

Macroprudential Policy: Instruments and Implementation Manners An Overview on the European Union Experience

Hassane Khababa¹

¹Associate. Economic and Commercial Sciences and Management Sciences Faculty Ferhat
Abbes University. Setif. Algeria.
Email: hkhhababa@yahoo.com

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Abstract:

During the recent Global Financial Crisis and the ensuing period to date, a remarkable attention was granted to macroprudential policy as a complementary approach of microprudential policy, the use of the latter has shown its ineffectiveness in protecting the financial system against a Global Financial Crisis similar to the one of 2008 and its extremely negative effects on the Global Financial System and real economy.

In this context, through the European Union experience this paper focuses on macroprudential policy in terms of its concept, its importance, justifications and the different measures or tools offered by it for the purpose of its application in order to protect the Global Financial System as an entity instead of partial components targeted by microprudential policy.

Keywords: Financial Crisis, Financial Stability, Systemic Risk, Micro and Macroprudential Policy, European Union.

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Corresponding author: **Hassane Khababa**, e-mail: hkhhababa@yahoo.com.

1. INTRODUCTION

The 2008 Global Financial Crisis formed an important change concerning the regulation and the supervision of the financial system in terms of concepts which were prevalent before. During the recent financial crisis, thoughts were concentrated on the need to establish early warning indicators for similar financial crises, in addition to concentrate attention on the need to find tools that will correct the Global Financial System imbalances in order to protect the global economy from a crisis similar to the recent financial one. In this topic the controversy still exists about the nature of indicators and tools used, in addition to a broad debate about the effectiveness of such indicators and tools in the detection and treatment of various financial imbalances.

The recent Global Financial Crisis has imposed a need to focus on the regulation and supervision of the financial system as a whole, contrary to what prevailed before by focusing attention on the regulation and supervision of the financial system's components as an individual unit. Whether banks, insurance companies or other financial institutions using

the macroprudential policy tools, most notably at all Capital adequacy requirements as a measure did not avoid a large class of financial institutions' failure, the latter proved the inability of microprudential policy in protecting the Global Financial System from falling into 2008 crisis.

In view of the failure of microprudential policy in preserving the financial system from falling into financial crisis, the practice imposed the need to develop the macroprudential policy as a new approach which would assure financial stability, which is considered with its different tools as an overlap with other policies that affect the financial stability such as monetary policy and other ones related to the financial system, and it is complementary to microprudential policy which has been the only approach before and during the recent financial crisis.

From this point macroprudential policy constitutes the essence of this study through displaying its concept, its importance and goals as a first step, to move to a second stage to show the basic differences between micro and macroprudential policies. As a third step the study insists on displaying a general framework for the various tools used by macroprudential policy in predicting crises and take the necessary treatments for all financial imbalances that may appear.

In final stage the study focuses on displaying the European experience in the design of macroprudential policy tools and its application in reality with its various consequences so as to conclude the study with some results that may be useful in the design and implementation of an effective macroprudential policy.

2. Macroprudential policy: Definition, its importance and goals

2.1. Definition

Macroprudential Policy is considered as the basics of the regulation and supervision of the financial system, and also considered as a global policy its main objectives are preserving financial stability and reducing systemic risk. In this context, the origin of the term: "macroprudential" can be traced back to unpublished documents prepared in the late 1970s" (Galati.G, 2011, p. 4), at that period, the term generally denoted a systemic orientation of regulation and supervision linked to the macroeconomy.

The first Appearance of the term was during the mid-eighties as a policy aimed at supporting the soundness and safety of the financial system as a whole not as components, during the recent financial crisis the use of the term expanded as a result of the expansion of the debate about the causes and consequences of the crisis, which imposed the discussion of the term in all its details.

For Ignazio Visco "Macroprudential policies directed to preserving financial stability should limit systemic risk by addressing both the cross-sectional dimension of the financial system, with the aim of strengthening its resilience to adverse real or financial shocks, and its temporal dimension, to contain the accumulation of risk over the business or financial cycle".

As for Borio "macroprudential policy as a policy whose objective is to limit the risk of episodes of financial distress with significant losses in terms of the real output for the economy as a whole. However, the objective of microprudential approach is to limit the risk

of episodes of financial distress at individual institutions, regardless of their impact on the overall economy” (Borio.C, 2003, p. 2)

For the International Monetary Fund “macroprudential policy has been defined as the use of primarily prudential tools to limit systemic risk” (Viñals.J, 2013, p. 6).

In the previous definitions and most of others, the notion of systemic risk is the central element. The risk of disruptions to the provision of financial services that is caused by an impairment of all or parts of the financial system, and can cause serious negative consequences for the real economy.

