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Strengths and weaknesses of macroprudential tools.

The reaction of macroprudential authorities in the SARS-CoV-2 pandemic

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Abstract

In the post crisis scenario macroprudential policies began to acquire more importance in respect of micro-prudential ones; indeed, the former deals with the issues of guaranteeing the resilience of the whole financial system, whereas the latter concerns with a single entity, a single intermediary. The focus of the paper is to look at the issues in ensuring the effectiveness of the macroprudential tools, by firstly introducing the different measures and how these can be implemented, and finally understanding which problems may arise in their applications. Moreover, the paper focus on the macroprudential instruments implemented in the initial phases of the Covid-19 pandemic by the European competent authorities along with the National competent ones.

Key Words: Macroprudential Policy, Macroprudential Framework, Macroprudential Toolkit, Macroprudential Measures, Covid-19, SARS-CoV-2 Pandemic.

Summary

Introduction

The crisis of 2008 damaged and impacted significantly the global economy, with the consequence of hitting harshly all fields. In this scenario one of the issues faced by the European Union was due to the blinding spots created in the supervision activities and the fragmentation of the supervisory practices among the different Member States. These issues were solved in two different phases, the first one was the creation in 2010 of the European System of Financial Supervisors (ESFS), formed by the European Supervisory Authorities (ESAs), which is in turn composed by three agencies: the European Banking System (EBA), the European Security Market Authority (ESMA), and the European Insurance and Occupational Pricing Authority (EIOPA); finally the last board in the ESFS is the European Systemic Risk Board (ESRB). The second phase, instead, was the establishment and set up of the Banking Union in 2012.
The ESASs tackle three different aspects of the financial fields respectively the banking sector, the financial market, and in the end the insurance and occupational one, whereas the ESRB was set up to tackle the problem of macroprudential supervision and systemic risk.

Before the crisis macroprudential policy was not considered as important as micro-prudential policy, in fact it began to be considered crucial in the years after the crisis enfolded. The first definition of macroprudential dates back several years (early 1970s), there are different designation of macroprudential policy, for example it is described on the paper "*Elements of Effective Macroprudential Policies*" published by IMF, FSB and BIS as "*the use of primarily prudential tools to limit systemic risk*". Moreover, E. Philip Davis, I. Liadze and R. Piggott in their work entitled: "*Assessing the macroeconomic impact of alternative macroprudential policies*" defined macroprudential such as polices regarding the whole financial system to limit financial distress. Many other authors define macroprudential in broadly ways but the most important point that clearly stands out in all of these definitions is that macroprudential polices shall be used to maintain financial stability.

An important distinction has to be made between micro-prudential and macro-prudential, while the former deals with risk of failure of a single intermediary, the latter instead, as stated above, deals with the whole financial system.

More in detail the macroprudential specific task is to prevent financial distress (systemic risk). This latter can appear in two different forms: the time dimension and the cross sectional one. The first deals with the whole financial system, enlarging the procyclicality that operates within the financial system. Meanwhile the term cross-sectional risk deals with the materialization of risk in a specific time (International Monetary Fund: "*Macroprudential Policy: An Organizing Framework*", 2011).

Moreover, the importance of macroprudential policy has been highlighted in Regulation (EU) 1092/2010 of the European Parliament and of the Council which states that financial stability is a prerequisite for the economy to fully work, so to have the possibility to supply jobs, credit and also to sustain the growth of the country.

The idea to establish a unique entity able to deal with a specific issue, the systemic risk and macroprudential supervision, was taken into force by Larosièr's work, in which he states the features of the European Systemic Risk Board (ESRB), which has been endorsed by Regulation 1092/2010. In his work Larosièr states that there is the need of a new "actor" to be established: the European System of Financial Supervision, which involves the cooperation among national supervisors and the ones at the European Union level.

On the 27th of May 2009 the Commission in the "*European Financial Supervision*" illustrated a series of reforms to take care of the systemic risk problem, in this important document they created a unique body entitled of dealing with specific issue, the systemic risk and macroprudential supervision. This body is the so called European Systemic Risk Board, that was officially established in 2011. Regulation 1092/2010 states that "*The ESRB's task should be to monitor and assess systemic risk in normal times for the purpose of mitigating the exposure of the system to the risk of failure of systemic components and enhancing the financial system's resilience to shocks. In that respect, the ESRB should contribute to ensuring financial stability and mitigating the negative impacts on the internal* *market and the real economy".* It is important to highlight that it has no legal autonomy and also that it is not an authority. Although the role of the ESRB is not the main argument of this paper but, it is important to understand its power to really embrace macroprudential policy. The European Systemic Risk Board has different tasks that are described in article 3 of regulation 1092/2010. This article is really significant because it describes the power and the tasks of the Board:

