more stable levels of economic activity and employment. This conclusion is supported by economic evidence which, for a wide variety of countries, methodologies and periods, demonstrates that in the long run, economies with lower inflation appear on average to grow more rapidly in real terms. (David Ealtig, Ed Nosel, 2009)

## II-2) Traditional monetary policy strategy :

Monetary policy consists of the process of drafting, announcing and implementing the plan of actions taken by the central bank, currency board or other competent regulatory authority of a country that determines the scope and impact of the key drivers of the economic activity in that country. Activities which are integral to monetary policy consist of management of money supply and interest rates which are aimed at achieving macroeconomic objectives like controlling inflation, consumption, growth and liquidity. These are achieved by actions such as modifying the interest rate, buying or selling government bonds, regulating foreign exchange rates, and changing the amount of money banks are required to maintain as reserves.

Central banks use a number of tools to shape and implement monetary policy. The most popular option is to **tweak** the interest rates which has a cascading effect on the overall economy. For example, it may involve tweaking the specific interest rates that the central bank charges on overdrafts that the commercial banks take from the central bank. When commercial banks can borrow from central banks at lower rates, they have more liquidity and credit which they can make available to the economy by offering loans to their customers at cheaper rates. If such rates are high, the commercial banks will borrow less and limited money will be available in the economy. **Second** option used by monetary authorities is to change the reserve requirements, which refer to the funds that banks must retain as a proportion of the deposits made by their customers. Lowering this reserve requirement releases more capital for the banks using which they can increase the funds available for offering loans or to buy other profitable assets. Increasing this reserve requirement has a reverse effect that helps in containing the money supply. Authorities also use a **third** option called open market operations to expand or contract the money supply in the country's banking system. It involves buying and selling of government securities like bonds or foreign currencies in the open market. Buying of government debt increases the amount of cash in circulation and credits the reserve accounts of the banks. With banks having more money available in their reserves, they have the liberty as well as competitive pressure to decrease the lending rates which makes borrowing cheaper and helps stimulate the economy. Selling government debt pulls the money out of the market, and eventually leads to tightening of money supply.

**Additionally**, monetary authorities may draft policies and use methods to selectively target specific factors for specific purpose. For example, if the nation's currency (like US dollar) is getting weaker compared to a particular currency (like Chinese yuan), the monetary authority may tweak the federal funds rate to reduce the money supply and make dollar-denominated credit costlier. It also leads to higher returns getting generated from dollar-denominated assets. Both these factors result in higher demand for dollar which makes it stronger against other currencies. Such measures are important for the export-import business of a country, and may make or break the country's foreign trade.

The conduct of monetary policy can be represented schematically as follows:

Instruments → Indicators → Targets → Goals

Traditional monetary policy based on intermediate targets, which they help to guide policy as a step between the central bank actual tools and its goals. In general, intermediate targets change quickly to match new policy decisions and behave in a predictable manner relative to the Federal Reserve's stated economic goals. These targets often relate either to monetary growth or interest rates.

One of traditional monetary policy strategies is **monetary targeting**. In practice, this means that a central bank changes official interest rates in an attempt to either speed up or slow down monetary growth to a specific and pre-announced rate. This target rate is derived so as to be compatible with price stability. Such a strategy rests on two premises. First, a stable relationship between money and the price level (e.g. in the form of a money demand

equation) should exist over the medium term. If so, a path consistent with price stability can be derived for the money stock. Second, the money stock should be controllable by monetary policy. Taken together, these conditions imply that the central bank can use changes in official interest rates to keep the money stock on its prescribed path and thereby – because of the stability of the money-price relationship – indirectly maintain price stability. (**European central bank, 2011, p70**)

A second strategy is **exchange rate targeting**, which was pursued by several European countries prior to monetary union in the context of the exchange rate mechanism of the European Monetary System. For small open economies where the production and consumption of internationally traded goods are a large part of the economy, developments in the exchange rate can have a significant impact on the price level through their effect on the price of imports. An exchange rate targeting strategy was not considered appropriate for the euro area, as it is a large and relatively closed economy where the impact of exchange rate developments on the price level is more modest.

And the third strategy is **interest rate** as an intermediate target. Changes in interest rates affect the saving, spending and investment decisions of households and firms. As a consequence of changes in consumption and investment, the level of domestic demand for goods and services relative to domestic supply will change. Furthermore, changes in official interest rates may also affect the supply of credit (“credit channel”). Following an increase in interest rates, the risk that some borrowers cannot safely pay back their loans may increase to a level such that the bank will not grant a loan to these borrowers (the “bank lending channel” of the credit channel). As a consequence, such borrowers, households or firms are forced to

postpone their consumption or investment plans. Interest rate changes also affect firms' balance sheets. An increase in interest rates leads to a lower net worth of firms which means

a lower collateral value and thus a reduced ability to borrow (the “balance sheet channel” of the credit channel).

