

FINANCIAL STABILITY AND CENTRAL BANKS: CAN CENTRAL BANKS SECURE FINANCIAL STABILITY?

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Abstract

The financial system around the world has been growing very fast in terms of the number of agents and instruments since the 1980s, and this growth has made the financial system very complex. This new complex financial environment has forced central banks to find new ultimate targets. In the context of ultimate targets, there have been two important targets since the 1990s: price stability and financial stability. In this regard, there are two viewpoints related to central banks' responsibilities. According to one of these views, central banks should accept both price stability and financial stability as their own responsibilities. The other view argues that a central bank has to accept only price stability as its primary objective, and a new institution must be established in order to secure the financial stability objective.

Keywords: Central Banking, Monetary Policies, Price Stability, Financial Stability.

JEL Classification: E42, E52, E58.

FINANSAL İSTİKRAR VE MERKEZ BANKALARI: MERKEZ BANKALARI FINANSAL İSTİKRARI SAĞLAYABİLİRLER MI?

Özet

1980'lerden beri tüm dünyada finansal sistem hem finansal araçların hem de finansal araçların sayısı bağlamında çok hızlı bir şekilde büyümektedir. Ve bu hızlı büyüme finansal sistemi çok karmaşık bir hale getirmektedir. Bu karmaşık finansal sistem merkez bankalarını yeni nihai hedefler bulmaları için zorlamaktadır. Nihai hedefler bağlamında, 1990'lardan günümüze kadar fiyat istikrarı ve finansal istikrar olmak üzere iki temel hedef ve bu hedeflere ilişkin iki temel yaklaşım söz konusudur. Bu yaklaşımlardan birincisine göre, merkez bankaları hem fiyat istikrarını hem de fi-

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nansal istikrarı sağlamayı kendi sorumluluğu olarak kabul etmelidirler. Diğer görüşe göre ise, merkez bankaları sadece fiyat istikrarını kendileri için birincil hedef olarak kabul etmeli, finansal istikrarın sağlaması için ise yeni bir kurum oluşturulmalıdır.

Anahtar Kelimeler: *Merkez Bankacılığı, Para Politikaları, Fiyat İstikrarı, Finansal İstikrar.*

JEL Sınıflaması: *E42, E52, E58.*

1. Introduction

Central banking and monetary policies have been evolving since the first central banks. Developments in the real and especially financial markets have forced central banks to change monetary policy procedures. In this sense, the ultimate targets of monetary policies have changed as well. Central banks have theoretically some ultimate targets such as stimulating the economic growth, matching the balance of payments, meeting the governments' financing needs, and securing financial and price stability. However, after the 1980s, following some developments that occurred in the real economies, price stability was accepted as primary objective by many central banks. The underlying reason for this approval is such a belief that if there is price stability in the economy, other objectives could easily be reached.

On the other hand, since the 1990s, developments in the national and international financial markets caused central banks and economists to focus on the relationship between financial stability and central banking. Some crises that experienced throughout the 1990s such as South-East Asia Currency Crisis, the Russian Financial Crisis, and the ERM Crisis in England, the dotcom crisis in the US, and finally the recent 2007-2008 financial crisis triggered detailed investigations on financial stability.

In this regard, there are two separate views related to this relationship. Some economists and central bankers have asserted that central banks are able to secure both price and financial stability by using monetary policies that extended by macro-prudential policies. Hence a central bank can be charged with the responsibility of financial stability. On the contrary, some other economists and central bankers claimed that because monetary policy tools are not sufficient enough to secure financial stability, it is not rational to give the financial stability responsibility to central banks. Therefore it is more appropriate to establish a new institution in order to secure financial stability.

The main purpose of this study is to discuss the relationships between central banking, monetary policies and financial stability. To this end, first, the relationships between central banks and price stability will briefly be given. And then, topics that related to financial stability and central banking will be discussed detailed.

2. Central Banking and Price Stability Objective

Maintaining price and financial stability, meeting the government's financing needs, achieving high growth rates, and increasing the rate of employment are ulti-

mate targets of central banks. However, there are some contradictions among these objectives¹. For example, while it is needed to cut the interest rate to achieve a higher growth rate, the low interest rate may lead to unstable prices and may affect negatively the balance of payments by stimulating capital outflows. On the other hand, because of the fact that many governments desire to reimburse their own spending by using cheap sources of finance, they may want to use central banks sources by putting pressure on central banks at the expense of abandoning price stability². Such contradictions among ultimate targets gave rise to the idea that an explicit or clear objective should be given to central banks in the 1980s. This clear objective was the price stability; after it was realized that there was not a long-term relationship between inflation and unemployment, many central bankers accepted price stability as a unique objective of monetary policies. After the 1990s, many governments guaranteed legally that price stability is the primary objective for central banks³.