*"2. For the purposes of paragraph 1, the ESRB shall carry out the following tasks: (a) determining and/or collecting and analysing all the relevant and necessary information, for the purposes of achieving the objectives described in paragraph 1; (b) identifying and prioritising systemic risks; (**c) issuing warnings where such systemic risks are deemed to be significant and, where appropriate, making those warnings public; (d) issuing recommendations for remedial action in response to the risks identified and, where appropriate, making those recommendations public;** (e) when the ESRB determines that an emergency situation may arise pursuant to Article 18 of Regulation (EU) No 1093/2010, of Regulation (EU) No 1094/2010 and of Regulation (EU) No 1095/2010 issuing a confidential warning addressed to the Council and providing the Council with an assessment of the situation, in order to enable the Council to assess the need to adopt a decision addressed to the ESAs determining the existence of an emergency situation; (f) monitoring the follow-up to warnings and recommendations; (g) cooperating closely with all the other parties to the ESFS; where appropriate, providing the ESAs with the information on systemic risks required for the performance of their tasks; and, in particular, in collaboration with the ESAs, developing a common set of quantitative and qualitative indicators (risk dashboard) to identify and measure systemic risk; (h) participating, where appropriate, in the Joint Committee; (i) coordinating its actions with those of international financial organisations, particularly the IMF and the FSB as well as the relevant bodies in third countries on matters related to macro-prudential oversight;"*

In this scenario an important role is played also by the European Central Bank as well as National Central banks, indeed, in the same article it is stated that they are actively participants in the role of the prudential supervisors.
Moreover, as it is described by J. Palek, B. Schwanebeck (2019) in "*Optimal monetary and macroprudential policy in a currency union*" the ECB share along with monetary policy,

also prudential powers, thus the banks that are "significant", the ones which match with the condition laid down in article 6, paragraph 4 of Regulation 1024/2013, are directly supervised by the ECB, while the smallest ones continue to be supervised by National Authorities, but note that the ECB has the power to override the decisions of nation authorities in supervision matter.

After having defined some key principles, by defining the main authorities involved and what is macroprudential policy it may be interesting to focus on the quest that will be the main focus of this paper: **"What are the main issues in guaranteeing the success of macroprudential policy? Moreover, which macroprudential tools have been used during the first phases of the coronavirus pandemic?".**

To answer to these questions first of all it is important to list which are the macroprudential measures, and how we can choose between them, explaining which aspects can run against the effectiveness of their applications, by focusing also on the role played by the different supervisory actors involved. After that, the last aim of the paper will be to conclude with a concrete example of the measures implemented during the coronavirus pandemic.

1. Macroprudential measures

1.1 What are the main tools of macroprudential policy?

It is not so easy to build macroprudential policy, it is necessary to find, to create and moreover to adjust a specific set of instruments and strategies for their use, as it is stated in the report "*macroprudential Policy tools and Frameworks*" published in 2011, there is not a precise way to build a set of macroprudential tools that can be always used. One reason is that we are living in a world in constant change, and financial system is characterized by being a dynamic and revolutionary sector, this could lead to new risks and new issues which can cause the macroprudential policy to become old and not a good suit for that particular case anymore.

A very important aspect that cannot be forget is that to consider the tools as macroprudential instruments they have to belong to two categories: the first one is being built specifically to deal with the *time series dimension risk* or the *cross-sectional* dimension of risk, so in other words with systemic risk; whereas on the other hand, the second category belongs to the so called "*recalibrated instruments*", which original scope is not the systemic risk as before. More in detail, the recalibrated instruments in this circumstance can be adapted to the materialization of the risk, by adjusting the tools for macroprudential purposes, even if they are not born as macro-prudential ones (International Monetary Fund: "*Macroprudential Policy: An Organizing Framework*", 2011).

In the table below the different tools divided in the two categories mentioned above are represented.

Table.1 Macroprudential tools based on risks

Tools	**Risk Dimensions**	
	Time-dimension	**Cross-Sectoral Dimension**
Category 1. Instruments developed specifically to mitigate systemic risk		
	▪ Countercyclical capital buffers ▪ Through-the-cycle valuation of margins or haircuts for repos ▪ Levy on non-core liabilities ▪ Countercyclical change in risk weights for exposure to certain sectors ▪ Time-varying systemic liquidity surcharges	▪ Systemic capital surcharges ▪ Systemic liquidity surcharges ▪ Levy on non-core liabilities ▪ Higher capital charges for trades not cleared through CCPs
Category 2. Recalibrated instruments		
	▪ Time-varying LTV, Debt-To-Income (DTI) and Loan-To-Income (LTI) caps ▪ Time-varying limits in currency mismatch or exposure (e.g. real estate) ▪ Time-varying limits on loan-to-deposit ratio ▪ Time-varying caps and limits on credit or credit growth ▪ Dynamic provisioning ▪ Stressed VaR to build additional capital buffer against market risk during a boom ▪ Rescaling risk-weights by incorporating recessionary conditions in the probability of default assumptions (PDs)	▪ Powers to break up financial firms on systemic risk concerns ▪ Capital charge on derivative payables ▪ Deposit insurance risk premiums sensitive to systemic risk ▪ Restrictions on permissible activities (e.g. ban on proprietary trading for systemically important banks)

Source: International Monetary fund (2011) "*Macroprudential Policy: An Organizing Framework*".