### **II-3) Inflation targeting as a new key to promote price stability :**

Monetary targeting experience in the different industrialized countries has shown many problems especially in the 1980s. According to this fact many central banks have adopted the inflation targeting strategy to achieve price stability

### **II-3-1) Definition of inflation targeting :**

Inflation targeting is a framework rather than a rigid set of rules for monetary policy, the hallmark of inflation targeting is the announcement by the government, the central bank, or some combination of the two that in the future the central bank will strive to hold inflation at or near some numerically specified level. (Ben Bernanke, Mishkin, 2007, p209)

Inflation targeting involves five key elements :

- public announcement of medium-term numerical targets for inflation ;
- an institutional commitment to price stability as the primary, long-run goal of monetary policy and a commitment to achieve the inflation goal ;
- an information inclusive strategy in which many variables and not just monetary aggregates are used in making decisions about monetary policy ;
- increased transparency of the monetary policy strategy through communication with the public and the markets about the plans and objectives of monetary policymakers; and
- increased accountability of the central bank for attaining its inflation objectives. (Mishkin, 2001, p9)

The approach of direct inflation targeting focuses on developments in inflation itself relative to a published inflation target. In practice, different forms of inflation targeting exist. They all have in common a published numerical inflation target and a predefined policy horizon. Central banks using this approach communicate monetary policy decisions in terms of a more or less mechanical reaction to deviations in a forecast for a particular measure of inflation from the inflation target at a particular horizon. The central bank's forecast for inflation is therefore placed at the centre of policy analysis and discussions, both within the central bank and in its presentations to the public.

The rationale for treating inflation as the primary goal of monetary policy is clearly strongest when medium- to long-term horizons are considered, as most economists agree that monetary policy can affect real quantities, such as output and employment, only in the short run. Of course, some economists of new classical or monetarist persuasions might claim that inflation should be the sole concern of monetary policy in the short run as well, arguing that using monetary policy for short-run stabilization of the real economy is undesirable, infeasible, or both. However, in practice no central bank has yet completely forsworn the use of monetary policy for short-run stabilization, and so the phraseology "primary" or "overriding" must be taken to refer to the longer term.

A major advantage of inflation targeting is that it combines elements of both 'rules' and 'discretion' in monetary policy, and is therefore often characterised as 'constrained discretion'. 'An inflation-targeting framework combines two distinct elements : (a) a precise numerical target for inflation in the medium term and (b) a response to economic shocks in the short term. The inflation target provides a rule-like framework on which the private sector can anchor its expectations about future inflation'. Within this rule-like framework, the central bank has discretion in reacting to shocks, for example in how quickly to bring inflation back to target. (Gill Hammond, 2011, p5).

Table A shows most countries have adopted inflation targeting :



Table A Individual countries' inflation targets

	Target set by	Target measure	Target 2011	Target type	Multiple targets?	Target horizon
Armenia	G and CB	H CPI	4% ±1.5 pp	P+T	–	Medium term
Australia	G and CB	H CPI	2½–3½	Range	–	Medium term
Brazil	G and CB	H CPI	4.5% ±2 pp	P+T	2011 and 2012	Yearly target
Canada	G and CB	H CPI	2% (mid-point of 1%–3%)	P+T	–	Six-eight quarters; current target extends to December 2011
Chile	CB	H CPI	3% ±1 pp	P+T	–	Around two years
Colombia	CB	H CPI	3½–4%	Range	–	Medium term
Czech Republic	CB	H CPI	2% ±1 pp	P+T	New target from 2010	Medium term, 12–18 months
Ghana	G and CB	H CPI	8.5% ±2 pp	P+T	End 2011 and 2012	18–24 months
Guatemala	CB	H CPI	5.0% ±1 pp	P+T	2011, 2012 and 2013	One, two and three years
Hungary	CB	H CPI	3%	Point	–	Medium term
Iceland	G and CB	H CPI	2.5%	Point	–	On average
Indonesia	G and CB	H CPI	5% ±1 pp	P+T	2011 and medium term	Medium term
Israel	G and CB	H CPI	1%–3%	Range	–	Over next twelve months, continuously
Mexico	CB	H CPI	3% ±1 pp	P+T	–	Medium term
New Zealand	G and CB	H CPI	1%–3%	Range	–	Medium term
Norway	G	H CPI	2.5%	Point	–	Medium term
Peru	CB	H CPI	2% ±1 pp	P+T	–	At all times
Philippines	G and CB	H CPI	4.0% ±1 pp	P+T	–	Medium term (from 2012–2014)
Poland	CB	H CPI	4.5% ±1 pp	P+T	–	Medium term
Romania	G and CB	H CPI	3% ±1 pp	P+T	Until 2013	Fixed medium-term target from 2013
Serbia	G and CB	H CPI	4.5% ±1.5 pp <sup>(a)</sup>	P+T	2011 and 2012	Medium term
South Africa	G	H CPI	5½–6½	Range	–	On a continuous basis
South Korea	CB (with G)	H CPI	3% ±1 pp	P+T	–	Three years
Sweden	CB	H CPI	2% ±1 pp	Point	–	Normally two years
Thailand	G and CB	Core CPI	0.5%–3%	Range	Target set annually	Eight quarters
Turkey	G and CB	H CPI	5.5% ±2 pp	P+T	2011, 2012 and 2013	Multiyear (Three years)
United Kingdom	G	H CPI	2%	Point	–	At all times

Note:  
 CB = Central bank  
 G = Government  
 H-CPI = Headline CPI  
 P+T = Point with tolerance band  
 pp = percentage point(s)