There are some reasons why price stability is accepted as a primary objective. It is believed that if there is price stability in the economy, other macroeconomic objectives such as financial stability and full employment are provided by themselves. Furthermore, the risk premium becomes low, and the transformation of savings to investment becomes easier in an economy in which the price stability has been maintained permanently. Because monitoring of the relative price movements becomes easier, the resource allocation will be more effective. The costs of real interest rates stemming from higher prices will be lower and this situation will contribute positively to capital accumulation⁴. It is possible to increase the number of views related to the benefits of price stability. However, the common point of all views is that the price stability ensures general economic stability.

It is argued that there are strong relationships between price stability and financial stability. For example, inflation may trigger financial instability if prices are high and unstable. Unexpected increases and decreases in prices can lead to unexpected decreases and increases in the real values of assets and debts as well. For example, an unexpected sharp decrease in inflation rates increased the real values of debts and can sweep firms to the threshold of bankruptcy⁵. Similarly, in some economies with high and volatile prices, because capital inflows and outflows are not stable, financial instability will be inevitable. Moreover, if there is a high inflation, the acceptability of the domestic currency will decrease. Hence, this situation both threatens the financial

¹ Alex Cukierman “Central Bank Independence, and Monetary Policymaking Institutions – Past, Present and Future”, **European Journal of Political Economy**, Vol. 24, No.4, 2008, p. 722.

² Forest Capie, “The Evolution of General Banking”, **World Bank, Financial Sector Development Department, Policy Research Working Paper**, No. 1534, 1995, p.6.

³ Gaydon Paulin, “The Changing Face of Central Banking in the 1990s”, **Bank of Canada Review**, Summer 2000, p. 4.

⁴ Emmanuel Apel, **Central Banking Systems Compared – The ECB, The pre-Euro Bundesbank and the Federal Reserve System**, Routledge, 2005, pp. 29-30.

⁵ Claudio Borio and Philip Lowe, “Asset Prices, Financial and Monetary Stability: Exploring the Nexus”, **BIS Working Papers**, No.114, 2002, p.18.

stability and decrease efficiency of monetary policies. On the other hand, financial stability can affect the price stability as well. For example, implementation of monetary policies will be very easy if there is financial stability in the economy.

Even though there are strong relationships between financial stability and price stability, price stability does not constantly guarantee financial stability. Both developments in the financial markets after the 1990s and the 2007-2008 financial crisis clearly proved this situation. In spite of the fact that many central banks were charged with both price stability and financial stability, many of these central banks had focused on price stability rather than financial stability since they accepted that price stability could ensure financial stability. However, experiences have demonstrated that the low and stable prices and financial stability do not coexist every time⁶. This situation led central bankers and economists to reconsider the relationship between financial stability and price stability.

3. Central Banking and Financial Stability Objective

There has been an increasing concern related to financial stability recently. Financial crisis with high costs and frequency, and increasing use of very complex financial instruments caused increase the number of articles focusing on financial stability. In addition, central banks also started to publish some reports on financial stability⁷. However, the last financial crisis triggered investigations regarding the relationship between financial stability and central banks.

After the 2007-2008 financial crisis, many central banks that implementing the New Keynesian monetary policy rules realized that achieving the price stability objective did not ensure financial stability simultaneously. Because of this, central banks started to focus on the financial stability objective in addition to the price stability objective. For example, the Federal Reserve (FED) in the US had focused on inflation and managing inflation expectations, and ignored the growth of systemic risks in the financial system before the last financial crisis. However, this policy stance of the FED contributed to the conditions that led to the last financial crisis⁸.

Why do the low and stable prices not ensure financial stability? There are two important reasons for this case. First, owing to the fact that price indexes do not cover the prices of the financial assets, increasing in the prices of financial assets causes fluctuations in the financial markets. Second, price stability itself may be the source of the financial instability. For example, while the rate of inflation is low and the rate of real growth is high, asset prices may increase. Because both owners of firms and investors in the financial sector demand more bank credits in a growing economy to

⁶ Borio and Lowe, *ibid.* p.18.