Depending on the previous definitions is possible to say that macroprudential policy in reality is a set of tools which can protect the financial system from systemic risks, with the aim to avoid real economy from negative consequences of possible financial crises.

In the same context, for Alen Stojanovic and Jaksa Kristo “The macroprudential approach was seen as having two dimensions, pointing to distinct policy implications. The first one referred to risk evolving over time, with special reference to the financial cycle, known as the "procyclicality" of the financial system and the second dimension referred to distribution of risk within the financial system, known as the "cross-sectoral dimension". Table (1) shows a comparison between the macro and microprudential approach to financial regulation and supervision” (Stojanovic. A, 2012, p. 494).

2.2. Its importance

“The size of the recent financial crisis has focused regulators’ attention on developing macroprudential policies that will prevent and attenuate future episodes of financial instability” (B.S, 2014, p. 4), due to this, the interest in macroprudential policy has increased during and after the Global Financial Crisis of 2008. As a result of factors' combination which can be the 2008 Global Financial Crisis. Summarized in the following:

- The recent financial crisis has proved the inability of the applicable policies such as monetary, budgetary and microprudential policies in protecting the financial system from falling into the crisis, which divert attention toward macroprudential policy as a solution to the current and possible situation.
- The recent financial crisis showed that the systemic risks are in continuation and they can be formed during economic stability.
- Macroprudential policy gained its importance in terms of being targeting the financial system’s stabilization as a whole, contrary to what prevailed before the crisis in terms of targeting its components.
- The successful use of macroprudential policy tools in some emerging market economies has encouraged policy makers to allocate more attention to it.

2.3. Macroprudential policy’s goals

Many aspects directed researchers’ efforts towards detailing this policy even being clearer in terms of concept and tools proposed in order to achieve its objectives, which are related with a large debate depending on the perception of the policy itself. In this regard it can be referred to general objectives of the policy through the following:

For International Monetary Fund there are three objectives for macroprudential policy which are (Viñals.J, 2013, p. 8):

1- Macroprudential policy seeks to increase resilience of the financial system to aggregate systemic shocks, by building buffers that absorb their impact and help maintain the ability of the financial system to provide credit to the economy.

2- In the time dimension, it can seek to contain the build-up of systemic vulnerabilities over time, by reducing procyclical feedback between asset prices and credit and containing unsustainable increases in leverage and volatile funding.

3- In the structural or “cross-sectional” dimension, macroprudential policy can seek to control the build-up of vulnerabilities within the financial system that arises through interlinkages between financial intermediaries and the critical role played by institutions in key markets, and can render individual institutions too important to fail.

On the other hand, the fund adds that the goal of macroprudential policy is: “Maintaining the stability of the financial system as a whole, by limiting the build-up of systemic risk, is the prime objective of this policy. By contrast, this may be a secondary objective of other public policies. The aim is prevention rather than cure, and the focus is on the whole financial system and systemic risks, rather than individual institutions and idiosyncratic risks, which are the dominant focus of microprudential policies” (Viñals.J I. 2., 2011, p. 10).

For Gabriele Galati and Richhild Moessner “The literature on macroprudential policy is still far from such a consensus on its objectives. Broadly speaking, macroprudential policy is seen as aiming at financial stability but there is no commonly shared definition of financial stability” (Galati.G, 2011, p. 6). From another view Borio and Drehmann defined the goal of macroprudential policy as: “Limiting the risk of episodes of system-wide distress that have significant macroeconomic costs” (D.Mathias, 2009, p. 26).

According to the latters’ view and in order to understand the nature of macroprudential policy we must distinguish between the macro and the microprudential policy. In this context Borio suggested the following characteristics of the different nature of the two perspectives in table (01).

According to Borio “the objective of a macroprudential approach is to limit the risk of episodes of financial distress with significant losses in terms of the real output for the economy as a whole. That of the microprudential approach is to limit the risk of episodes of financial distress at individual institutions, regardless of their impact on the overall economy” (Borio.C, 2003, p. 2).

From this point we can say that macroprudential policy targets the economy as a whole, while the microprudential policy is the best in protecting depositors and investors as consumers, so by reflecting more in the analysis it is useful to say that macroprudential policy shed light on the overall losses to the real economy as a portfolio, while the microprudential policy highlights the losses of economy components as parts of the portfolio which is the essence of the difference between the two.