(a) Target for end 2011

### II-3-2) Benefits of inflation targeting :

Three main benefits, all interrelated, are associated with inflation targeting. First, inflation targeting successfully lowers inflation and makes it less volatile. Second, it reduces the real costs of disinflation. Third, it anchors long-run inflation expectations at, or very close to, the inflation target. The empirical literature has found stronger evidence of such benefits for emerging economies than for advanced economies. Thus, while this section briefly describes the benefits of inflation targeting for advanced and



emerging economies, it emphasizes the latter. Also, some additional benefits for the emerging economies are discussed. (GUILLERMO ORTIZ MARTÍNEZ, 2008, p92)

Inflation targeting has several advantages as a medium-term strategy for monetary policy. In contrast to an exchange rate peg (Mishkin, 2001, p2) :

- Inflation targeting enables monetary policy to focus on domestic considerations and to respond to shocks to the domestic economy. In contrast to monetary targeting, another possible monetary policy strategy, inflation targeting has the advantage that a stable relationship between money and inflation is not critical to its success
- Inflation targeting also has the key advantage that it is easily understood by the public and is thus highly transparent.
- Because an explicit numerical target for inflation increases the accountability of the central bank, inflation targeting has the potential to reduce the likelihood that the central bank will fall into the time-inconsistency trap. Moreover, since the source of time-inconsistency is often found in (covert or open) political pressures on the central bank to undertake overly expansionary monetary policy, inflation targeting has the advantage of focusing the political debate on what a central bank can do in the long-run -- i.e., control inflation -- rather than what it cannot do -- raise output growth, lower unemployment, increase external competitiveness-- through monetary policy
- There must exist a strong institutional commitment to make price stability the primary goal of the central bank. Inflation-targeting regimes also put great stress on the need to make monetary policy transparent and to maintain regular channels of communication with the public ; in fact, these features have been central to the strategy's success in industrialized countries.
- Another key feature of inflation-targeting regimes is that the transparency of policy associated with inflation targeting has tended to make the central bank highly accountable to the public. Sustained success in the conduct of monetary policy as measured against a pre-announced and well-defined inflation target can be instrumental in building public support for an independent central bank, even in the absence of a rigidly defined and legalistic standard of performance evaluation and punishment.

### **II-3-3) Challenges for inflation targeting :**

Inflation targeting has been in existence for almost 28 years. During that time, frameworks have evolved, as has economic theory and consensus views on the objectives of monetary policy. The introduction of inflation targeting in many countries coincided with the 'great stability', a period characterised by moderate consumer price inflation and a reduction in the volatility of inflation and output. With the intensification of the global economic and financial crisis in 2008, inflation targeters (and indeed all monetary policymakers) faced new and unprecedented challenges.

- While inflation targeting generally resulted in low and stable consumer prices in the 1990s and early part of the 2000s, asset prices were more volatile, and there were long-standing concerns about the build-up of money and credit in some economies. Against this background, a key issue facing central banks for some years has been whether and how they should take account of asset prices in monetary policy ;
- The increased volatility in inflation since 2007 has led to some debate on the best target measure of inflation. There have been calls for the targets to explicitly include asset prices and particularly house prices. Others have argued in favour of targeting 'domestically generated inflation', in order to abstract from the headwinds and tailwinds of imported inflation. The fear of deflation led some to propose increasing the level of the

target in order to avoid the zero bound. Others have suggested that, faced with below target inflation in the

Short run, the inflation target should be specified as an average over several years in order to anchor inflation expectations.

- The idea that inflation targeting and price stability is the key to achieve the global economic stability was not always true cause the 2008 financial crisis has shown huge damage to the world economy and the high costs of recovery, although has shown the importance of financial stability and asset price movements in economy.

#### **II-4) The basic thinking about monetary policy before the 2008 financial Crisis :**

Over the last six decades, monetary economists have developed a set of basic scientific principles, derived from theory and empirical evidence that now guide thinking at almost all central banks and explain much of the success in the conduct of monetary policy (Mishkin, 2007, p2) ; economists resume that six decades of monetary policy in some main principles and they are :

- Inflation is always and everywhere a monetary phenomenon, with almost all economists eventually coming to agree with the Friedman's famous adage, **\*\*Inflation is always and everywhere a monetary phenomenon\*\* (Friedman 1963, p. 17)**

- Price stability has important benefits as we see above

- There is no long-run tradeoff between unemployment and inflation, the long-run Phillips curve would be vertical, and attempts to lower unemployment below the natural rate would result only in higher inflation. The Friedman-Phelps natural rate hypothesis was immediately influential and fairly quickly began to be incorporated in formal econometric models.

- Expectations play a crucial role in the determination of inflation and in the transmission of monetary policy to the macroeconomy;

- Real interest rates need to rise with higher inflation, i.e., the Taylor Principle;

- Monetary policy is subject to the time inconsistency problem;

- Central bank independence helps improve the efficiency of monetary policy ;

- Commitment to a strong nominal anchor is central to producing good monetary

Policy outcomes, the inability of monetary policy to boost employment in the long run, the importance of expectations, the benefits of price stability, and the time-inconsistency problem are the reasons that commitment to a nominal anchor--i.e., stabilization of a nominal variable such as the inflation rate, the money supply, or an exchange rate--is crucial to successful monetary policy outcomes;

- Financial frictions play an important role in business cycles, for example asymmetric information could impede the efficient functioning of the financial system suggests an important link between business cycle fluctuations and financial frictions. When shocks to the financial system increase information asymmetry so that financial frictions increased dramatically, financial instability results, and the financial system is no longer able to channel funds to those with productive investment opportunities, with the result that the economy can experience a severe economic downturn (Mishkin 1997, pp55-96)

#### **III) What we have learned from the 2008 financial crisis :**

##### **III-1) Introduction to the financial crisis :**

The 2008 financial crisis was the largest and most severe financial event since the Great Depression and reshaped the world of finance and investment banking. The

effects are still being felt today, yet many people do not actually understand the causes or what took place. So this is a brief summary of the causes and events that redefined the industry and the world in 2007 and 2008.

