

Macprudential Instruments in Western European and World Countries

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Abstract:

Public references to macroprudential policy started in the mid—1980s and received new impetus in the early 2000s. Nowadays, the term, a solid approach to financial regulation and supervision, is commonly used as “prudential policy” following the recent financial crisis (Galati & Moessler, 2011).

In some countries, the need for macroprudential measures required immediate action to be taken.

Many had heard about the existence of these instruments but never got them tested to prevent risks in the financial system.

These instruments are implemented by supervisory authorities in specific countries. According to (IMF, 2011b), the number of countries adopting macroprudential instruments is small because of such policies’ use in recent years only, thus restricting the margin of safety in statistical analyses. The choice to implement macroprudential instruments in some way would solely favor high-risk countries that implement such policies as a response to economic and market developments.

According to (IMF, 2010), when used appropriately, macroprudential instruments can effectively help identify specific risks.

Effective macroprudential instruments are determined by different risk-related variables, which contrast the work of an instrument with a counter-scenario where no macroprudential instrument is used.

Experiences from various countries show that using instruments to achieve planned targets has proved successful. Some countries use them individually, whereas others combine or coordinate the instruments with other policies (IMF, 2013).

Key words: Micro-prudential regulation, Macro-prudential regulation, Financial Crisis, Systemic Risk, Monetary Policies

CASE STUDIES FOR SOME EUROPEAN COUNTRIES

Italy

As in many EU countries, the Italian financial system uses a very complex infrastructure. Relevant authorities are tasked with ensuring safety and functioning of this infrastructure to maintain financial stability. The Bank of Italy is the authority that maintains the stability of the national financial system by macroprudential overseeing of the banks and through implementation of policies that govern the entire financial system.

The European legislation specifies a series of macroeconomic measures for the banking sector that supervisory authorities should undertake in order to prevent or mitigate the risks to Italy's financial stability. The Bank of Italy adopts measures to address systemic risks resulting from other financial mediators as well as the financial markets (Banca d'Italia Numero 76 – Giugno 2014).

Just like any other central bank, the Bank of Italy performs its duties, e.x. maintains financial stability by analyzing in detail all the components of the financial system, for the purpose of identifying weaknesses and risks to financial stability.

While maintaining the stability of the country's financial system, the Bank of Italy is assisted by other European institutions and international organizations.

During the recent global crisis, lending in Italy accelerated by reason of the corporations' increased demand for funding and improved activities. Lending for households increased as well, the number of loans for immovable properties got bigger, and some steps helped reduce lending cyclicality.

The macroprudential instruments below were used by Italy in the recent crisis:

2007 – Caps on LTVs were introduced, along with advices against borrowing a housing loan with an LTV 80% higher than the amount requested. Demands for required capital in such cases were stricter (Source: IMF, 2011b).

France

According to the Central Bank of France (Banque de France February 2013), the key function of the financial system is to ensure efficient resource transfers from the lender to the borrower. Funding such activities is essential to economic development since they are the key promoters of economic growth. Funding can be provided in two ways¹ :

1. Directly from equity or bond issuance in stock markets;
2. Or bank loans.

Unlike other countries with better developed disintermediation, such as in the UK or USA, French banks play a major role in lending to the economy.

Bank loans are also the main source of financing for households and small- or medium-sized enterprises. A healthy financial system is requisite for a proper intermediation process, because it can correctly assess the financial risks and is able to mitigate any shocks, thereby easing the more serious consequences to the economy.

The Central Bank of France has developed numerous financial risk benchmarks based on market data by using analyses, modern methodology, and complex systems to identify

¹ Banque de France • Focus • No. 9 • 19 February 2013

the interrelatedness between financial institutions and discover the probable spread channels (Banque de France February 2013).

Because of the global financial crisis, Europe’s interbank market activities were affected by a liquidity problem. Authorities took action to diminish liquidity risks.

One of the first macroprudential instruments that France used in 2010 was the imposition of a reported monthly liquidity of 100% and exposure to customers or a limited group of customers no larger than 25% of the bank’s capital.

Macroprudential instruments in France were arranged in two categories, based on decisions of the supervisory authorities (Banque de France 2013): objective to mitigate procyclicality or raise the stability of the financial system to shocks.