Table 1. The macro- and microprudential perspectives compared

	Macroprudential	Microprudential
Proximate objective	Limit financial system-wide distress	Limit distress of individual institutions
Ultimate objective	Avoid output (GDP) Costs	Consumer protection (investor/depositor)
Model of risk	(in part) endogenous	Exogenous
Correlations and common exposures across institutions	Important	Irrelevant
Calibration of prudential controls	In terms of system-wide distress; top-down	In terms of risks of individual institutions; bottom-up

Source: Borio. C (2003), Towards a macroprudential framework for financial supervision and regulation, Bank for International Settlements, BIS working Papers, Switzerland, N°128.

3. Macroprudential policy's tools

It is necessary that the framework of macroprudential policy must include an early warning system which serves to point out all the weaknesses in the financial system; it must also include a set of tools useful in the treatment of all early discovered weaknesses in the to avoid worsening the situation.

In the same context the excessive growth of assets is the most significant indicator of the financial system's disruption and weakness, such situation requires an accurate identification of the period in which there is an excessive growth in assets, in this regard the ratio of total credit to GDP is the most important indicator in use, with other indicators as the ratio of non-core to core liabilities of the banking sector.

The recent financial crisis has imposed on the most of the countries the application of macroprudential policy measures in order to preserve the stability of the financial system as a whole, rather than focusing only on its components as prevailed before the crisis.

In this context, the design and application of macroprudential policy is considered as one of the most difficult challenges facing the states in terms of both the selection of appropriate tools for their situations, or modes of application, or the conditions must be provided in order to achieve positive results, in addition to the existence of the problem of determining the most effective tools in the field.

There is no doubt that macroprudential policy tools aimed to limit systemic risks that arise over time or across institutions and markets.

The choice of macroprudential policy instruments is linked to the nature of the target economy, and its degree of development of its financial system, tools being applied in sync as complementary measures of other macroeconomic policies which require coordination between them to avoid a possible conflict of occurrence.

For C. Lim and others country authorities that have used a variety of policy tools to address systemic risks in the financial sector. The toolkit contains mostly prudential instruments, but also a few instruments typically considered to belong to other public policies, including fiscal, monetary, foreign exchange and even administrative measures. The IMF survey identified ten instruments that have been most frequently applied to achieve macroprudential objectives.

From the latter's view there are three types of measures:

- 1- Credit-related, i.e., caps on the loan-to-value (LTV) ratio, caps on the debt-to-income (DTI) ratio, caps on foreign currency lending and ceilings on credit or credit growth;
- 2- Liquidity-related, i.e., limits on net open currency positions/currency mismatch (NOP), limits on maturity mismatch and reserve requirements;
- 3- Capital-related, i.e., countercyclical/time-varying capital requirements, time-varying/ dynamic provisioning, and restrictions on profit distribution. (C.Lim, 2011, p. 8)

According to the IMF survey occurrence of the global economy in the recent financial crisis imposed on a large number of countries the extensively use of macroprudential policy instruments by emerging markets economies in comparison with developed economies before and after the recent financial crisis.

For the choice of macroprudential policy instruments most countries tend to choose the simplest, effective and easy tools in terms of implementation, and it is necessary that the choice of macroprudential instruments have to be consistent with other public policy objectives.

Among the factors influencing the choice of macroprudential policy tools is the degree of the economy growth and the level of its financial development. One of the International Monetary Fund studies indicates that "In general, emerging markets economies have used macroprudential instruments more extensively than advanced economies. This may reflect a greater need to address market failures where financial markets are less developed and banks usually dominate relatively small financial sectors" (C.Lim, 2011, p. 11).

The same study also points out that "emerging market economies are more concerned about systemic liquidity risk and tend to use liquidity-related measures more often. Advanced economies tend to favor credit-related measures, although more of them are beginning to use liquidity-related measures after the recent crisis" (C.Lim, 2011, p. 11).

The success of the countries in achieving the goals of macroprudential policy do not depends only on a matter of choice of tools that can be applied in the field and it depends mainly on how to use them, in this area the international experiences indicate that countries use a set of tools in order to address a specific risk. In this regard "using a single instrument to address systemic risk is rare. The rationale for using multiple instruments seems simple to provide a greater assurance of effectiveness by tackling a risk from various angles. While this may be true, there may be a higher regulatory and administrative burden of enforcing multiple instruments" (C.Lim, 2011, p. 12).

From the above description and depending on IMF frame works, we can say that the more common of Macroprudential Policy tools in terms of the degree of use and effectiveness in addressing systemic risks and with a least impact in terms of their negative

consequences on the economy as it will be mentioned below:

3.1. Caps on the loan-to-value (LTV) ratio

This instrument is designed to impose restrictions that would limit the ability of households to borrow; those restrictions would limit the procyclicality of collateralized lending since housing prices and the ability of households to borrow from secured value of the house.