The underlying cause of the financial crisis was a combination of debt and mortgage-backed assets. Since the end of WW2, house prices in the United States have been steadily rising. There have been a few fluctuations but the trend has been upward. In the late 1990s and early 2000s, there was an explosion in the issuance of bonds backed by mortgages, also known as mortgage-backed securities (MBSs). The reason for this was the use of securitization. In brief, securitization is the pooling of debt and then issuing assets based upon that debt. Investment banks were buying mortgages from mortgage issuers, repackaging them and then selling off specific tranches of the debt to investors. As time went on, there were fewer and fewer new mortgages to securitize so the structured products groups at banks started repackaging MBS's (i.e. taking the unsellable tranches of lots of MBS's, repackaging them and then selling the new product - called collateralized debt obligations or CDOs). In the mid-2000s there were hundreds of billions of dollars worth of mortgages given to individuals with poor credit ratings on adjustable rates. These mortgages typically required low-interest payments (sub 8%) for the first 2 years, then increased to 15% per year for the next 28. There was no way that these sub-prime borrowers would be able to afford the higher repayment rates. As house prices stopped rising and started to fall, homeowners could no longer refinance and remortgage their houses for cash and started to default. **(see [alangreenspan,2010](#)) and (see [Mishkin ,2009](#))**

The peak years for issuing these mortgages was in 2005/2006, so by 2007/2008 the default rates on the subprime mortgages suddenly spiked. This meant that some of the bottom tranches on the CDOs and MBSs were being wiped out. Suddenly, investors started to lose confidence in the top AAA tranches and in the banks which held large amounts of them or had exposure to such assets. It became apparent in August 2007 that the financial market could not solve the subprime crisis on its own and the problems spread beyond the United State's borders. The interbank market froze completely, largely due to prevailing fear of the unknown amidst banks. Northern Rock, a British bank, had to approach the Bank of England for emergency funding due to a liquidity problem. By that time, central banks and governments around the world had started coming together to prevent further financial catastrophe.

9 August 2007. 15 September 2008. 2 April 2009. 9 May 2010. 5 August 2011. From sub-prime to downgrade, the five stages of the most serious crisis to hit the global economy since the Great Depression can be found in those dates. It took a year for the financial crisis to come to a head but it did so on 15 September 2008 when the US government allowed the investment bank Lehman Brothers to go bankrupt. Up to that point, it had been assumed that governments would always step in to bail out any bank that got into serious trouble. When Lehman Brothers went down, the notion that all banks were "too big to fail" no longer held true, with the result that every bank was deemed to be risky. Within a month, the threat of a domino effect through the global financial system forced western governments to inject vast sums of capital into their banks to prevent them collapsing. The negative effect of the financial crisis was so big for exemple On September 29, 2008, the stock market crashed. The Dow Jones Industrial Average fell 777.68 points in intra-day trading. Until 2018, it was the largest point drop in history. It plummeted because Congress rejected the bank bailout bill. Although a stock market crash can cause a recession, in this case it had already begun. But the crash of 2008 made a bad situation, and even the crisis has really harmed

the governments cause they spent billions of dollars, and the real economy including high rates of unemployment firms and banks bankruptcy.

The financial crisis of 2007-08 has taught us that the confidence of the financial market, once shattered, can't be quickly restored. In an interconnected world, a seeming liquidity crisis can very quickly turn into a solvency crisis for financial institutions, a balance of payment crisis for sovereign countries and a full-blown crisis of confidence for the entire world. (See **Stijn Claessens and M. Ayhan Kose, 2013**)

### **III-2) Stable Inflation May Be Necessary, but Is Not Sufficient :**

Core inflation was stable in most advanced economies until the crisis started. Some have argued in retrospect that core inflation was not the right measure of inflation, and that the increase in oil or housing prices should have been taken into account. This, however, goes

against the conclusions from theoretical research (which suggests stabilization of an index

corresponding to "sticky prices," an index quite close to that used to measure core inflation)

and is more a reflection of the hope that it may be sufficient to focus on and stabilize a single index, so long as it is the "right" one. This is unlikely to be true : no single index will do the trick. (**Olivier Blanchard, Giovanni Dell'Ariccia, 2010, p7**)

Inflation, even core inflation, may be stable, and the output gap may nevertheless vary, leading to an obvious trade-off between the two. Or, as in the case of the precrisis 2000s, both inflation and the output gap may be stable, but the behavior of some asset prices and credit aggregates, or the composition of output, may be undesirable (for example, too high a level of housing investment, too high a level of consumption, or too large a current account deficit) and potentially trigger major macroeconomic adjustments later on.