In addition to these tools a Country, as it is reported by the IMF in the previously report, can decide to use a broadly variety of different instruments such as monetary ones, exchange rate etc. but the fundamental aspect that we must always remember is that they have to fulfill the second category mentioned before or they will not be considered as macroprudential instruments.

It was thanks to Basel III that some of the tools in the table, were introduced for macroprudential policy such as: the maximum leverage ratio, the capital conservation buffer and the countercyclical capital buffer.

For example, the countercyclical capital buffer (CCB) has been used to collect capital when systemic risk is becoming more and more concrete. As it is reported in the "*macroprudential policy: tools and framework*" of the Progress Report to G20, it is useful during both the contraction and the expansion phases of the cycle, therefore NCAs actuate it in the case in which they are threaten by same signals of potential systemic risks. More in detail, these cues may be the aggregate losses or stricter credit terms.

1.2 How can we choose the macroprudential tools?

To ensure the effectiveness of macroprudential tools these have to ensure desired features, these are reported by the International Monetary Fund in its work: "*Macroprudential Policy: An Organizing Framework*" (2011):

1. They should limit the risk of financial distress and they should create buffer to use in those periods;
2. They should make impossible to incur in an arbitrage;
3. They should be used to face the materialization of the systemic risk, but they should also aim solving the problems at the roots.

As it has been said before there is not a unique way in which it is possible to build the toolkit of macroprudential policy. More precisely, the lower is the quantity of tools used the easiest it is to manage them, but on the other hand the higher is the number of instruments used together the highest will be the possibility to address at more specific problems. Of course, this latter approach can lead to more difficulties in the governance of the tools among them and the overall policy impact.

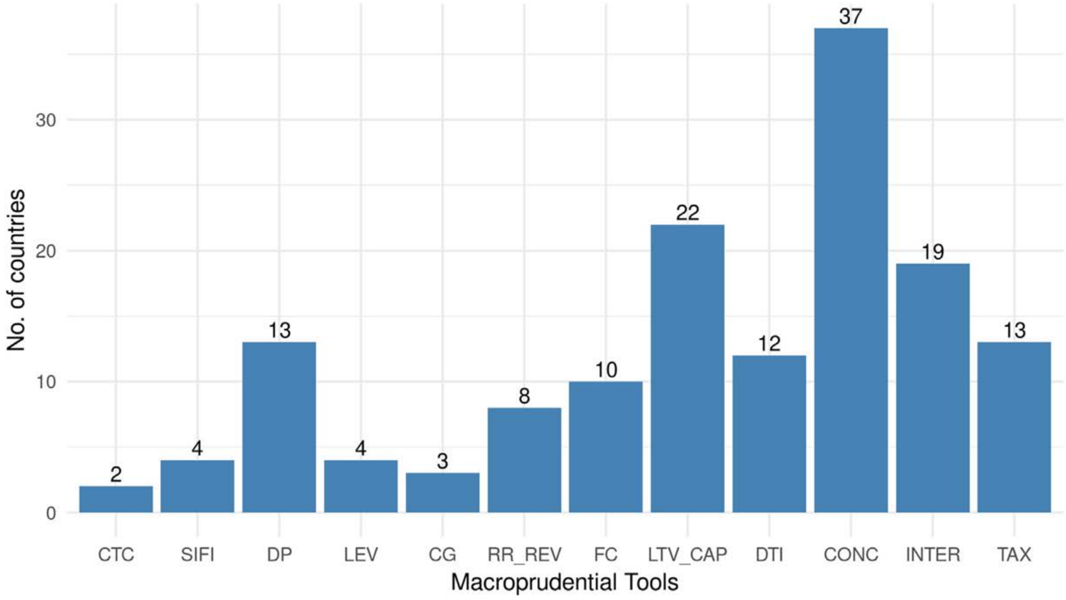
In addition, there is the possibility to distinguish between aggregate and sectorial measures. While in the first case there is a major chance to source the risk, the second have the advantage of a more sectorial approach focus on a specific target (International Monetary Fund: "*Macroprudential Policy: An Organizing Framework*", 2011).

Looking at concrete examples reported by the Progress Report to G20 :"*Macroprudential Policy Tools and Frameworks*, the tools which focus on the excessive credit growth usually are used for specific types of exposure like the real estate sector; moreover, the currency distinction has been used when the lending in foreign currency were provoking concern. Of course, a more target approach can present advantages such as being more flexibles, while on the other hand it leads to higher administrative costs and it could be more easily to bypass.

Finally, it is important to make a distinction between institutional measures policy and market-based ones. The former deals with a partition of financial entities centered on their legal form and tend to be easier to be managed. The second, instead, applies to divisions of transactions or activities in particular markets, which are autonomous by the legal form of the institution that assumes the risk (International Monetary Fund: "*Macroprudential Policy: An Organizing Framework*", 2011, 2011).