From this perspective, the determination of an appropriate rate of the instrument would address the systemic risk; the LTV rate is frequently adjusted in order to make it a more potent counter-cyclical policy instrument.

3.2. Limits on maturity mismatch

These instruments are used to address the systemic risks that arise during crises as a result of the inability of financial institutions to meet their short-term obligations; such situation imposed the liquidation of assets which carries a high cost on the financial system. Cases of lack of liquidity in some financial institutions may cause systemic liquidity crisis.

3.3. Caps on the debt-to-income (DTI) ratio

When this instrument is used alone, it targets the insurance of banks' asset quality, but when it is used in conjunction with the LTV, it dampens the cyclicity of collateralized lending by adding another constraint on households' capacity to borrow.

3.4. Reserve requirements

In spite of its nature as a monetary policy tool, it may be used to address systemic risk in two sides. On the one hand, it may be used to dampen the credit/asset price cycle—the time dimension of systemic risk; on the other hand, it provides a liquidity reserve that may be used to minimize a systemic liquidity crisis.

3.5. Caps on foreign currency lending

Generally loans in foreign currency expose borrowers to foreign exchange risks which in the same time expose the lenders to credit risks. The two mentioned risks can become systemic if the common exposure is large, so using the Caps on foreign currency lending may treat systemic risks associated with foreign exchange.

3.6. Countercyclical capital requirements

The countercyclical capital requirements can take the form of ratios which rise during a progress as a restraint on credit expansion and reduced during a regress to provide a cushion so that banks do not reduce assets to meet the capital requirement.

3.7. Ceilings on credit or credit growth

This instrument can be imposed on bank lending in general or on credit to a specific sector. It may be used to dampen the credit/asset price cycle—the time dimension of systemic risk.

3.8. Time-varying/dynamic provisioning

The dynamic provisioning is calibrated on historical bank-specific losses, but it can also be used to dampen the cyclicity in the financial system.

The provisioning requirement can be raised during an upturn to build a buffer and limit

credit expansion and reduced during a downturn to support bank lending.

3.9. Limits on net open currency positions/currency mismatch

These tools may limit banks' common exposure to foreign currency risks. In addition, the limits are used to address an exchange rate fluctuations caused by a convergence of purchases/sales of foreign exchange by banks.

3.10. Restrictions on profit distribution

The restrictions on profit distribution as a prudential regulation requirement are used to ensure the capital adequacy of banks. Since undistributed profits are added to bank capital, the restrictions are used to have a counter-cyclical effect on bank lending if applied in a downturn.

4. EU's Macroprudential Policy, an overview

In the European Union the responsibility for monetary policy, macroprudential policy and banking supervision is divided between the central banks/supervisory authorities and the European Central Bank/Euro system, the latter is responsible for monetary policy and it is under the influence of the national central banks via the European Central Bank Governing Council. The European Central Bank and national central banks/supervisory authorities share responsibility for macroprudential policy. Essentially, responsibility for banking supervision rests with the European Central Bank. The figure below shows the new institutional set-up in the euro area.

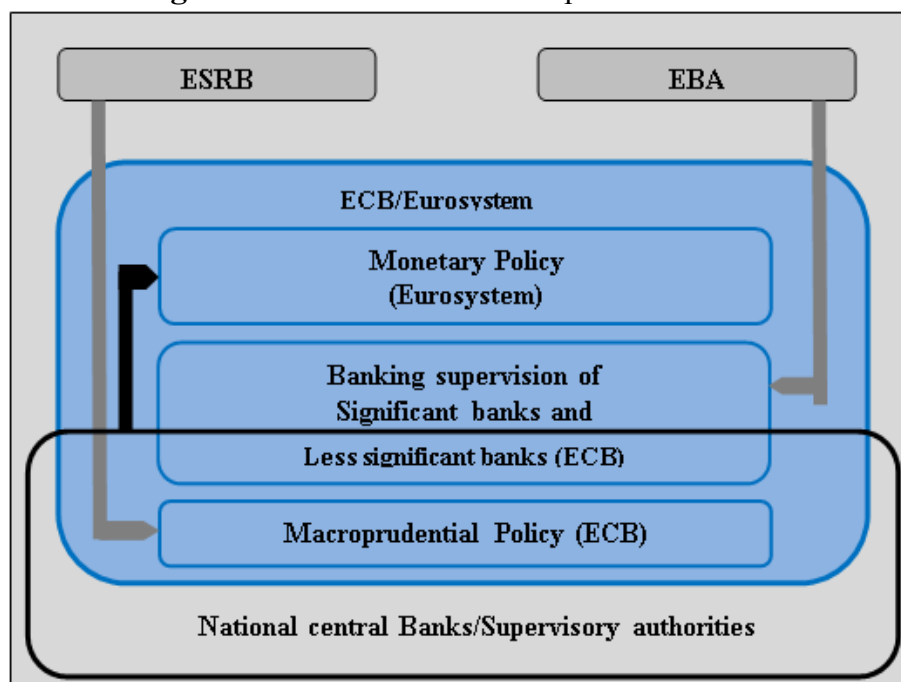
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Since November 2014 the European Central Bank has been responsible for banking supervision in the Single Supervisory Mechanism (SSM) member states, and it works in cooperation with the national supervisory authorities, the (ECB) has a direct supervision of all significant institutions, also the responsibility for the supervision of the remaining institutions continuing to fall within the remit of the national supervisory authorities. The European Systemic Risk Board (ESRB) and European Banking Authority (EBA) can exert influence over macroprudential policy and banking supervision.