### **III-3) Financial stability a major goal to achieve economic stability :**

Although central bankers focus on price stability - indeed, they are often accused of

having a fixation on price stability - they are and also should be concerned about other aspects of the macroeconomy, especially the state of the business cycle. An important fact about the business cycle is that the worst economic contractions are typically associated with severe bouts of financial instability

#### **III-3-1) Definition of financial stability :**

A generally accepted definition has not yet been provided. Besides the fact that most authors find it more convenient to define financial *instability* instead of its positive counterpart, a clear distinction exists between definitions, which are based on a system approach and those, which are related to the volatility of directly observable financial variables. An example of the former would be a definition broadly following Mishkin which can be adapted to define financial stability as the prevalence of a financial system, which is able to ensure in a lasting way, and without major disruptions, an efficient allocation of savings to investment opportunities. How close an economy is to the break point, exceeding which would impair the efficient allocation of savings, could

be labelled the degree of financial fragility. (Otmar Issing,2003, p2), The difficulties related to the definition of financial stability reveal more than problems with semantics. The central bank's role in contributing to financial stability is at stake. The definition to some degree predetermines the role subscribed to monetary policy in contributing to the goal of financial stability and anticipates the answer to the trade-off question.

In the last twenty years, there has been a growing literature that explains the institutional

structure of financial markets by recognizing that this structure has evolved to reduce the asymmetric information problems of adverse selection and moral hazard. However, even if the financial system is working well at a given point in time to minimize these asymmetric information problems, this may not continue in the future. Focusing on information problems leads to the following definition of financial instability. *\*\*Financial instability occurs when shocks to the financial system interfere with information flows so that the financial system can no longer do its job of channeling funds to those with productive investment opportunities\*\**. (Mishkin2000,p3). Indeed, if the financial instability is severe enough, it can lead to almost a complete breakdown in the functioning of financial markets, a situation that is then classified as a financial crisis.

Broadly, financial stability can be thought of in terms of the financial system's ability : (a) to facilitate both an efficient allocation of economic resources—both spatially and

especially intertemporally—and the effectiveness of other economic processes (such as wealth accumulation, economic growth, and ultimately social prosperity); (b) to assess, price,

allocate, and manage financial risks; and (c) to maintain its ability to perform these key functions—even when affected by external shocks or by a build up of imbalances—primarily

through self-corrective mechanisms. (Garry J. Schinasi,2004,pp 6-9)

Financial stability can be defined as “a condition in which the financial system is not unstable”. It can also mean a condition in which the three components of the financial system -- financial institutions, financial markets and financial infrastructure -- are stable.

- Stability of financial institutions' refers to a condition in which individual financial institutions are sound enough to carry out their financial intermediation function adequately, without assistance from external institutions including the government

- Stability of financial markets' means a condition in which there is no major disruption of market transactions, with no significant deviation of financial asset prices from economic fundamentals, thereby enabling economic agents to raise and operate funds with confidence.

- Stability of financial infrastructure' refers to a condition in which the financial system is well structured to ensure smooth operation of market discipline, and both the financial safety net and the payment and settlement system are running effectively.

Financial stability can be more broadly defined as “a condition in which the financial system can facilitate real economic activities smoothly and is capable of unravelling financial imbalances arising from shocks.”

### III-3-2)The importance of financial stability :

Financial stability is an essential requirement not only for price stability, the policy goal of the central bank, but also for healthy development of the economy. This is because financial instability entails heavy costs for an economy, since the volatility of price variables in the financial markets increases and financial institutions or corporations may go bankrupt. In addition, economic development can be limited at such a time, since economic agents find it difficult to make rational decisions and the efficiency of resource allocation is reduced. Since the 1980s, many countries around the world have achieved the positive effects of rapid financial industry growth owing to the progress of financial liberalization. At the same time, however, they have also experienced periods of dramatic slowdown in economic growth, due to heavy economic expenses arising from financial instability or financial crises.

Against this backdrop, many countries have started to place great emphasis on financial stability when implementing their policies especially after the big damage of 2008 financial crisis. Attention paid to financial stability is growing, as new factors with the potential to generate financial instability, including the strengthening of financial sector links among countries and the rampant development of complex financial instruments, have recently emerged.

#### **III-4) Monetary policy and asset price bubbles :**

Monetary policy should take into account macro-financial stability, not just price stability. The failures of the benign neglect approach underscore the need for monetary policy decisions to be based on a framework that incorporates the longer-term implications of asset-price booms for inflation and economic growth. Containing inflation remains a primary objective of monetary policy, but policy makers must take more account of asset price movements, credit booms, leverage, and the build up of systemic risk. To the extent that the build up of systemic risk can portend a sharp economic downturn and to the extent that regulation cannot fully prevent such a buildup, monetary policy may have to play a more reactive role in containing booms. In other words, under certain conditions, there may be long term benefits for growth and inflation from “leaning against the wind” during times of asset price exuberance. In that context, monetary policy tightening may be advisable even when near-term inflation appears under control. (Blanchard Olivier, 2009, p11)

