Risk Management at Global Level: Strengthening the Resilience of the Global Financial System

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Abstract

The concept of resilience applied to societies, businesses, services and financial systems requires strong governmental or central bank commitment under fast changing economic and social conditions. Globalization has also resulted in a globalized financial system. In such an environment, it is vital to have sound global "emergency response options" to potential economic or financial shocks. Besides dealing with the adequacy and the availability of these options, this paper aims to examine macroeconomic policies that can mitigate the impacts of the shocks, the fragility of the global economy today and how the resilience of the global financial system can be strengthened.

Keywords: resilience, crisis management**,** financial system

Introduction

Fast changing economic and social conditions create higher probability for unexpected and uncommon crises. Building resilience to shocks at all levels requires strong governmental or central bank commitment, as today's crises demonstrate a diversity and complexity that challenge crisis management in many ways. Innovative crisis management responses helped the leading economies of the world cope with the consequences of the global financial crisis of 2008. Fiscal expansions contributed to boosting growth, while central banks introduced unconventional monetary policies including quantitative easing, forward guidance and negative interest rates on banks' deposits with the central bank.

Globalization has resulted in an increased interdependence of production and delivery systems as well as a globalized financial system. The past three decades saw constant changes in various fields. Structural changes in the financial system started in the 1980s and reflected trends of widespread financial deregulation, opening-up of capital markets, financial innovation, securization and lightly regulated institutions. Interconnectedness has changed due to increased connectivity and so have vulnerabilities.

Large financial institutions operate across international borders. The composition of financial institutions' assets and liabilities shows differences: banks now obtain less funding from retail deposits and more from wholesale markets. The ways in which financial institutions measure and manage their risks have changed as well. These changes have built concerns. Are market participants capable of assessing risks of new financial instruments accurately? If they are mispriced, they may build to excessive levels. While international risk sharing, competition and efficiency have increased owing to the growing presence of foreign intermediaries, the risk of transmitting financial shocks across borders has become higher, which intensifies cross-border spillovers through different channels. Emerging markets relied on external financing were affected by spillovers through capital account and bank funding pressures. These economies were confronted with sudden stops or reversals of capital flows. Macroprudential policies are designed to mitigate this risk.

The aim of this paper is to introduce the new responsibility of central banks in pursuing macro-prudential policy, provide a brief overview of its tools and explain how they serve the objective of financial stability in strengthening the resilience of the global financial system. The paper is structured as follows. Section 1 provides a brief summary of the concerns the crisis demonstrated, Section 2 introduces the concept of systemic risk and the changed role of central banks in the aftermath of the global financial crisis. Section 3 addresses other central bank objectives and macroprudential responsibilities, while section 4 presents the range of instruments available to macro-prudential policy makers, followed by the analysis of the relation between global financial integration and the effectiveness of macroprudential tools with regard of the limitations of these policies in Section 5. Section 6 deals with the issue of resilience in the EU.

Research Methodology

The methodology of my research is primarily based on analyzing qualitative data and integrating different arguments systematically. I have developed critical assessments of their meanings and value while using logical, explanatory, exploratory and evaluative methods of analysis.

Concerns and Weaknesses that the Financial Crisis Brought to Surface

High degree of leverage of financial institutions and borrowers contributed to the spread of shocks. Leverage increased sharply in the financial sector at European commercial banks and through the shadow banking system, investment banks and non-deposit-taking institutions in the US. The household debt-to-assets ratio measures households' leverage. High leverage limited the system's loss absorbing ability and led to rapid decline in confidence. Loan-to-income values were larger than in the past, which made households highly exposed to shocks. Due to high loan-to-value mortgages even moderate declines in house prices were enough to push many households into negative equity. Problems in the household sector played a bigger role in this crisis than in previous crises. While there are well-known international best practices to confronting corporate defaults, the lack of such practices for households, moral hazard, the number of cases made it a lot more complicated to tackle the issue.

The financial crisis has brought a number of weaknesses in global financial architectures, macroeconomic policy and financial regulation to surface. These include the assessments of systemic risks and vulnerabilities, the treatment of systemically important financial institutions (SIFIs) and the resolution of financial institutions. The crisis triggered large government interventions, which helped avoid the meltdown of the financial sector through stabilizing financial systems and regaining confidence. These

interventions were distortive both directly and indirectly as they used non-market ways in supporting financial institutions and distorted asset prices and resource allocation.

Regulatory tools failed to mitigate economic downturns or weaken the procyclicality of financial markets and the build-up of leverage. Countercyclical prudential policies that reduce systemic risks and include countercyclical capital regulation and loan loss provisioning requirements are the components of the new framework.

The Changed Role of Central Banks

The global financial crisis has challenged central banks in many ways. Since its foundation, the central bank has been the government's banker and since the late 18th century it has been banker to the banking system i.e. the bankers' bank. In other words, a central bank is positioned within a two-tier relationship: with the government and with the market. The crisis has proved that price stability does not guarantee financial stability.