To achieve the target, the instruments aimed at preventing the formation of bubbles by restricting the debt-to-income ratio (DTI) the second objective aimed at enhancing resilience and shock absorption for systemically important institutions, and increasing demand for liquid assets so as not to complexify the financial system.

Example of macroprudential instruments

Table 1

		Objective	
<i>Mitigate procyclicality</i>		<i>Enhance resilience</i>	
<i>Type 1: purely macroprudential instruments</i>			
	<ul style="list-style-type: none"> • Countercyclical capital buffers 	<ul style="list-style-type: none"> • Capital surcharges for systemically important institutions • Liquidity ratios 	
<i>Type 2: recalibrated instruments</i>			
	<ul style="list-style-type: none"> • Debt-to-income, loan-to-income and loan-to-value ratios • Dynamic provisioning 	<ul style="list-style-type: none"> • Systemically important institutions are prohibited from engaging in certain activities 	

Source: IMF

Norway

1998 – After recovering from the 1991 crisis, Norway saw a modest increase in housing prices and lending activity. In 1996, loans for households and housing prices grew annually in double figures. The only way to take action was to pause a further rise of house-price inflation and boost lending.

Macroprudential instruments used by Norway in 1998: The risk weight for loans with LTVs over 60%, from 50% to 100% (halted in 2001).

2010 – The country's domestic debt, mainly from housing loans, reached a new high and became a significant threat. The risk accumulation in the banking sector was caused by a mixture of domestic demand and supply factors. Demand factors included the accumulation of debt on the part of households, whereas supply factors concerned poor lending standards and agreements. The new measures aimed at addressing the high household debt problem.

Macroprudential instruments used by Norway in 2010:
DTI: Caps on DTI
LTV: 90% cap on LTVs for housing loans and 75% cap on LTVs for home equity loans.

Portugal

In 1996-2000, housing prices increased 17% and the debt-to-GDP ratio from 21% to 41% due to a fall in interest rates. The new measures targeted the stability of the banking system and the moderate growth cycles of specific sectors by limiting credit growth. The Bank of Portugal is the authority responsible for determining and implementing macroprudential policies. It identifies, monitors, assesses systemic risks, and proposes, adopts measures for a stable financial and banking sector.

In addition to implementing macroprudential policies, the Bank of Portugal makes recommendations to public and private subjects and is part of the European system for prevention and mitigation of financial stability risks.

The complexity and difficulty to guarantee financial stability, and the lack of experience in implementing macroprudential policies, has been a global problem in recent years.

However, the group of macroprudential policies identified by the Bank of Portugal complies with the decisions at European level.

The conditions for applying some instruments are explicitly laid down in the regulatory framework of the CRR/CRD IV package:

- 1- Countercyclical capital buffer, applicable from 1 January 2016 onwards
- 2- Buffer for systemically important institutions, applicable from 1 January 2016 onwards²;
- 3- Systemic risk buffer, already applied.
- 4- Sectoral capital requirements, already applied.

Some other instruments involved:

- 1- Stricter capital requirements for housing loans with LTV ratio above 75%;
- 2- Stronger provisioning requirements for consumer loans, up at 1.5%.

Table 2 presents the instruments selected by Banco de Portugal, according to the intermediate objectives defined for macro-prudential policy.

Table 2

Intermediate Objective	Macro-prudential policy instrument
Mitigate and prevent excessive credit growth and leverage	Countercyclical capital buffer Sectoral capital requirements Limits on the loan-to value ratio – LTV Limits on the loan-to-income ratio – LTI / debt service-to-income ratio – DSTI
Mitigate and prevent excessive maturity	Loan-to-deposit ratio

² Banco de Portugal (2014), “Strategy and instruments of macro-prudential policy”, Financial Stability Report, May 2014.

mismatch and market illiquidity	
Limit direct and indirect exposure concentrations	Systemic risk buffer Large exposure restrictions
Limit incentives for excessive risk-taking by systemically important institutions	Capital buffer for systemically important institutions (O-SII)

Source: DES-Financial Stability Department “Macroprudential policy in Portugal: Objectives and Instruments Dec’14

Ireland

Competition is considered to be the main trigger of the 2008 crisis in Ireland. According to governor Honohan, the financial crisis in Ireland was as a result of the rapid and unpredictable expansion in the United Kingdom. Back in 2008, Irish authorities held a different opinion about financial stability and banking competition (Gerlach, 2013).