⁷ Martin Cihak, "Central Banks and Financial Stability: A Survey of Financial Stability Reports", International Monetary Fund, **Seminar on Current Developments in Monetary and Financial Law**, Washington, DC, October 23-27, 2006, p.2.

⁸ Scott Fullwiler and L. Randall Wray. "It's Time to Rein in The FED", **The Levy Economics Institute of Bard College, Public Policy Brief**, No.117, April 2011, p. 4.

buy more capital goods and to get more profits from rising assets prices, there will be more and more increases in asset prices. Hence, in an expanding economy, these increases in the asset prices might encourage players in the financial markets to borrow and to buy new assets due to the increasing risk appetite. These increases in debt make debts unsustainable, and generate some problems in the financial markets⁹. In sum, price stability does not always assure financial stability.

In the 1990s, many central bankers and economists started to discuss on the topics of financial stability and instability. According to Sinclair¹⁰, the discussions had mainly focused on the topics below:

- ✓ *If another institution is assigned to provide financial stability except for the central bank, will central banks continue to be responsible for financial stability?*
- ✓ *Are there any experiments obtained from central banks that responsible for banking regulation?*
- ✓ *How can be measured costs and benefits of central bank activities aimed to financial stability?*
- ✓ *When a central bank carries out some policy operations related to price stability and financial stability, what are the differences and boundaries between price stability operations and financial stability operations?*
- ✓ *Are there any reasonable reasons to restrict international capital flows? If there are, when and how should they be implemented?*

Recently such discussions have been continuing. Because the size of damages stemming from financial crises has been increasing in economies, expectations of society and politicians from central banks have been increasing as well. For this reason, not only central bankers but also many economists increased their effort to find effective solutions. According to some of these central bankers and economists, central banks are able to provide both price stability and financial stability, but to this end, central banks should change their organizational and operational structure. On the contrary, others argue that central banks should adhere to only price stability objective, and financial stability responsibility should be given to a new organization. The reason for this argument is that because the financial markets have complex structures, providing financial stability by central banks in these markets is a rather difficult task. Due to these reasons, a new organization, new legal regulations, and even regulations in the financial markets are needed to provide financial stability.

⁹ Thomas Palley, “A Post Keynesian Framework for Monetary Policy: Why Interest Rate Operating Procedures Aren’t Enough?”, **Post Keynesian Economic Policy**, Edit: C. Gnos and L.P. Rochon, Northampton, MA, Edward Elgar, 2005, p.92.

¹⁰ Peter Sinclair, “Financial Stability and Central Banks – An Introduction”, **Financial Stability and Central Banks – A Global Perspective**. Edit: Richard A. Brealey, Alastair Clark, Charles Goodhart and Others, Central Bank Governors’ Symposion Series, Routledge, 2000, p.7.

3.1. Why Should Central Banks Undertake the Financial Stability Responsibility?

The responsibility of financial stability is placed in the laws of central banks, and central banks fulfill this responsibility when needed. Buiters¹¹ noted that there are four main dimensions of monetary policies associated with financial stability. These are:

- ✓ *The prevention and mitigation of assets and credit booms, bubbles and busts.*
- ✓ *The prevention and mitigation of funding liquidity crises for systemically important financial institutions and for the sovereign.*
- ✓ *The prevention and mitigation of market liquidity crises involving markets for systemically important financial instruments.*
- ✓ *The prevention and mitigation of solvency crises for systemically important financial institutions*

In this context, central banks have some implementation such as supervising the banking sector to protect depositors, and acting as the authority of lender of last resort. Hence, according to those who defend that central banks should be responsible for financial stability, central banks should continue to carry out these applications as in the past because monetary policies can be conducted effectively if financial stability is provided. In this respect, there are some duties that central banks are able to fulfill. A central bank is able to give information to agents about newly appearance risks; to take measurement intended for institutions in the markets; and to force the firms to obey the unified accounting system¹².

According to some others, a central bank's intervention into markets should be partial; central banks should focus on price stability as a primary objective, and should intervene in markets once some developments in the financial markets begin to destabilize price stability. For example, when the asset prices exceed a certain level and lead to some volatilities in the inflation rates, central banks should attempt to prevent this bubble in the asset prices by changing interest rates. However, what should be remembered is that the target variables of central banks do not contain the asset prices¹³.