The ESRB will collect and disseminate information about macroprudential policy instruments in the European Union. The ESRB Secretariat started elaborating a list of national instruments that were of macroprudential interest applied in European Union based on the notifications to the ESRB and input from the Advisory Technical Committee (ATC) and its substructures. The list is a large extent based on the notifications required under the credit requirement directive (CRD) and credit requirement (CRR) and it focuses on the banking sector.

Fig.1.The new institutional set-up in the euro area



Source: Deutsche Bundesbank (2015), The importance of macroprudential policy for monetary policy, Monthly Report (March), p 49.

2014 represents the first year of macroprudential policy in the European Union since the credit requirement directive (CRD) and credit requirement (CRR) entered into force. The introduction of the new prudential rules in European Union gave the macroprudential authorities in the (EU) a new effective set of policy instruments which is used to address financial stability risks.

Moreover, the credit requirement directive (CRD) and credit requirement regulation (CRR) charged the ESRB with a number of new tasks, such as developing guiding principles for, and issuing opinions on, the use of certain instruments.

Around 100 measures were taken during 2014, in which many European Union countries actively pursued macroprudential policies such as Denmark, Slovakia, Sweden and United Kingdom, while other countries didn't apply any measure such as France, Germany, Poland and Spain.

For ESRB the latter situation is justified by "the different phases of the financial cycle the Member States were in, their distinct views on the role of macro-prudential policy, whether or not a national macroprudential authority was already in place in the Member State concerned, and whether macroprudential measures had already been activated before the introduction of the CRD/CRR" (ESRB, 2015, p. 3).

According to ESRB's Flagship, Handbook and its recent review in June 2015 the following Macroprudential measures can be mentioned.

5.1. The European Union's Macroprudential Tools

5.1.1. The counter-cyclical capital buffer (CCB)

A group of countries, members of the European Union have opted for the early

implementation of the counter-cyclical capital Buffer, which is an important instrument of macro-prudential policy introduced by the New European Union Capital Rules, the CCB is designed to help facing the pro-cyclicality in the financial system, it increases the resilience of the banking system during periods of excessive credit growth, its rate shall be set between 0% and 2.5%, but can be higher or reduced by a designated authority when the situation requires.

The CCB was applied from 2014 and will become mandatory from 2016, it was implemented by “the Czech Republic, Croatia, Slovakia, Sweden and the United Kingdom, all these countries set the buffer rate at 0%, with the exception of Sweden and Norway the rate was initially set at 1%” (ESRB, 2015, p. 16).

5.1.2. Measures related to the real estate sector

These instruments support the resilience of banks as well as borrowers and they aim to dampen credit growth. “Real estate instruments that are used for macro-prudential purposes can be broadly grouped into instruments that target banks and instruments that target borrowers” (ESRB, 2018, p. 51), on the one hand instruments targeting banks increase their resilience and help in the moderation of the credit cycle. On the other hand instruments targeting borrowers such as LTV, LTI and DSTI increase the resilience of banks and borrowers, and restrict the quantity of credit relative to the value of the borrower’s income, which will also dampen the credit cycle.

A- Risk weights and loss-given-default parameters

This instrument can be used for exposures secured by mortgages on commercial and residential immovable property. A number of the European Union Countries had a 100% risk weight for commercial real estate before the application of the credit requirement directive (CRD) and credit requirement regulation (CRR) instruments, “and used Article 124 of the CRR to prevent a drop in the risk weight from 100% to 50% under the new capital rules. Ireland, Luxembourg and Malta imposed as one of the requirements for a preferential risk weight for mortgage lending that the loan-to-value (LTV) should not exceed a certain level generally between 70%-80%; in most cases that was again a continuation of previous policies in place before the introduction of the CRD and CRR” (ESRB, 2015, p. 18).