Another area of continuing debate regarding the monetary policy strategy concerns the treatment of suspected asset price misalignments. In light of the large costs of the recent financial crisis, the origins of which could be related to such a misalignment, a re-assessment of the role of central banks in promoting financial stability is certainly in order. Broadly speaking, there are two main strategies for dealing with financial imbalances and suspected asset price bubbles (Athanasios Orphanides, 2010, pp 20-22). The conventional, non-activist strategy advocates that a central bank should focus its attention on the total risks to the outlook of inflation and real economic activity in evaluating policy alternatives. Interest rate policy adjustments should only react to suspected asset price misalignments to the extent that changes in asset prices might

affect prospective output and inflation prospects over the pertinent horizon. Thus, if a suspected bubble translates into ebullience in consumption and investment decisions, a policy tightening responding to the demand imbalance would be in order. And if a suspected bubble bursts, thus dampening aggregate demand, a monetary loosening would reduce the possible damage. The so-called "mop-up" approach to treating financial bubbles. The alternative, more activist approach to responding to suspected asset price misalignments suggests that monetary policy should "lean against the wind" of emerging financial imbalances over and above the implicit policy reaction suggested by the effect of the suspected asset price developments on the evaluation of the risks to the outlook for inflation and real economic activity. This approach calls for "extra action" to be taken on account of asset price movements. The suggested rationale is that tempering emerging financial imbalances while they are developing can reduce the probability of costly financial instability in the future. (See also **alan greenspan, 2010**)

### **III-5) Quantitative easing does it make monetary policy effective during recession periods ?**

In recent years, many central banks have undertaken unconventional monetary policy to stimulate their economies, mainly through long-duration large-scale asset purchase programs (LSAPs). A common feature of these programs is their significant size; the Federal Reserve, for example, has increased the size of its balance sheet more than fivefold (\$3.6 trillions) since 2008 (**Marco Di Maggio, Amir Kermani, 2016, p2**)

Quantitative easing is an unconventional monetary policy in which a central bank purchases government securities or other securities from the market in order to lower interest rates and increase the money supply. Quantitative easing increases the money supply by flooding financial institutions with capital in an effort to promote increased lending and liquidity. When short-term interest rates are at or approaching zero, and when the printing of new banknotes isn't an option, quantitative easing can be considered.

To execute quantitative easing, central banks increase the supply of money by buying or selling government bonds and other securities. Increasing the supply of money is similar to increasing supply of any other asset – it lowers the cost of money. A lower cost of money means interest rates are lower and banks can lend with easier terms. This strategy is used when interest rates approach zero, at which point central banks have fewer tools to influence economic growth. If quantitative easing itself loses effectiveness, fiscal policy (government spending) may be used to further expand the money supply and stimulate growth. Note that quantitative easing is often referred to as "QE." for more details see (**Kristoffer Rakneberg, Jørgen Stadheim Teigen, 2015, PP 4-19**) and (**Brett W. Fawley and Christopher**

**J. Neely, 2013, pp52-70**) and (**Rodrigo fernandez and Pablo Bortz, 2018, pp9-18**)

Most economists believe that the Fed's QE program helped rescue the U.S. (and world) economy following the 2008 financial crisis especially the positive affect on labour market and output and productivity. However, the magnitude of its role in the subsequent recovery is more debated and impossible to quantify. Other central banks have attempted to deploy QE to fight recession and deflation with similarly cloudy results.

Following the Asian Financial Crisis of 1997, Japan fell into an economic recession. Beginning in 2000, the Bank of Japan (BoJ) began an aggressive QE program to curb deflation and to stimulate the economy. The Bank of Japan moved from buying Japanese government bonds to buying private debt and stocks. The QE campaign failed



to meet its goals. Ironically, the BoJ governors had concluded that "QE was not effective" just months before launching their program in 2000. Between 1995 and 2007, the Japanese economy fell from \$5.33 trillions to \$4.36 trillion in nominal terms, despite the BoJ's efforts.

The Swiss National Bank (SNB) also employed a QE strategy following the 2008 financial crisis. Eventually, the SNB owned assets nearly equal to annual economic output for the entire country, which made the SNB's version of QE the largest in the world as a ratio to GDP. Although economic growth has been positive during the subsequent recovery, how much the SNB's QE program contributed to that recovery is uncertain. For example, although it was the largest QE program in the world as a ratio to GDP and interest rates were pushed below 0%, the SNB was still unable to achieve its inflation targets.

On the other hand, There are some negatives of Quantitative Easing (QE) which will only be felt in future time. Quantitative easing holds true to some countries and to others is ineffective :

- Increase of money supply too quickly will cause inflation. The flood of cash in the market may encourage reckless financial behavior and will increase prices. This occurs when an increase in money supply does not correlate with the volume of goods available for sale
- Banks may not opt to lend money to their borrowers, but instead, they may choose to invest in emerging markets, commodity-based economies, and non-local opportunities ; therefore, making a capital flight, which obviously does not stimulate the local economy.
- Depreciation of local currency would not be beneficial for the import industry. It will create higher costs, both for the importers and local consumers, as they will need to pay more local currency in exchange for the seller's foreign currency that is being used.
- Mostly benefits those in the higher spectrum of society, thus increasing wealth or income inequality. The policy has been boosting wealth for high-earning entities or individuals, but it has not been providing needed help to the lower-income bracket, whose comprised of the majority populace.