¹¹ Willem H. Buiters, "The Role of Central Banks in Financial Stability: How Has It Changed?", **Centre for Economic Policy Research, Discussion Paper Series**, No.8780, London, 2012, pp. 1-2.

¹² Juliette Healey, "Financial Stability and Central Banks – International Evidence", **Financial Stability and Central Banks – A Global Perspective**, Edit: Richard A. Brealey, Alastair Clark, Charles Goodhart and Others, Central Bank Governors' Symposium Series, Routledge, 2001, p.25.

¹³ David Gruen, Michael Plumb and Andrew Stone, "How Should Monetary Policy Respond to Asset-Price Bubbles?" **Reserve Bank of Australia, Research Discussion Paper**, No. 2003-11, 2003, pp.1-2.

Many central banks have followed the inflation-targeting approach as a monetary policy strategy and have used short-term interest rates since the 1990s. The 2007-2008 financial crisis demonstrated that using short-term interest rates is inadequate for financial stability, and for this reason, monetary policies have to be supported by other policies, such as macro-prudential policies. In this framework, a central bank may be able to focus on both price stability and financial stability by extending its policy set with macro-prudential policy instruments. In this situation, a central bank can conduct monetary policy without abandoning the inflation targeting regime. According to Blanchard et. al.¹⁴, it is likely to get more success from these extended monetary policies than the others.

According to another view defending central banks' financial stability responsibility, financial stability responsibility should not be allocated among different institutions, and has to be given to a central bank due to the five tasks that have to be conducted simultaneously¹⁵:

- ✓ *The provision of liquidity to the financial system and the management of that liquidity*
- ✓ *The provision of emergency liquidity assistance to illiquid, but ex ante solvent, financial institutions*
- ✓ *The promotion of the stability of payment and settlement systems*
- ✓ *The identification and assessment of systemic risks and the formulation of macro-prudential policies aimed at preventing and mitigating those risks*
- ✓ *Advisory functions concerning the regulation and supervision of institutions and the development of financial system.*

If these tasks are conducted by a central bank instead of dividing among many institutions, the time wasted will decrease, and the effectiveness of the policies will increase. Moreover, owing to the fact that complementarity and synergy among monetary policy, liquidity management, and macro-prudential measures, both price stability and financial stability tasks have to be given to central banks¹⁶. Hence, the effects of implemented policies aimed at providing financial stability and price stability on the economy will be understood well, and if needed the central bank will take additional measurement.

Those who defend that central banks have to be assigned to provide both price stability and financial stability argued that the administrative organizations of central banks should be changed to achieve these two targets at the same time. Most of central banks had been designed in accordance with price stability objective, and in

¹⁴ Olivier Blanchard, Giovanni Dell' Ariccia and Paolo Mauro, "Rethinking Macroeconomic Policy", **IMF Staff Position Note**, No.3, 2010.

¹⁵ Lucas Papademos "Central Bank Mandates and Governance Arrangements", **Bank for International Settlements (BIS) Papers**, No.55, 2010, p. 26.

¹⁶ Papademos, *ibid.* p.27.

this respect, their accountability, autonomy, and transparency had been enhanced in the 1990's. However, nowadays because this organizational structure is not sufficient for financial stability, their juridical status and operational structures should be redesigned one more time for financial stability. Changing financial conditions require new policy instruments and structures.

Crockett¹⁷ suggests two management models; internal management model and external management model. External management model refers to central banks' relationships with other institutions; central banks establish such relationships when fulfilling their duty related to financial stability. For financial stability, it is necessary to determine some tools in advance to prevent and manage crises, and to guide what a central bank has to do for some situations that may appear after crises. Moreover, central banks' authority, responsibility, and relationships with other organizations must be specified transparently in this process. For example, a central bank may want to impose some restrictions on the balance sheets of some institutions or remove other restrictions. At this point, how much a central bank has power on balance sheets of institutions should be identified. On the other hand, internal management model refers to the internal decision-making mechanism, internal institutional accountability and accounting problems, and personnel policy. Indeed, many central banks have already had an internal management model as mentioned by Crockett. Therefore, what should be done is that identify legally this structure when a central bank is given financial responsibility. For instance, if a central bank is assigned to achieve both price stability and financial stability, which boards will be responsible for this target, the old one or new?