B- The loan-to-value limit (LTV)

This is the most used instrument outside the range of the credit requirement directive (CRD) and credit requirement regulation (CRR) instruments which are used to solve problems in the real estate sector. Also loan-to-value (LTV) caps are used for housing loans; they can also be applied for car loans and other types of financial subjects. In the European Union the typical (LTV) limits for housing loans are around 75% to 85% except a few number of countries which are out of the previous range like: Slovakia 100%, Denmark 95%.

C- The loan-to-income / debt-to-income limit (LTI/DTI)

The European Union countries can use macroprudential instruments based on national law that are not covered by the European Union legislation. This includes the loan-to-income (LTI) and debt -to-income limit (DTI) in order to dampen a grow up in real estate

mortgage lending or to curb excessive consumption lending such as loans for car purchases or loans via credit cards. The mentioned limits have been used also for housing loans, but much less than loan-to-value (LTV) caps.

D- The debt service-to-income limit (DSTI)

This instrument is sometimes called PTI; its limits typically cover all types of credit operations. In the case of the European Union countries “Hungary and Romania, limits can be differentiated according to the currency denomination of the loan. In Cyprus and Hungary (DSTI) limits were further differentiated according to the income of the borrower in order to reflect the fact that higher-income borrowers typically have a higher repayment capacity and can therefore meet a higher (DSTI). In Hungary (DSTI) limits can range from 10% to 60%, depending on the currency of the loan and the income of the borrower” (ESRB, 2015, p. 20).

E- Stress test / sensitivity test

Stress tests and sensitivity tests take the form of an affordability test, for example concerning mortgage, lenders are required to assess whether borrowers would still be able to afford to service their debt in an adverse scenario, which typically includes a test for interest rate risk and income risk.

F- Loan maturity and loan amortisation requirements

These are used to limit loan maturity and prevent loans being issued. For the case of Estonia, Lithuania, Romania and Slovakia an outright limit can be imposed on the original maturity of new mortgage loans or consumer loans and such new loans can also be required to be amortised in the case of Denmark and Sweden.

In the case of Netherlands, disincentives can be introduced for very long-dated mortgage loans, for example by making tax deductibility conditional on a maximum original maturity and an amortization requirement. Denmark and Sweden are considering combining (LTV) limits with an amortization requirement, for example a higher amortisation requirement for higher (LTV) loans.

5.1.3 The systemic risk buffer

A large number of the European Union countries have introduced the systemic risk buffer such as Bulgaria, Czech Republic, Denmark, Estonia, Croatia, Netherlands, and Sweden, and typically the buffer is calculated on the basis of all exposures, except Bulgaria where it was applied on domestic exposures only. “In most cases the systemic risk buffer is calculated on a solo, sub-consolidated and consolidated basis, but in some cases such as Czech Republic, Netherlands and Sweden it was decided that the buffer would only be calculated on a sub-consolidated basis” (ESRB, 2015, p. 21). In most cases the buffer rate was set at a uniform level and in no cases was higher than 3%, which requires the intervention of European bodies in the process.

5.1.4. The buffer for other systemically important institutions (O-SII buffer)

The buffer for other systemically important institutions (O-SII) will be available from 2016, but a few countries member in the European Union have already taken measures in this area.

Based on their systemic importance, Denmark identified five sub-categories of other systemically important institutions and six individual of other systemically important institutions. Institutions' systemic importance is calculated as the average of three indicators which are: total assets as a percentage of GDP, banking sector loans as a percentage of total lending and banking sector deposits as a percentage of total deposits.

The Netherlands identified four other systemically important institutions based on quantitative and qualitative indicators which are: Size, Substitutability, Interconnectedness and Resolvability, and decided to impose a 2% (O-SII) buffer on the three most systemically important banks which are: ING Bank, ABN AMRO Bank and Rabobank, and 1% on SNS Bank.

Norway decided from 1 July 2015 to impose a 1% O-SII buffer on its two biggest banks which are: DNB and Nordea Bank Norge and the credit company Kommunalbanken, and the buffer rate will be raised to 2% from 1 July 2016.

5.1.5. Pillar II requirements

There are different views and practices among the European Union countries concerning the use of (Pillar II) as a macroprudential instrument.