### **III-6) Role of macroprudential and regulatory policies to achieve financial stability :**

The crisis has confirmed that a central bank with a price stability objective and insufficient regulatory powers cannot ensure broader financial stability in the economy. The question is broader than that regarding the treatment of asset price misalignments and extends to other suspected imbalances in the economy such as overextended households and businesses, high levels of private and public debt, persistent current account deficits, highly leveraged positions in finance, etc. The crisis has revealed a general underappreciation of systemic risks in micro-prudential supervision, and highlighted the need for a more system-wide macro-prudential approach towards supervisory oversight to ensure overall stability in the financial system. By definition, micro-prudential supervisors focus on individual institutions and cannot effectively assess the broader macroeconomic risks that pose a threat to the financial system as a whole. This is a task best suited to central banks. (Athanasios Orphanides, 2010, p23)

Given the complexity of financial markets, asset prices should be considered by central banks on a more discretionary and judgmental basis. Monetary policy is too

blunt an instrument to control an asset price bubble. There may also be occasions in which the interests of price stability (reducing output gaps and leading inflation towards the target rate) and the interests of financial stability (controlling asset price bubbles and other distortions in the financial system) may be at odds.

The instrument best suited to maintain financial stability is macroprudential regulation. It may be a straightforward instrument to wield when the central bank is also the main regulatory and supervisory authority for the financial system. But for the many instances in which that is not the case, macroprudential policy will have to be jointly implemented by the central bank and several other agencies. It will be crucial, then, to have explicit collaboration between all the relevant regulatory authorities and the central bank. Special attention must be paid to the institutional framework to ensure that they will have the incentives to do so.

Macroprudential regulation should have a dual purpose : reduce the incentives for financial institutions to increase leverage during a boom, and make the financial system more robust during a bust. It includes the use of procyclical capital requirements and loan provisions to moderate lending during a credit boom, placing larger requirements on systemic institutions to account for the incentive to become “too big to fail”, and increasing the risk weights attached to riskier lending during a boom. **(BIS papers N51,2010, p29)**

### **III-7)The mix between monetary and regulatory policies :**

Since the 2007-8 crisis, we have seen a plethora of proposals to change how we regulate the financial sector. Yet, we have seen surprisingly little change in beliefs about how we should run monetary policy. For example, senior figures at the US Federal Reserve have continued to resist changes in how monetary policy should respond to asset price misalignments. In the UK, the incoming Chancellor has said he would create a new Financial Policy Committee (FPC) but also appears to have said that there was nothing the Bank could have done with interest rates to reduce the magnitude of the crisis.

The recent crisis showed that price stability does not guarantee macroeconomic stability. In several countries, dangerous financial imbalances developed under low inflation and small output gaps. To ensure macroeconomic stability, policy has to include financial stability as an additional objective. But a new objective demands new tools : macroprudential tools that can target specific sources of financial imbalances (something monetary policy is not well suited to do). Effective macroprudential policies (which include a range of constraints on leverage and the composition of balance sheets) could then contain risks ex ante and help build buffers to absorb shocks ex post. Ideally, with macroprudential policies perfectly targeting the sources of threats to financial stability, monetary policy should remain primarily focused on price and output stability. That said, even in this ideal world, the conduct of both policies will need to take into account the effects they have on each other’s main objectives.

Financial instability has undermined macroeconomic stability, despite low and stable inflation. This means that additional tools will be helpful in complementing monetary policy in countercyclical management. Macroprudential tools emerge as candidates. Because there is no single tool that influences all financial behavior consistently, a variety of tools is needed, from procyclical capital adequacy requirements to loan-to-value caps (LTV’s), taxes/levies, and constraints on the composition of assets and liabilities of financial institutions. Several of these tools have a long history, but were

mostly used for microprudential or monetary objectives (**International Monetary Fund papers,2013, p3**)

Monetary policy alone cannot achieve financial stability because the causes of financial instability are not always related to the degree of liquidity in the system (which monetary policy can fix). While monetary policy can affect risk-taking incentives and financial market conditions, mitigating the effects of financial distortions or pricking an asset price bubble can require large changes in the policy rate (**Bean, charles and mathias, 2010**). Moreover, when financial distortions are more acute in some sectors of the economy than in others, as is often the case, monetary policy is too blunt a tool. In these circumstances, price and output stability conflict with financial stability and having additional tools for the financial stability goal can increase welfare. Relying too much on monetary policy to deal with financial stability ex ante can also create potential confusion of the public with regard to its objectives. In sum, keeping monetary policy focused on its primary objective can create stronger commitment and reduce public fears the central bank will be co-opted for other purposes.

Finally Monetary policy and macroprudential policy are, at a closer look, quite different policies, with different suitable goals, different suitable instruments, and in many countries different responsible authorities. There is nevertheless some interaction between the policies. Monetary policy has a strong and systematic effect on price stability and real stability but a small, indirect, and unsystematic effect on financial stability. Macroprudential policy has a strong and systematic effect on financial stability but a small, indirect, and unsystematic effect on inflation and resource utilization. Given this, the conditions are fulfilled for the policies being successfully conducted separately, as in a Nash equilibrium, with each policy focused on achieving its goals while taking into account the conduct of the other policy. The interaction between monetary policy and macroprudential policy is arguably weaker and less systematic than the interaction between monetary policy and fiscal policy ; this makes the argument for the separation of monetary policy and macroprudential policy stronger than that for the separation of monetary policy and fiscal policy.(**Lars E.O. Svensson ,2018, pp23-24**).Furthermore, conducting monetary policy and macroprudential policy separately has the considerable advantage that each policy, with its separate goals and instruments, becomes more distinct, more transparent, and easier to evaluate. This in turn makes it easier to hold the decision-making body for each policy accountable for achieving its goals. This creates stronger incentives for each policy achieves to achieve its goals and thereby makes it more likely that the goals are achieved. As is the case for monetary policy and fiscal policy, transparency and accountability provide strong additional arguments for the separation of monetary policy and macroprudential policy.