The central issue that the Irish policymakers faced before the crisis was the lack of competition in the domestic banking market. According to Nyberg (2011), this contributed to weak lending. Only few attempts were made to balance the competition with foreign banks.

In 1999, Ireland together with 10 other EU members, accepted Euro as their official currency (IMF, 2013). The use of Euro would reduce foreign exchange risks between countries and enable smaller nominal and real interest rates. Soon, investors began demanding higher economic standards in rural areas, which would in turn facilitate funding by Irish-based credit institutions. The accession of Ireland to the eurozone gave foreign institutions an opportunity to extend their activities locally and provide new funding for Irish credit institutions. On the one hand, foreign banks lowered lending standards thanks to their market share, and on the other hand, Irish banks responded to changes by making improvements to lending rules. But as loans grew quickly, banks’ balance sheets started to narrow and lending standards worsened.

The introduction of the Euro and various other factors led Irish banks to use international funds or foreign investors' deposit accounts to bolster their balance sheets (IMF, 2013).

The foreign banking market during this period grew to a larger extent. According to Claessens and Horen (2012) estimates, the total number of banks in Ireland from 1999-2009 grew from 80% to 90%. In 2012, foreign credit institutions were at 56, while 17 were Irish-based.

As a result of the competition, local banks were forced to lower lending standards, and provided mortgage loans with 100% LTV. Competition also caused key changes to the lending process to take place, and local institutions that wanted to be distinguished started to approve more loans (IMF, 2013).

Irish competition was willing to grant loans even when nonperforming, but did not approve them by itself (Nyberg, 2011). Higher profit rates effected big pressure on larger banks like Allied Irish Bank and Bank of Ireland, with regard to credit approvals and risk assessment practices. The banks were confronted with an inability to cope with the pace of the Anglo Irish Bank. A study conducted by the European Central Bank over the leading bank concluded that competition between banks progressively worsened lending standards, and home purchase loans in particular (IMF, 2013).

Lending institutions in Ireland pursued a revenue-growing strategy that, in most cases, directed at non-essential funding. The overall growth in banks' balance sheets surpassed the funds in retail term deposits. Inevitably, the retail sector shrank to 8% in the wake of crisis. Non-Irish individuals' deposits rose remarkably during the 2003-2008 period. The gap that was created from non-essential liabilities, especially for non-Irish individuals, rose from EUR 79 billion in 2003 to EUR 271 billion in 2008. Government bonds issued to foreign investors also contributed EUR 54 billion in the 2003-2008 balance sheets (IMF, 2013).

Spain

As stated in an IMF study (2011b), dynamic provisions were one of the macroprudential instruments used by Spain in 2000. For banks, it meant that they needed to create a reserve fund periodically, and calculate it based on a formula that took into account specific average provisions and the most recent special provisions, as well as the average loan loss provisions within a full economic cycle. The method was called "Dynamic Provisioning," because its contributions in the countercyclical fund varied according to the economic cycle. Such provisioning was introduced in Spain around 1999 when the country had just joined the eurozone. The main purpose of such provisioning was to withstand the rise in credit risks and give the banks a stimulus for prudential lending to preside over credit growth, because "moral convictions" were ineffectual and had driven competition among banks providing various types of loans at low rates. Moreover, the considerable decrease in the number of bad loans showed special provisions were low (IMF, 2011b).

During the '90s, accession in the eurozone gave higher priority to reduced inflation and stronger fiscal policies. Inflation at banks was obviously reduced, as was the risk premium on lending, and long-term interest rates fell close to zero³, which were instrumental to cheaper funding than ever before. Banks were providing loans at easier terms both for households and businesses, which led to increased lending. Lending for immovable properties accounted for the most part, causing housing prices to initially rise by 10% and to 20% around 2005 (Alberola et al, 2011).