The macroprudential use of (Pillar II) is under credit requirement directive (CRD). In addition, the credit requirement directive (CRD) and credit requirement regulation (CRR) define an order of instruments under which certain macroprudential measures can only be used after it has been deemed that none of the other measures including (Pillar II) measures in the CRD and CRR are sufficient to address the targeted macroprudential risk. In this context while some European Union countries such as Slovenia, Sweden and United Kingdom have used (Pillar II) for macroprudential purposes, others seem to see (Pillar II) as an exclusively microprudential instrument.

5.1.6. Liquidity measures

Liquidity regulation aims to ensure that banks are able to refinance themselves when their liabilities become due. From this view a systemic liquidity stress is the situation in which regular refinancing channels of banks fail, such situation may be imposed on the central bank to act as a lender.

Refinancing liquidity difficulties at one or a few systemically important institutions can be the beginning of a systemic liquidity stress, which can disrupt the financial intermediation process, and as a result, the same difficulties may have a severe adverse impact on the provision of credit to the real economy, also causing a recession. Macroprudential policy instruments related to liquidity aim at avoiding such stresses by reducing systemic liquidity risk.

The phenomenon of liquidity risk can be in the form of market liquidity risk which is materialized in inability to sell assets quickly with little or no impact on prices, or funding

liquidity risk which is materialized in inability to issue new debt over existing debt. These two forms of risk may be linked and reinforce one another.

A few European Union countries took measures to address liquidity concerns, some of the instruments that can be used to address systemic liquidity risk are: liquidity coverage ratio (LCR) will phased in gradually from 2015, net stable funding ratio (NSFR) which its definition under the CRD/CRR will most likely only be finalized and implemented by 2018, loan-to-stable funding (LTSF) limits, a general liquidity surcharge, and a liquidity surcharge for systemically important institution (SIIs).

5.2. The Implementation of Macroprudential Tools in the EU

In order to clarify the European Union situation in terms of using and implementing macroprudential policy instruments it is necessary to give an overview based on different ESRB' publications through the following:

- Around 50% of measures observed are governed by Union legislation while the rest are adopted on national law.

- Some (EU) countries have also use instruments outside the CRD/CRR framework, such as limit to value (LTV) caps.

- Eight from ten substantive measures have been used to prevent and mitigate excessive credit growth and leverage in particular mortgage lending.

- A large number of (EU) countries opted for the early introduction of the capital conservation buffer.

- A few number of (EU) member states opted the counter-cyclical capital buffer for the early introduction but just one Member State set a counter-cyclical capital buffer rate at anything other than 0%.

- A several number of (EU) countries introduced the systemic risk buffer for a variety of reasons, according to the large set of non-cyclical risks it can address. From this regard we can mention the following:

- The buffer rates can be uniform or differentiated according to groups of banks; they can apply to the whole banking sector or to a subset of banks.

- In all cases the buffer rate was set less than 3%, the fact that thereversesituation requires the intervention of the European bodies in the process.

- The systemic risk buffer is sometimes used as a substitute for other systemic important institutions (O-SII) buffer because the latter is not yet available and it is limited at 2%.

- Concerning(O-SII) buffer a few number of (EU) countries have already taken measures related to the identification of (O-SIIs) and its rates, despite the availability of the measures from 2016.

- Various measures are related to mortgage lending developments. The risk weights instrument is the most frequently used CRD/CRR and the most frequently used instrument outside the range of the CRD/CRR is the (LTV) cap which is often used in combination with affordability requirements.

- Concerning the macroprudential use of Pillar II there was different views between (EU) members, some making very active use of it while others consider it as a microprudential measure. However the measure is among the list of macroprudential instruments defined by CRD/CRR.

- There were some difficulties in the introduction of macroprudential measures in terms of absence or belated notifications of national measures to the ESRB under the CRD/CRR, (EU) members are claim to cooperate with ESRB in terms of sharing information about national macroprudential measures at an early stage in order to make the policy more effective.

- The ESRB indicates that there were vast differences between the (EU) countries concerning the number and type of macroprudential instruments introduced. In this regard Denmark, Slovakia, Sweden and the United Kingdom and Norway took a large list of instruments without their importance or impact. While Germany, Greece, Spain, France, Austria and Portugal no measures were reported.

- The majority of macroprudential measures aim to address excessive credit growth and leverage as the single most important intermediate objective, while addressing misaligned incentives is the second objective. Mitigating and preventing excessive maturity mismatch and market illiquidity are considered less important. In return the early introduction of the counter-cyclical capital buffer/capital conservation buffer, the setting of the counter-cyclical capital rate at 0% or keeping the rate unchanged, are excluded.

- About the frequency of the instruments' use according to their objectives it is possible to mention the following:

- Five percent out of 100% of measures focus on maturity mismatch and market illiquidity.