On the contrary, some economists argue that central banks should continue to adhere to price stability objective, and other institutions have to be responsible for providing financial stability. The reason for this is that financial markets are very complex; the number of institutions and instruments is increasing more and more. In such an environment, the chance of success of central banks being successful will be very low if the aim of central banks is to provide both financial and price stability simultaneously.

3.2. Why Should Central Banks Not Undertake the Financial Stability Responsibility?

The main difficulty for central banks that trying to achieve financial stability in addition to price stability is the evolution of the financial markets. As Minsky¹⁸ stated 55 years ago, if changes are very slow in the financial markets, the chance of success of monetary policies is very high. On the contrary, if changes are very fast and the number of instruments and institutions has been growing continuously in the financial

¹⁷ Andrew Crockett, "Central Bank Governance under New Mandates", **BIS Papers**, No.55, 2010, pp.20-21.

¹⁸ Hyman P. Minsky, "Central Banking and Money Market Changes", **The Quarterly Journal of Economics**, Vol. 71, No. 2, 1957, p. 171.

markets, the influence of monetary policy on the economy will not be very effective. The global financial system, which called money manager capitalism by Minsky, has evolving toward more fragile construction since the 1980's and the best indicator of the fragility is the increases of the number of the frequent and severe financial crises¹⁹.

Increasing in the number of instruments and institutions, which named financial innovation, has been making monetary policy less effective in the financial markets around the world since the 1980's. Figures in Table 1 give information about financial markets' situation.

Table 1: Global Stock of Debt and Equity Outstanding (Trillion Dollars)

Years	Total	Nonsecuritized Loans Outstanding	Securitized Loans Outstanding	Nonfinancial Corporate Bonds Outstanding	Financial Institution Bonds Outstanding	Public Debt Securities Outstanding	Stock market Capitalization
1990	54	22	2	3	8	9	11
1995	72	24	3	3	11	13	17
2000	114	31	6	5	19	16	36
2005	155	38	11	6	29	25	45
2006	179	40	14	7	35	28	55
2007	202	43	15	8	41	30	65
2008	175	45	16	8	41	32	34
2009	201	47	16	9	44	37	48
2010	212	49	15	10	42	41	54

Source: McKinsey Global Institute, **Mapping Global Capital Markets**, August 2011, p.13.

Table 1 shows the global stock of debt and equity outstanding. The far left column shows the value of the world's stock of equity and debt, and this value is equal to 212 trillion dollars in 2010, and was 114 trillion dollars in 2000, and was 54 trillion dollars in 1990. According to the figures of McKinsey Institute²⁰, the financial depth, which calculated as the global debt and equity outstanding divided by global GDP, is equal to 356 percent in 2010.

Not only the global stock of debt and equity but also the capital flows have been increasing in the last decade. According to the figures of McKinsey Global Insti-

¹⁹ L. Randall Wray, "Money Manager Capitalism and the Global Financial Crisis", **The Levy Economics Institute of Bard College, Working Paper**, No. 578, 2009, p. 3.

²⁰ McKinsey Global Institute, **Mapping Global Capital Markets 2011, Up-Dated Research**, August 2011, p.13.

tute²¹, while the value of capital flows consisting of foreign direct investment (FDI), purchases and sales of foreign equities and debt securities, and cross-border lending and deposits, were equal to 0.4 trillion dollars in 1980, they reached to 1.5 trillion dollars in 1995, and 10.9 trillion dollars in 2007. The 2008 financial crisis led to sharp decreases in these figures; they fell to the level of 1.9 trillion dollars in 2008, and 1.6 trillion dollars in 2009. What do these figures imply? Both the excessive liquidity before the crisis and the low liquidity after the crisis are results of these figures and flows. Moreover, these figures explain why the interest rate policies became unsuccessful at the beginning of the crisis and why central banks were obligated to inject excessive liquidity into the markets.

These developments in the financial markets have caused changes in the monetary policies that conducted to provide price stability and financial stability. First of all, these developments led to some technical problems and uncertainties related to implementing monetary policies. The number of data has increased and interpreting this increased data became very complex. Second, rising financial instruments led to some complexities relating to what the influences of monetary policies on transmission channels are. Hence, the matter of what the optimal monetary policy should be becomes uncertain²². The uncertainty regarding optimal monetary policy will be very complex if central banks want to target the price stability and financial stability simultaneously.