As it is reported by the IMF, to choose the best framework of macroprudential policy the first step is to recognize the signs of systemic risk, monitoring the situation and to collect all the data needed to look at the financial stability in a way that it is possible to prioritize the things to do. After that, it is necessary to choose the instruments to use in a way that it is possible to prevent the risk to become systemic and so to threaten the financial stability. Lattermost it is fundamental the role of the institutional architecture of macroprudential policy which can guarantee a coordination between the policies and also the governance and the transparency of those.

Graph 1: Macroprudential tools analysis



Source: A.Regis; B.M. Tabak; A.T. Teixeira. "*The Transmission Mechanism of macroprudential policies in the Bank*" Economic Modeling.

The data of the Graph 1 are collected by the article of A. E. Regis, B. M. Tabak, A. M. Teixeira. (2020) in their work: "*The transmission mechanisms of macroprudential policies on bank risk*" in which they collected data from IMF survey conducted in 2013-2014 and 2016-2017. At this survey Central Banks and monetary authorities participated.

From this graph it stands out clearly that the most used is the concentration limits (CONC), the caps on to loan values ratio (LTV_CAP), the limits on the interbank exposure (INTER) and the PD which are used in case of recession. From the survey emerged that the ones that are used less are the countercyclical capital requirements (CTC) and the limits on domestic currency loans or credit growth limit (CG).

On January 2018 the ECB published on the Working Paper Series a new data set of macroprudential policy of the EU member states between 1995 and 2014, the so called "MaPPED" that has been made through a questionnaire submitted by National Central Banks and supervisory authorities. In this work it is highlighted that the macroprudential tools have been subjected to a lot of changes tied to different trends over time. For example, some instruments have been used during the crisis period such as limits on credit growth, lending standards restrictions, sectorial risk weights or liquidity requirements.

Meanwhile instruments like capital requirements and limits on large exposure have been used to address European regulatory actions.

2. Problems in ensuring the macroprudential framework

2.1 Which are the main problems with macroprudential policies?

The macroprudential framework is not an easy process to make, indeed there can be significant improvements to be done nowadays to limit and prevent several blind spots in the process.

It is not so straightforward to discover the signs of systemic risk, but why? First of all, as it is reported in the "*Macroprudential Policy: an organizational framework"* of the IMF, the nature of crisis can be multiple, and this can cause the limitation of the analysis from a statistical point of view about the systemic risk, moreover along with the quantitative instruments to identify this type of risk, it should be considered also the problem from a qualitative side of the matter, for example in addition to them there should be a good supervisory assessment.

Furthermore, in order to have the possibility to conduct clear statistical analysis to prevent the systemic risk, many data occur, long time series and data frequency. In light of this, if there are same lacks data, or problems with the availability of those data the process of analysis will not be precise, and consequently, the success in trying to reach signs of possible imbalances situations will be minimum and imprecise.

Nowadays there are lots of indicators capable to identify systemic risk, but another problem is tied to the dimension of time. More precisely, it means that when indicators explain that there could be a dangerous situation, these cues have to be catch in time and not too late, these indicators should give time to policymakers and authorities to answer at these problems and to take actions. So, it is possible to sum up this latter point saying that is extremely crucial the time dimension, and a solid timely warning ability is very important as well, therefore it should be considered fundamental.

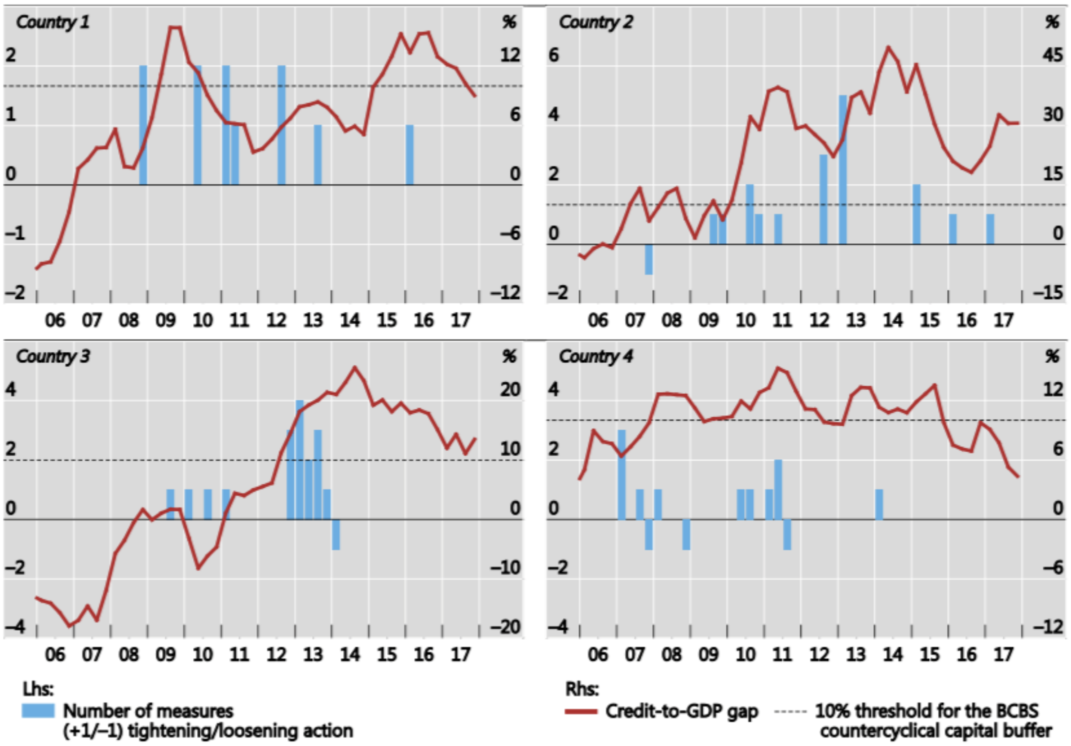
As it is reported by the IMF in the "*Macroprudential Policy: An Organizing Framework*", some indicators of the systemic risk could be the credit to GDP gap, the bank stability index and the systemic CCA. Looking at them more in detail, the former deals particularly well in explaining the macro-financial shocks, although, it shows slow reactiveness to distress events and also the ability of catching the time varying should be improved.