#### **IV)The case of algerian central bank :**

The beginig of real framework of the Bank of Algeria operations has been set by law no 90-10 of April 14, 1990 relating to money and credit. After more than a decade of implementation of monetary reforms, the mandate of the Bank of Algeria has been adjusted and supplemented by Order no 03-11 of August 26, 2003 and by Order no 10-04 of August 26, 2010, of which Article 35 stipulates that "the Bank of Algeria is commissioned to ensure price stability as an objective of monetary policy, to create and maintain, in the areas of money, credit and foreign exchange, the most favourable conditions for sustained development of the economy, while ensuring monetary and financial stability"

#### **IV-1) Monetary policy :**

The objectives of monetary policy and the instruments implemented in this area are fixed by the Council of Money and Credit which is the monetary authority, while implementation of monetary policy on the basis of a relevant regulatory framework is entrusted to the Bank of Algeria, which must ensure both the internal and external stability of the national currency as the ultimate objective and the stability of the banking system. In fact, inflation targeting inherent in the new framework of monetary policy introduced in 2010 becomes crucial with respect to money and credit quantitative targets which may be interpreted as intermediate goals. Inflation targeting on a medium-term horizon requires appropriate tools for the deepening of the analytical framework that shall support the formulation of monetary policy and its implementation in a flexible manner by the Bank of Algeria. (H. E. Dr. Shoab Al-Hassar, AMFBIS working party, 2015, pp32-35)

In the conduct of monetary policy, the interventions of the Bank of Algeria in the money market and outside of the money market are set out in the regulatory framework updated in 2009 (Regulation n° 09-02 of May 26, 2009 relating to operations, instruments and procedures relating to monetary policy), in order to take into account international standards regarding central banks interventions. To achieve monetary policy objectives set by the Council of Money and Credit at the beginning of each financial year, the Bank of Algeria has at its disposal monetary policy instruments to use in the money market and outside of money market, which include :

- Open market transactions
- Discount of credit transactions
- Reserve requirements
- Standing Facilities
- The Discount of Government Securities and Rediscount of Credit Transactions
- Reserve Requirements

We have to say that since October 2017 the bank of Algeria has adopted a new strategy which is unconventional monetary policy (printing money for the next five years) and we have noted that the central bank be less independent than earlier time.

#### **IV-2) Regulation and financial stability :**

Within the framework of strengthening financial stability, Bank of Algeria completes in 2014 the updating of the infrastructure of payment systems implemented in 2006 and consistent with international standards (Real-Time Gross Settlement system, urgent payments and clearing system). (Mohammed Laksaci, 2014, p14)

The new, more forward looking approach of supervision and based on risks, shall put more emphasis on the process of credit allocation by banks, in order to stem the resurgence of concentration of credit risks. Anchored on a strengthened financial stability framework and high financial soundness indicators for banks and financial institutions, deepening of the reform of the banking sector as from 2014 shall allow the implementation of more efficient allocation of national 15 saving resources toward productive investment and financing of growth outside of the hydrocarbon sector, namely job creating inclusive growth, less dependent on budgetary sphere and driven by the development of SMEs. The continued improvement of the financing for the development of SME must be further supported, especially through better access to credit and banking services.

Given the dominance of banks in the financial system in Algeria and their potentially important part in the development of financial intermediation, banks are thus expected to play a critical role in the financing scheme of the economy. A more efficient allocation of financial savings resources towards productive investment, anchored on opportunity cost of resources shall contribute to preserve the benefits of financial stability over the medium term. For this purpose, and in order to strengthen its ability to assess the risk situation of the banking sector, Bank of Algeria shall rely, as from the beginning of 2015, on the effective use of the new model of stress testing as well as on the generalization of the rating system of local banks.

### **V)conclusion :**

At last we can give some important key conclusions as :

- Monetary policy mistakes played a key role in the run-up to this crisis, and the arguments made in defence of the policy actually followed are unconvincing
- Monetary policy needs to work —hand-in-hand with time varying capital requirements (TVCR) in responding to asset prices misalignments. Moreover, monetary policy is likely to be more effective than TVCR and less likely to result in policy mistakes
- The regulators made many mistakes before and during the crisis. We need to be acutely aware of this before giving them even more power, and we need to ensure that lessons are learnt.
- Financial innovations, including some of the improvements in recent years, have played a central and important role in economic growth. While the current feeling of revulsion towards the financial sector is not uncommon after a crisis, we must be careful that we do not harm growth.
- Monetary policy and macroprudential policy are, at a closer look, quite different policies, with different suitable goals, different suitable instruments, and in many countries different responsible authorities. There is nevertheless some interaction between the policies
- . Monetary policy has a strong and systematic effect on price stability and real stability but a small, indirect, and unsystematic effect on financial stability.
- Macroprudential policy has a strong and systematic effect on financial stability but a small, indirect, and unsystematic effect on inflation and resource utilization. Given this, the conditions are fulfilled for the policies being successfully conducted separately
- The interaction between monetary policy and macroprudential policy is arguably weaker and less systematic than the interaction between monetary policy and fiscal policy.

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