As shown above, the share of financial assets in the GDP has been growing every day because of improving financial markets. Moreover, the ratio of non-monetary assets became bigger than monetary assets in the financial assets. This situation means that the monetary base will be less borrowed²³. The less borrowed monetary base decreases the effectiveness of monetary policies because the means of payments that central banks cannot control are becoming gradually widespread.

Another important development in the financial markets is the increasing use of derivatives called the off-balance sheet transactions. According to International Swaps and Derivatives Association²⁴, while the value of the notional amount outstanding of the derivatives that consist of interest rate swaps, interest rate options, and cross-currency swaps, was 183 trillion dollars in 2004 and increased to the level of 382.3 trillion dollars in 2007. The value of the notional amount outstanding of credit default swaps (CDS) was equal to 8.42 trillion dollars in 2004 and increased to 62.2 trillion dollars in 2007. Similarly, the value of the notional amount outstanding of equity derivatives consisting of swap, option, and forward was equal to 4.15 trillion

²¹ McKinsey Global Institute, **Global Capital Markets – Entering a New Era**, September 2009, p. 6.

²² Helmut Wagner 2001, “Implications of Globalization for Monetary Policy”, **IMF Working Paper**, No.2001/184, 2001, p. 3.

²³ Garry J. Schinasi, “Preserving Financial Stability”, **IMF Economic Issues**, No.36, 2006, p. 1.

²⁴ International Swaps and Derivatives Association, **Market Surveys Statistics 1995-2010**, 2010.

dollars in 2004 and increased to 10 trillion dollars in 2007. All the figures explain why the monetary policies using short-term interest rates as policy tool became unsuccessful during the 2008 financial crisis. The main reason for this is the effects of the interest rate swaps; economic agents are able to delay the influences of policy interest rates on consumption by using the interest rate swaps. The credit channel of monetary policies is also affected by the developments in the financial markets. By the time a central bank attempts to stop credit expanding in the domestic markets, banks and other financial institutions are able to find new credit resources from abroad²⁵.

What sort of difficulties may central banks encounter if they target both price stability and financial stability in such a world in which there are highly advanced financial markets and instruments?

The first difficulty is related to variables that are affecting the financial stability. In price stability, there is one objective, and the success of the central bank can be observed easily; a central bank is accounted when it becomes unsuccessful. In contrast, it is not easy to determine the variables affecting financial stability. If the banking system and the payments system are functioning well, and there are no asset prices bubbles and the liquidity problem in the financial institutions, it can be said that the financial stability is obtained. However, there might be many variables affecting the banking sector, the payment system, the prices of assets, and the liquidity. Hence, because it is necessary to achieve multiple targets to get financial stability, it is very difficult to measure and recognize whether or not the financial stability is obtained. In this respect, in order to reach the financial stability each financial institution has to be supervised, all the reports indicating systemic risks have to be evaluated, and some restrictions should be imposed upon some institutions when needed²⁶.

Second, even though the state of the financial institutions and markets can be known, it is not clear that which intermediate target is proper to affect the institutions and markets. Moreover, central bankers should know which factors may lead to instability inside and outside of financial markets, and how much each factor has contributed to financial instability. It is very difficult to evaluate all of these variables together. Furthermore, some political responsibilities are needed to make decisions for financial stability. For example, because using some public resources to bailout a financial institution gives rise to the public pressure, such decisions need a political decision-making. Therefore, forcing a central bank to make a decision for such situations will have strong effects upon central banks' autonomy.

Third, determining which factors affect the financial stability on time and adjusting timing of response to these factors are other problems that central banks might encounter. In addition, central bankers may not be able to predict the results of the policy responses, and some responses either are not enough to provide financial stability or may lead to unnecessary recession.

²⁵ Bank for International Settlements, "Macroeconomic and Monetary Policy Issues by the Growth of Derivatives Markets", **Hannoun Report, Committee on the Global Financial System Publications**, No.4, 1994, pp. 24-29.

²⁶ Crockett, *ibid*, p. 19.

Fourth, those who do not understand well what central banks do for the financial stability will criticize central banks' policies. For example, while there is not any pressure on the prices, if a central bank increases the policy interest rate, many economic agents will criticize this policy. Furthermore, even though monetary policy applications provide financial stability by increasing interest rates, because economic growth is affected negatively, these policies will not be accepted by someone²⁷. This situation will affect central banks' credibility as well.