The Stability index along with the Joint Probability of Default (JPoD) were the ones able to enhance better the materialization of the systemic risk during 2007/2008 crisis. Unfortunately, none of these two indicators is able to fully detect early liquidity risk in funding markets.

Lattermost the Systemic CCA approach deals with the quantification of the impact of some specific actors (institutions) in the changes of systemic risk, moreover this instrument allows to determine the effect of risk on the contingent claims of government throughout time.

Furthermore, the Bank for International Settlement in its work: "*Macroprudential Frameworks: experience, prospects and a new way forward", stated that* if we consider the instruments used singularly, most of them belong to the banking sector, and not always they have catched the sign of a financial distresses, so it will be more convenient to develop the use of tools on the non-banking sector and in addition, to implement macroprudential policies with other policies. For example, in the Graph 2 below taken from a speech hold in June 2018 in occasion of the Bank's annual general meeting in Basel by Claudio Borio, the Head of Monetary and Economic Department, it is shown how the instruments used (the blue bars) where not effective, indeed the credit growth was above the long-term average, in particular the extremely positive credit-to-GDP gap. The dashed line represents the cap for the Basel III's countercyclical capital buffer activation.

Graph 2: Inefficiency of the macroprudential tools



Source: Bank for International Settlements,
Bank's General Meeting 24 June 2018

2.2 How the competent authorities behave in this panorama?

It is important to keep in mind that the world we live in is in constant change, therefore macroprudential policy should be able to adapt flexibly to risks, in addition, to ensure the effectiveness of macroprudential policy, there must be cooperation also on the monetary policy side, on the fiscal and micro-prudential one; for these purposes it is extremely important the role of the macroprudential authorities and the cooperation among them.

The European Systemic Risk Board (ESRB) states in the resolution 2011/3 that the adoption of the macroprudential policy, *in primis*, should be taken by the national authorities. In paragraph 6 the regulation says that the national authorities can decide to establish a single institution or a board based on the structure of the national institution, moreover Regulation (EU) No 1092/2010 states that National Central Banks "*should have a leading role in macro-prudential oversight because of their expertise and their existing* *responsibilities in the area of financial stability*". Furthermore, in paragraph 9 it is highlighted that the ESRB is entitled to "*discuss potential cross-border policy spill- overs of macro-prudential measures planned by the competent national authorities so as to ensure a minimum degree of coordination and limit possible negative spill-over effects. To this end, the ESRB Secretariat should be informed in advance of significant macro-prudential actions proposed by national authorities*". Therefore, the macroprudential authorities should cooperate together and in doing so they have to exchange information among the countries and giving note at the ESRB of the measure taken at national level. For this reason, it is important, as the Official Journal of the European Union reports, that the macroprudential authority should inform the macroprudential supervision authorities of all the data they have available.

In this panorama, the Council Regulation (EU) No 1024/2013 states that "*Specific supervisory tasks which are crucial to ensure a coherent and effective implementation of the Union's policy relating to the prudential supervision of credit institutions should be conferred on the ECB, while other tasks should remain with national authorities. The ECB's tasks should include measures taken in pursuance of macroprudential stability, subject to specific arrangements reflecting the role of national authorities*". The ECB in the case in which the National Authority decides to introduce measures in order to face systemic risk it has to be informed in order to guarantee a good coordination, besides the ECB has the power to introduce more procedures ensuring a close synchronization with the national authorities, while the other tasks that do not belong to the ECB powers remain subject to the national authorities.

In addition to that, the European Central Bank not only should cooperate closely with national authorities but also with the EBA, ESMA, EIOPA, ESRB in order to have a good level of supervision on the European Union (Regulation 1024/2013 art.3).