Macroprudential instruments in Spain were used as a distinct measure to protect credit. Compared to normal provisions, which consisted of general and special provisions, "dynamic provisions" were more stable. Dynamic provisions increased significantly during the fall in credit cycles and when the ratio of nonperforming loans climbed (Jimenez et al, 2012).

³ From around 4-5% in mid-1990.

As dynamic provisions were expected to fade the magnitude of "normal" provisions, authorities believed they could help with unsustainable revenue. "Fine tuning" of dynamic provisioning was applied in several categories of loans, including mortgage loans and credit cards. Dynamic provisions were also adapted to be used only once to reduce provisioning rates in 2005, as bad loans had surged to 300% and loan loss provisions dropped. We could say that the instruments used conformed to rules (IMF, 2011b).

The contributions of dynamic provisioning were demonstrated by the variation between average provisions and actual provisions. Dynamic provisions had a different cycle from special provisions, which were smaller during higher lending activity and higher during periods of unavailable credit. In Spain, the coordination of different policies has been insufficient. The monetary requirements set by the European Central Bank were not as strict as needed for a stricken economy as Spain. More rigorous rules were specified in 2008 only, when the crisis had eroded the country. Spain introduced harsher conditions than the EU-directed when it came to immovable property exposures, both for businesses and households. This deliberate move penalized demands for mortgage loans, rated riskier, because the capital pledged as security for repayment of the loan was inadequate (Alberola et al, 2011).

The instruments used by Spain were very effective in covering loans during the financial crisis. As lending improved, house prices started to trend downwards and the banks ameliorated their NPL ratios, especially their exposure to immovable properties. Loan losses were absorbed by dynamic provisioning. The rise in overall provisioning costs was lower than the cost of special provisions. Once the dynamic provisioning formula was equalized, loan losses were higher than anticipated and their coverage, incomplete. Loan loss reserves should cover predictable losses whereas the bank's

capital covers unpredictable losses. It is likely that with previous regulations, the rate of dynamic provisioning does not reflect a prudential prediction of expected losses (IMF, 2011b). However, capital requirements would be much higher in the absence of dynamic provisions. Full undifferentiation of rates on dynamic provisions allowed some banks to be less covered and to operate without decent insurance. Only few banks managed to keep their coverage ratios high. We could say that dynamic provisioning was less effectual in reference to stopping the rise in mid-term loans (Alberola et al, 2011).

Brazil

Since the onset of the global financial crisis, the macroprudential toolbox of the Central Bank has varied with the domestically-generated asset prices dynamics coupled with responses to shifting spillovers generated by global imbalances. This combination of internal and external constraints has been challenging to policymakers (Canuto & Cavallari, 2013).

According to Moreno (2011), Brazil has made use of macroprudential instruments as a means to tackle key types of macroeconomic and financial risks, risks of domestic contagion/spillovers arising from common exposures, such as fire sales externalities, and network links; domestic credit and market risks from rapid credit growth and booms in asset prices; and risks of spillovers and contagion from international markets (Borges & Gon, 2013).

The following will account for only a general overview of the macroprudential policy instruments used by the Central Bank (Canuto & Gosh, 2013).

Credit policies in Brazil – Traditionally an imperfect market in Brazil, since 2009 credit markets saw a fast growth in consumer loans, followed by a predictable deterioration of portfolios that posed a risk to financial stability. These circumstances urged the Central Bank to adopt, among other macroprudential measures, capital requirements on credit

operations to households involving longer maturities and higher LTVs and to increase the minimum payment for credit card bill from 15% to 20%. With respect to the real estate credit markets, the Central Bank acknowledges that the total volume has seen a strong growth but notes that the real-estate-credit-to-GDP ratio is still low when compared to other countries (Borges & Gon, 2013).

Concerned with the rapid housing prices appreciation, the IMF (2013b) has called upon the regulator to consider implementing official maximum limits on loan-to-value (LTV) and debt-to-income (DTI) ratios pre-emptively to prevent the build-up of systemic risks in the housing sector.

As an immediate response to the financial crisis, Reserve Requirements on demand and time deposits were relaxed as a countercyclical measure destined to alleviate the symptoms of the credit crunch that characterized the period (Borges & Gon, 2013). Starting in 2010, Quantitative Easing pushed the Central Bank to increase bank reserve requirements to dampen the transmission of excessive global liquidity to the domestic credit market. In the view of the IMF, RRs were temporarily effective in raising interest rate spreads and curtailing credit growth, leading the Central Bank to impose further RRs in order to prevent circumventions of the measures.