Fifth, central banks, as mentioned above, may change interest rates aggressively in order to achieve financial stability. Such a policy may have serious effects upon expectations. Economic agents who follow central bank's monetary policy decisions may interpret this sharp and sudden change in the policy rate that general economic conditions will be worsen in the near future. This negative change in the expectations may cause bigger negative change in the real economy. As a result, central banks' monetary policies aimed at providing financial stability may damages the real economy by the disrupted expectations²⁸. This case usually appears when there are bubbles in the asset prices; once bubbles occur in the asset prices, a little change in the policy rate will not be sufficient to stop the bubble; on the contrary, the higher changes give rise to negative effects in the economy as mentioned above²⁹.

Even if it is accepted that monetary policies are able to provide financial stability, it is not clear and certain that which monetary policy strategy may be suitable; the monetary policy strategy, which aims at securing both price and financial stability simultaneously, has not been designed yet. The ruling monetary policy model has been the inflation-targeting approach since the 1990's. According to this approach, if there is a rapid credit expansion in the economy, a central bank is able to stop this growing by increasing policy interest rate. But, the success of this policy application is based on some factors: central bank's ability to define the causes of financial stability; the impracticability of other policy chooses including prudential policies; whether central banks' monetary policy applications may induce to moral hazard problem³⁰. Without clarifying these problems, monetary policies aiming at financial stability may not produce the expected results. Moreover, the monetary policy stance should be changed frequently in keeping with the changing economic conditions as in the case of the FED during the last financial crisis.

The issue of monetary policies' suitability is very important. It is very likely that a central bank cannot achieve the financial stability objective even though the other conditions could be achieved by using monetary policy tools that have been

²⁷ Borio and Lowe, *ibid.* p. 25.

²⁸ Carl E. Walsh, "Using Monetary Policy to Stabilize Economic Activity", **Jackson Hole Symposium on Financial Stability and Macroeconomic Policy**, August 20-22, 2009, pp. 253-254.

²⁹ Adrian Tobias and Hyung Song Shin. "Financial Intermediaries, Financial Stability and Monetary", **Jackson Hole Symposium on Financial Stability and Macroeconomic Policy**, August 20-22, 2009, p. 291.

³⁰ Borio and Lowe, *ibid.* p. 22.

developed for price stability. In this case, a central bank will have to either change its policy rate often or put in place the other monetary policy tools such as the required reserve ratio. Many central banks have encountered this problem since the last financial crisis. The best example of this situation is, as Lavoie³¹ mentioned, the case of the FED. According to Lavoie, like many central banks, the FED firstly decreased its policy rate as a response to the crisis. The policy interest rate was decreased by 1 percent in August 2007 and then by 2.5 percent in January 2008. Once the FED realized that this policy did not succeed, the Bank took other extraordinary measures. Term Action Facility (TAF) policy was conducted to provide longer-term liquidity for financial institutions that need more liquidity. But because this implementation led to liquidity increase in the markets, the TAF application imposed some pressure on the policy interest rate that was set for price stability. Ultimately, the FED had to use a sterilization policy to keep interest rates at a determined level. The FED could conduct these policies successfully until the collapse of Lehman Brothers. Because the FED was crediting to the financial institutions that required liquidity and then was making open market operations to draw excessive liquidity from the markets, the TAF policy did not cause an expanding in the FED's balance sheet. After the Lehman Brothers had collapsed, the confidence and liquidity problems increased in the markets. In this new case, the FED continued to give liquidity to the markets, but in this case, the FED wanted the Treasury to withdraw the excessive liquidity in the markets. The Treasury withdrew liquidity through auctions, but the auctions of the Treasury caused an increase in the liability side of the FED's balance sheets. Because of this application, which is called Treasury Supplementary Financing Program (SFP), the government deposits were expanding in the FED's balance sheets. Along with the SFP program, another development that caused extensions in the FED's balance sheet is the banks' deposits that were held in the FED because the FED allowed banks to increase their accounts in the FED. This account reached a level that was 25 times bigger than required reserves and 500 times free reserves in the FED. After this rising in the balance sheet, The FED abandoned the sterilization policy and had to change the limit levels in the corridor application.