In Table 2 all the macroprudential authorities or the designated ones for each country in Europe are reported; usually the national supervisory authorities are represented by the Central Banks of the member states, but there are some exceptional cases as it can be seen below.

Table 2: National Macroprudential Authorities

Country	Macroprudential Authority (1)	Designated authority (2)
Belgium	Nationale Bank van België/Banque Nationale de Belgique	
Czech Republic	Česká národní banka	
Estonia	Eesti Pank	
Ireland	Central Bank of Ireland	
Greece	Τράπεζα της Ελλάδος (Bank of Greece)	
France	Haut Conseil de Stabilité Financière (High Council for Financial Stability)	
Cyprus	Κεντρική Τράπεζα της Κύπρου (Central Bank of Cyprus)	
Lithuania	Lietuvos bankas	
Hungary	Magyar Nemzeti Bank	
Malta	Central Bank of Malta	
Portugal	Banco de Portugal	
Romania	Comitetul Național pentru Supravegherea Macroprudențială (National Committee for Macroprudential Oversight)	
Slovakia	Národná banka Slovenska	
Finland	Finanssivalvonta (Finnish Financial Supervisory Authority)	
Sweden	Finansinspektionen (Financial Supervisory Authority)	
Bulgaria	Financial Stability Advisory Council	Българската народна банка (Bulgarian National Bank)
Denmark	Det Systemiske Risikoråd (Systemic Risk Council)	Erhvervsministeren (Minister for Industry, Business and Financial Affairs)
Germany	Ausschuss für Finanzstabilität (Financial Stability Committee)	Bundesanstalt für Finanzdienstleistungsaufsicht (Financial Supervisory Authority)
Spain	*	Banco de España
Croatia	Vijeće za financijsku stabilnost (Financial Stability Council)	Hrvatska narodna banka
Italy	**	Banca d'Italia
Latvia	Latvijas Banka	Finanšu un kapitāla tirgus komisija (Financial and Capital Market Commission)
Luxembourg	Comité du risque systémique (Systemic Risk Committee)	Commission de Surveillance du Secteur Financier (Financial Supervisory Authority
The Netherlands	Financieel Stabiliteitscomité (Financial Stability Committee)	De Nederlandsche Bank
Austria	Finanzmarktstabilitätsgremium (Financial Market Stability Board)	Finanzmarktaufsichtsbehörde (Austrian Financial Market Authority)
Poland	Komitet Stabilności Finansowej (Financial Stability Committee)	Minister Finansów (Minister of Finance)
Slovenia	Odbor za finančno stabilnost (Financial Stability Board)	Banka Slovenije

**In Spain the macroprudential authority has not yet been officially established.*
*** In Italy, in 2016 the Government has been given powers by the Parliament to establish, by September 2017, the "Comitato per le politiche macroprudenziali" (Macroprudential Policy Committee*

)[1] Macroprudential authority established in accordance with Recommendation ESRB/2011/3.
[2] Designated authority established in accordance with Article 136 of Directive 2013/36/EU (CRD IV)

Source: European Systemic Risk Board
list of national macroprudential authorities, *(2017)*

3. A concrete example of macroprudential policy in the covid-19 pandemic

After having analyzed the macroprudential policies, and the problem ensuring their effectiveness, it can be interesting to examine the Coronavirus pandemic in this framework, focusing on the macroprudential policy established by the macroprudential supervisors during the first stages of the Covid-19 pandemic.

On the 15^{th} of April 2020 the Financial Stability Board releases a document about the Covid-19 pandemic in which it has been described the implication on financial stability and what measures have been taken since the initial spread of the virus.

As it is highlighted in the document, the new viral strain despite not being comparable with the past financial crisis, it is a new challenge and it is leading the world to a financial recession, indeed the SARS-CoV-2 has caused an unexpected macroeconomic shock. The pandemic since March is hitting all sectors such as the tourism, services and automotive, but it is spreading all over the different fields, leading the demand to decrease. One of the biggest challenges is that there are no previously similar cases, and of course this is making more complex the outline of guidelines, in addition a fundamental aspect to highlight is that even if now it seems possible to see an end of the pandemic, there is still no possible to estimate its magnitude, causing (in the initial phases of the pandemic) the lack of confidence of investors and consumers.

Moreover, as it is reported by the FSB, in this new scenario characterized by the uncertainty of the future development of the Covid-19 situation, the financial system is facing a high re-pricing and re-settling in the financial market, it is causing a decreasing trend in the economic growth belief and therefore a raising of risk aversion. The pandemic is leading to a period of high volatility as well as intense in foreign exchange rates, moreover it caused some measures to behave extraordinary. Furthermore, the Financial Stability Board, in its document, reported that since the beginning of the spread of the virus there have been taken some actions to help the financial system by the Central Banks and also by fiscal policy measures, besides the demand for bank credit is sharply rising.

3.1 Which toolkit has been used?

The different bodies have been taking different measures to help the resilience of the financial system and to support it.