Capital Management Techniques – The Brazilian Central Bank has used several CMTs to curb the volatility of capital flows, such as the manipulation of the Financial Transactions Tax (IOF) on foreign investments in fixed-income portfolio and equity funds, on margin requirements for FX derivatives transactions (DMTs) and on foreign loans with lower maturities; imposition of reserve requirements on short dollar positions in the FX spot market; requirements that FX operations must be priced according to an only method, registered in clearing houses and that exposures of agents must

be consolidated; implementation of a financial tax on agents with excessive long positions in BRL, etc. (Borges & Gon, 2013). In the judgment of the IMF, the macroprudential measures in the form of CMTs and DMTs have been largely successful to achieve its goals and to reduce specific types of capital inflows (IMF, 2013a).

China

China's State Council is the highest authority accountable for the country's government and the public administration, policy and strategy implementation, and specific orientations from the Communist Party of China (Romana 2005, as quoted by Borges & Gon, 2013). Under this Council there are other institutions that play as important a role in the macroprudential environment, particularly in the People's Bank of China and regulatory agencies. The People's Bank of China plays a role in financial distributions and regulates monetary stability (IMF, 2011b).

According to a People's Bank of China 2011 report, the goal of the 5-year plan was implementing a countercyclical macroprudential framework, using quantitative and price-based instruments for macroeconomic management. The People's Bank of China enforced the macroprudential rules via credit policies which differentiated the required reserve ratio from the initial minimum payment ratio, yielding positive results. After the eruption of the world crisis (2007), in 2009, the People's Bank of China began to study macroprudential measures following agreements by the central government (Borges & Gon, 2013).

The financial crisis had an impact on the compilation of macroprudential policies and changed the way local governments funded their budgets and invested. Besides the central government institutions, macro-policies were established for other institutional levels as well. The introduction of government stimuli foresaw local governments

had to find financial resources. These events created the circumstances for withdrawal of high-risk loans (Borges & Gon, 2013). Improved lending in China was partially supported by loans for local government-funding platforms, vehicles used for road infrastructure and immovable property sector, including loans for developers and housing loans. The earliest problems in the immovable property sector appeared in the second half of 2009, with house price rates up 15-20%, until the beginning of 2010.

In 2010, a set of measures were approved to interrupt credit growth and house price inflation, “fine-tuned” to differentiate between first home and second home mortgage loans.

Policymakers changed these over time by incorporating fiscal and administrative measures, and interest rates (IMF, 2011b).

In April 2010 – Caps on LTVs were lowered from 80% to 70% for first home and to 50% for second home.

September 2010 – Mortgage loans for third home were suspended.

January 2011 – Caps on LTVs for mortgage loans were lowered to 40%.

April 2010 – Interest rates on mortgage loans were increased for second home.

In 2010 – Major banks were asked to introduce capital measures, countercyclical and systemic capital buffers which increased the minimum capital ratio from 11.5% to 8%. Loan loss provisions also increased from 100% to 150% for NPLs.

January 2010 – Taxes on property resale within five years from purchase were increased (IMF, 2011b).

September 2010 – In cities with high housing prices and no housing options a limit was imposed on the number of homes a family could buy. The official lending rate increased 5 times during October 2010-July 2011. The measures were effective because they reduced lending and house price inflation.

Lending from banks in 2009-2011 slowed down from 31.7% to 16.9%. Property sales increased only 6% in 2011, compared with 30% in the same year-ago period. Sales in major cities also dropped notably (IMF, 2011b).

In China, reserve requirements have been "adjusted," i.e. each financial institution gets assigned a singular ratio that depends on systemic performance. The LTV requirements for first and second homes decisively affect China's macroprudential policies because of their probable impact in the immovable property market inflation. It is important to emphasize that while some Chinese banks have not fully adopted the Basel II standards, authorities have imposed an additional requirement for mitigating losses using conditional capital and anti-cyclical capital buffers recommended by Basel III (Borges & Gon, 2013).

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