- Ten percent of measures address misaligned incentives.

- 85% of measures target the credit growth and leverage.

In order to prevent and mitigate the excessive credit growth and leverage various measures has been used in. They were classified in order from more to less important by the ESRB as follows (ESRB, 2015, p. 13):

- Countercyclical capital buffer

- Capital conservation buffer

- Loan-to-value

- Risk weights

- Stress test / sensitivity test

- Debt-service-to-income

- Loan maturity

- Loan-to-income / Debt-to-income

- Other

- Loan amortisation

- Pillar II

- Systemic risk buffer

- Leverage ratio

- Loss-given-default
- Loan-to-deposit

Looking at the previous order of macroprudential measures used the counter-cyclical buffer and the capital conservation buffer, Loan-to-value, Risk weights are on the top.

- In Order to limit the systemic impact of misaligned incentives a variety of common measures are used Such systemic risk buffer with 37%, Pillar II (27%), both O-SII buffer and Other measures with (18%) (ESRB, 2015).

- For the purpose of mitigating and preventing excessive maturity mismatch and market illiquidity an LCR or NSFR liquidity ratio is used. In this case Hungary and Sweden has been used a liquidity ratio to address liquidity concerns resulting from non-domestic currencies.

6. RESULTS AND DISCUSSION

The European experience has formed the core of this study in terms of European bodies concerned by designing and implementing the Macroprudential policy, also its vast variety of instruments and the behavior of (EU) members towards it. From this view we can draw some conclusions under the following:

- Many advantages are related to the Macroprudential policy in comparison with other public policies, such as monetary, budgetary and fiscal ones. The European countries consider that Macroprudential instruments are more flexible in introduction and effective.

- The same experience assures that using multiple instruments has the advantage of addressing the same risk from different directions; also the combination of instruments provides effectiveness.

- In other words, the Macroprudential instruments have an advantage in terms of their ability to target specific activities that make them more precise and effective.

- Concerning the relationship between Macroprudential approach and other public policies, it is suitable for the Macroprudential approach to be in coordination with the monetary one and be its complement, in order to increase the resilience of the financial system without conflicts.

- In order to ameliorate the effectiveness of Macroprudential policy, it is necessary to evaluate all experiences essentially those which are under the scope of the European Union, in a process based on the feedback from each country in terms of the multiple impacts of the introduced instruments.

- The success of Macroprudential policy depends on the degree of coordination between the different European bodies concerned by: consulting, designing, introducing and supervising the process.

- It is necessary to unify the vision of the European Union members towards Macroprudential policy's objectives, its instruments and introduction manners.

- It is clear that Macroprudential instruments must have a long-term dimension in the fact that the policy targets concerns which are with long-term nature.

- The European Union members must give the Macroprudential policy its

independence from the influence of governments and politics or rather it should not be under the influence of political cycles in order to realize a common benefit.

- The introduction of Macroprudential policy in the (EU) members requires the establishment of different authorities concerned by the implementation of the set of instruments designated to address financial instability or to preserve stability which already exists.

- The European experience proved that the region countries need a mutual coordination concerning the set of instruments used by each country mainly those which are out of the scope of CRD/CRR.

Because of the complexity of the topic and the limited paper' number, the explanation cannot go deeper; it will be complemented by other studies on the rest of its specific parts.

7. CONCLUSION

The Macroprudential policy plays a fundamental role in preserving the stability of the financial system as a whole, contrary to what prevalent before the recent financial crisis. This new approach uses a set of instruments that can be effective in addressing systemic risks in the financial sector. However, there are costs involved in using Macroprudential instruments, but its benefits should be weighed against these costs.

There is no Doubt that the success of this new policy depends on its design and introduction mode, for this reason, it is important and necessary to use a set of appropriate instruments for the targeted economy in order to gain benefits and avoid negative results.

Certainly the choice of Macroprudential instruments depends on the nature of the economy concerned by the policy; the stage of its financial sector development too, for these reasons, Policy makers must assume the responsibility of materializing its goals. In this context there are common lessons on what instruments should be used to address specific risks, for instance: To address systemic risks generated by credit growth, credit-related instruments are useful, such as Limit to Value (LTV) and Debt to Income (DTI) caps. To address systemic liquidity risk, liquidity-related instruments such as limits on liquidity mismatch may be used. To address risks arising from excessive leverage, capital-related instruments can be a good choice.

Experiences proved that multiple considerations must be relevant for the successful design and introduction of Macroprudential instruments, such as the compatibility between instruments and Economy's circumstances, the ability of the financial system to circumvent the measure, also the probable cost of the introduced policy.

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