As it is reported by the FIB report the actions taken can be analyzed from two different points of view, first of all looking at the measures taken from an “individual firm” level, and secondly more generally from a “wide-system” level.

The former measures focus on the operational preparedness of the financial institutions during this emergency, trying to help them being able to keep on with their financial services as well as the infrastructures of the financial markets that are more critical, trying to ensure the health and safety of the workers.

In addition, authorities, looking at pandemic plans, are reducing some parts of their supervisory role, as well as deferring some actions, for example they are postponing the financial reporting or stress test activities.
Moreover, at a “wide-system” level, Central Banks are facing the liquidity issue by reducing the interest rates, rising the funding operations and the assets acquiring.
Meanwhile, on the side of governments, they have step-in with fiscal measures and helping tools for both companies and households.

On the macroprudential sides, the tools that are being used are several. Jurisdictions for example have reduced countercyclical buffer, furthermore companies have had the freedom to use their capital and liquidity buffers. In addition, Authorities have advocated banks not to pay dividends till October and not to pay back shares for a period.

Looking at the macroprudential policy introduced by the Supervisor Authorities more in detail, the ECB has replied to the covid-19 pandemic firstly on the 12th of March 2020. After the first reply to the pandemic, on the 15th of April 2020, the European Central Bank, in a press release states that it supported the macroprudential policy taken in order to face the threaten of the pandemic in the financial sector.

In the bulletin the ECB states: "*The European Central Bank (ECB) supports the measures taken by euro area macroprudential authorities to address the impact of the coronavirus (COVID-19) outbreak on the financial sector. The ECB has assessed the notifications submitted by national macroprudential authorities for each proposed measure provided for in the Capital Requirements Regulation and Directive and has issued a non-objection decision, thereby endorsing the measures taken to reduce capital requirements, including the countercyclical capital buffer*".

In addition, to strengthen the measures taken by NCAs since 11th March 2020 it will free more than €20 Billion of Common Equity Tier 1 capital held by euro banks to absorb losses and support lending[1].

Thus, since the beginning of the pandemic the measure taken by the macro-prudential policy in euro countries reported by the ECB are the following[2]:

1. Countercyclical capital buffer (CCyB)
2. Systemic risk buffer (SyRB)
3. Other Systemically Important Institution (O-SII) buffer
4. Postponing the phase-in or introduction of announced measures.

Moreover, the European Systemic Risk Board have reported, as it is possible to see from the table below, all the macroprudential tools actuate by each member states reporting the beginning date and the due date.

[1] European Central Bank: measures taken on 12 March 2020 against Covid-19. [Last access 21/04/2020] https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200320~4cdbbcf466.en.html
[2] European Central Bank: Coronavirus measures taken by Authorities [Last access 20/04/2020] https://www.ecb.europa.eu/pub/financial-stability/macroprudential-measures/html/index.en.html

Table 3: Macroprudential measures ESRB

	Institution implementing the measure	Adoption date	Implementation date	Measure Applicable Until	Type of policy measure	Type of Measure	Measure targeting	Sector Targeting
AT	FMA/OeNB	25.03.2020			Macroprudential measure	SyRB	Financial sector	Banking sector
AT	FMA/OeNB	25.03.2020			Macroprudential measure	O-SII	Financial sector	Banking sector
BE	National Bank of Belgium	27.03.2020	01.04.2020	31.03.2021	Macroprudential measure	CCyB	Financial sector	Banking sector
BG	Bulgarian National Bank	19.03.2020	01.04.2020		Macroprudential measure	CCyB	Financial sector	Banking sector
BG	Financial Supervision Commission (FSC)	24.03.2020	01.04.2020		Macroprudential measure	CCyB	Financial sector	Securities and markets
CZ	CNB	01.04.2020			Macroprudential measure	Borrower-based measure	Non-financial sector	Households
CZ	Czech National Bank	26.03.2020	01.04.2020	31.03.2020	Macroprudential measure	CCyB	Financial sector	Banking sector
DE	BaFin	18.03.2020	01.04.2020		Macroprudential measure	CCyB	Financial sector	Banking sector
DK	Ministry of Business, Industry and Financial affairs	12.03.2020	12.03.2020		Macroprudential measure	CCyB	Financial sector	Banking sector
EE	Eesti Pank	06.04.2020	01.05.2020	not specified	Macroprudential measure	SyRB	Financial sector	Banking sector
FI	FIN-FSA	17.03.2020	06.04.2020		Macroprudential measure	SyRB	Financial sector	Banking sector
FI	FIN-FSA	17.03.2020	06.04.2020		Macroprudential measure	O-SII	Financial sector	Banking sector
FR	HCSF (Haut Conseil de Stabilité Financière)	18.03.2020	2.04.2020		Macroprudential measure	CCyB	Financial sector	Banking sector
FR	AMF	March 2020	March 2020		Macroprudential measure	Other measure	Financial sector	Securities and markets
HU	Magyar Nemzeti Bank (MNB)	1.04.2020	01.07.2020		Macroprudential measure	O-SII	Financial sector	Banking sector
HU	Magyar Nemzeti Bank (MNB)	18.03.2020	24.03.2020		Macroprudential measure	Other measure	Financial sector	Banking sector
HU	Magyar Nemzeti Bank (MNB)	18.03.2020	24.03.2020		Macroprudential measure	Other measure	Financial sector	Banking sector
HU	Magyar Nemzeti Bank (MNB)	18.03.2020	24.03.2020		Macroprudential measure	Other measure	Financial sector	Banking sector
HU	Magyar Nemzeti Bank (MNB)	18.03.2020	18.03.2020		Macroprudential measure	SyRB	Financial sector	Banking sector
IE	Central Bank	18.03.2020	01.04.2020	no subsequent increase would be announced before the first quarter of 2021 at the earliest.	Macroprudential measure	CCyB	Financial sector	Banking sector
IE	Minister for Finance	18.03.2020	18.03.2020	Until the Minister decides otherwise	Macroprudential measure	SyRB	Financial sector	Banking sector
IS	Central Bank of Iceland	18.03.2020	18.03.2020		Macroprudential measure	CCyB	Financial sector	Banking sector