The FED's responses to the recent crisis were not only the TAF and SPS programs. As Felkerson³² underlined in his comprehensive working "*...the extraordinary scope and magnitude of the recent financial crisis of 2007-2009 required extraordinary response by the FED in the fulfillment of its lender of last resort function...*", the FED had to take extraordinary measures to secure the financial stability. Moreover, the total amount of these extraordinary measures taken by the FED is equal to 29 trillion dollars. These extraordinary measures are: Term Auction Facility; Central Bank Liquidity Swaps; Single Tranche Open Market Operations; Term Securities Lending Facility and Term Options Program; Maiden Lane; Primary Dealer

³¹ Marc Lavoie (2010), "Changes in Central Bank Procedures during the Subprime Crisis and Their Repercussion on Monetary Theory", **International Journal of Political Economy**, Vol. 39, No.3, Fall 2010.

³² James Andrew Felkerson, "29 Trillion Dollars: A Detailed Look at the Fed's Bailout by Funding Facility and Recipient", **The Jeremy Levy Economics Institute of Bard College, Working Paper**, No.698, 2011, p. 2.

Credit Facility; Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility; Commercial Paper Funding Facility; Term Asset-Backed Securities Loan Facility; Agency Mortgage-Backed Security Purchase Program; AIG Revolving Credit Facility; AIG Securities Borrowing Facility³³.

In other countries, central banks responded to the crisis by decreasing their policy interest rates as the FED did. The Bank of England decreased its policy rate 75 base points in 2007; the Canadian Central Bank decreased 1.5 percent cumulatively between December 2007 and April 2008³⁴. Policy interest rates were decreased in the South Asian countries as well; Indonesia decreased interest rate to 6.5 percent in August 2009 from 9.5 percent in December 2008. Similar policy responses were also given by central banks in Malaysia, Korea, and Thailand; interest rates had been decreased to the level of 1% or 2% at the end of the third quarter in 2009 in these countries³⁵.

Although many central banks continued to decrease their interest rates, this policy did not become enough to stop and exit from the crisis. Because many banks did not want to borrow from the central banks or did not want to give credit to markets despite of the decreasing interest rates. For this reason, many central banks started to take other measures³⁶. For example, to resolve the foreign exchange problems, while most of the central banks were becoming a guarantor for the banks' borrowings³⁷, some other central banks attempted to set up a swap line among them. The loss of confidence is the main reason for the failure of the interest rates and the extraordinary policies. Because the expectations of economic agents about the future were negative, investors did not want to give funds to the markets and producers did not want to produce any goods or services in the real side of the economy³⁸.

Another negative result regarding monetary policies is that monetary policies may sometimes have negative influences on financial stability in some cases. If a central bank has wrong predictions about the economy's situation and conduct monetary policies depending on these wrong predictions, since interest rates could be determined at either high or low levels, the expected results will not be obtained, and even this policy mistake may affect the financial markets negatively. For example, in the case of high interest rates, investment expenditures and national product may decrease, or there may be unwanted effects upon the exchange rates by encouraging capital inflows.

³³ Felkerson, *ibid*, pp.2-3.

³⁴ Bank for International Settlements, "Monetary Policy in the Advanced Industrial Economies", **78. Annual Report**, 2008, p.61.

³⁵ Reza Y. Siregar and Vincent Choon Seng Lim, "The Role of Central Banks in Sustaining Economic Recovery and in Achieving Financial Stability", **Journal of Advanced Studies in Finance**, Vol. 1, No.1, 2010, p. 84.

³⁶ Gregory A. Krohn and William R. Gruver, "The Complexities of the Financial Turmoil of 2007-2008", **Journal of Applied Business and Economics**, Vol. 16, No.1, 2008, p.17.

³⁷ Siregar and Lim, *ibid*, p. 84.

³⁸ BIS, *Monetary Policy ...*, p. 67.

4. Conclusion

Today, most central banks are continuing to search new solutions to obtain financial stability. However it is not clear that which policy or institutional organization is suitable for financial stability on account of the complex and evolving financial markets in which there are so many financial institutions and instruments. Furthermore, it is becoming very difficult to predict and prevent the financial crises by using monetary policies. In this regard, it is asserted that in addition to central banks and monetary policies, new institutions and other policies should be established for financial stability: the financial stability board, macro-prudential policies, the extended monetary policies, regulation and provision of financial markets are among the presented proposals by economists and central bankers. On the other hand, it should be underlined that because central banks have gained a great deal of experience with financial crises, they should be included in all new institutional structures and in decision-making procedures.

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