IT	Banca d'Italia	20.03.2020			Macroprudential measure	CCoB	Financial sector	Banking sector
LT	Bank of Lithuania	31.03.2020	01.04.2020	The rate will not be increased at least until 01.04.2021	Macroprudential measure	CCyB	Financial sector	Banking sector
LV	The Financial and Capital Market Commission (FCMC)	26.3.2020	26.3.2020	Not specified	Macroprudential measure	Other measure	Financial sector	Banking sector
LV	The Financial and Capital Market Commission (FCMC)	26.3.2020	26.3.2020	Not specified	Macroprudential measure	Other measure	Financial sector	Banking sector
NL	De Nederlandsche Bank	17.03.2020	17.03.2020		Macroprudential measure		Financial sector	Banking sector
NL	De Nederlandsche Bank				Macroprudential measure	SyRB	Financial sector	Banking sector
NL	De Nederlandsche Bank				Macroprudential measure	O-SII	Financial sector	Banking sector
NO	Ministry of Finance	13 March 2020	13 March 2020		Macroprudential measure	CCyB	Financial sector	Banking sector
NO	Ministry of Finance	23.03.2020	01.04.2020	1.07.2020	Macroprudential measure	Borrower-based measure	Non-financial sector	Households
PL	Ministry of Finance	18.03.2020	19.03.2020		Macroprudential measure	SyRB	Financial sector	Banking sector
PT	Central Bank	24.03.2020	1.04.2020	30 September 2020	Macroprudential measure	Borrower-based measure	Non-financial sector	Households
SE	Finansinspektionen	14.04.2020	14.04.2020	31.08.2021	Macroprudential measure	Borrower-based measure	Non-financial sector	Households
SE	Finansinspektionen	16.03.2020	16.03.2020		Macroprudential measure	CCyB	Financial sector	Banking sector
SK	National Bank of Slovakia	13.03.2020	13.03.2020		Macroprudential measure	CCoB	Financial sector	Banking sector

Source: European Systemic Risk Board: Covid-19 measures. https://www.esrb.europa.eu/home/coronavirus/html/index.en.html

3.2 An initial assessment

The coronavirus pandemic has been an exceptional event in the world we live in, there has never been an event similar to the SARS-CoV-2 spread and even if it is still too early to determine and analyze the problems in ensuring the effectiveness of the macroprudential policy, something could be said.

Before the crisis enfolded, as it is highlighted in the report of the Financial Stability Board, "*Covid-19 pandemic: Financial stability and policy measures taken*", there were some aspects exposed to weaknesses. Some of them are for example the elevated levels of private sector debt as well as the public one, or the high levels of asset price. In addition to these ones, the pandemic triggered the new shocks which weakens more the financial fields such as the oil prices that surprisingly decreased with the result of raising the market volatility.

In the A. Bénassay Quéré; B. Weder di Mauro's works: "*Europe in the time of Covid-19"* they spoke about the covid-19 crisis in comparison with the crisis of 2007/2008. They highlighted that the biggest difference is that nowadays the world is more prepared, a lot has been done after the global financial crisis and new bodies have been introduced to face prudential supervision as well as prevent the risk to became systemic, as for example the establishment of the ESAs and the ESRB. Moreover, the Basel III issued in 2011, made new outlines on the minimal capital requirement and on the introduction of the other buffers. The world entered in this new crisis more prepared thanks to the fact that the banking sector is more strengthen, more liquid, the derivative market is more transparent, the European Stability Mechanism has been established and the ECB has several powers to intervene as, for example, to purchase sovereign bonds on an adjustment program. But on the other side, sovereigns entered in the crisis having accumulated a higher amount of debt. even if the ECB along with the national competent authorities have activated the different macroprudential policies in the different countries, these latter ones have entered the crisis having debts, overprized assets and narrow interests margin.

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