While price stability remains the primary objective of the monetary policy, micro and macro-prudential policies play a significant role in reducing the likelihood of systemic events and minimizing the negative effects on the economy. There is still little consensus as to the definition of financial stability. It is widely accepted that systemic risk is a critical threat to financial stability. Systemic risk can be analyzed from its origins, transmission channels, outcomes, prevention and resolution. the degree of probability on which a certain risk will exert a systemic aftermath will determine the nature of the risk (Han, 2014). In interdependent banking networks, the strong linkage will increase the chance of a systemic risk, while the weak linkage will reduce its appearance. The character and conduct of central banks' approaches to facilitating systemic stability demonstrate the signs of convergence or divergence and multiple pathways.

Convergence has often co-existed with divergence in central banks' history. Although their legal frameworks are similar, they have operated with different two-tier relationships, which resulted in different outcomes in the central banks during the crisis. The relationship between the central bank and the government means a lot more than the legal provision. Despite operational independence granted by law, the actual levels of autonomy vary from market-oriented to government-controlled central banks (Solt,2017).

Considering the central banks of leading economies, the US Federal Reserve (Fed) maintained its independence within the government, but the Bank of England (BoE) gained operational independence in the late 1990s, with HM Treasury remaining influential upon both monetary policy and financial regulation. The global financial crisis left central bank independence intact but with enhanced and extended transparency and oversight from both the Treasury and the Government Accountability Office (GAO). In the UK the power of HM Treasury was explicitly expanded. Contrary to the Fed and the BoE, both the government-controlled Bank of Japan (BoJ) and People's Bank of China (PBC) came under further direct political control.

The global financial crisis expanded certain divergences between the four economies. Between the US Fed and the BoE, more differences in independency and financial regulatory regimes became evident, while further gaps emerged between market-oriented and government-controlled central banks. The independence of the European Central Bank (ECB) is specific. As an autonomous institution, ECB cannot be instructed by third parties, i.e. governments or international political councils; it is not responsible to any subordinate organization nor to any legitimizing body. The legal independence of ECB is based on four pillars according to the Treaty.

The central banks of leading economies examined within the scope of this paper operated within similar legal frameworks during the global financial crisis; they were in different relationships with their governments and the markets; they relied on different

approaches and focuses to restore financial stability; and accordingly, their two-tier relationships have been affected by the crisis in different ways. Central banks tried „every possible remedy but applying the rule of law" (White, 2010) to restore financial stability.

During the global crisis, most banks did not limit themselves to the orthodox policies for crisis management, but explored new Unconventional Monetary Policies. In the US, for instance, there are special rules and procedures for bankruptcies of financial institutions. The failing institutions should have been acquired or liquidated, rather than bailouts which had been made by the authority, if those existing rules had been complied with. Government intervention went on more visibly and directly in Japan and China. The core two-tier relationships of their central banks were affected by some statutory changes thus the gap between their respective legal frameworks and the real two-tier relationships increased, which enabled their governments to increase the depth of their intervention more easily (Han, 2014).

ECB undertook extraordinary measures during the financial crisis. Independence is not only a matter of the legal framework but of the actual implementation of monetary policy as well. The Bank explicitly pledged to do "whatever it takes" to preserve the euro as the common currency. Draghi (July 26, 2012) confirmed that within their mandate, ECB is ready to do „whatever it takes to preserve the euro."). The Bank added a second, and potentially contradictory goal alongside its primary mission of achieving price stability. In April 2014, ECB suggested the possibility of implementing „unconventional instruments" owing to the risk of a prolonged period of low inflation. From an economic standpoint, central bank independence is only valuable as long as it helps to improve macroeconomic achievements. As long as ECB has to support the economic strategies of the euro area, it can only do so to the extent that the goal of price stability is not threatened.

Other Central Bank Objectives and Macroprudential Responsibilities

Before dealing with the new macroprudential objectives of central banks, this section first compares the prime monetary policy and other objectives of the central banks of some leading economies: ECB of the EU, the US Fed, BoE of the UK, PBC of China and BoJ of Japan. Their prime monetary policy objectives are nearly the same that is maintaining price stability with maintaining the stability in the value of the currency for China and an additional goal of moderating long-term interest rates for the Fed.

Other objectives include achieving the goal of economic stability and convergence of the member states for ECB, boosting employment and supporting economic growth for the Fed, supporting government's economic policy for growth and employment for BoE, promoting economic growth for PBC and enhancing the sound development of the economy, and achieving an orderly payment and settlement system for BoJ.

Central banks are increasingly responsible for meeting both "traditional" monetary objectives and macroprudential objectives aimed at ensuring financial stability. Financial stability is a state in which the financial system is resistant to economic shocks and can smoothly fulfil its basic functions: the intermediation of financial funds, management of risks and the arrangement of payments. An unstable financial environment can hinder the sound and sustainable development of the economy even if shocks do not result in crises. The ultimate goal of macroprudential policy is to mitigate excessive systemic financial risks. Systemic risk can be defined as "a risk of disruption to financial services that is caused by an impairment of all or parts of the financial system and has the potential to have serious negative consequences for the real economy" IMF (2009 October, p.2). This sheds light on the fact that financial intermediaries, markets and infrastructure can be systemically important. Systemic financial risks can be divided into two types: cyclical and structural systemic risks. Market imperfections in financial intermediation and vague

risk perception lead to excessive risk-taking, which may be, in a financial crisis, replaced by excessive risk aversion. Cyclical systemic risks refer to this phenomenon. Structural systemic risks refer to the contagion effects, which means that the crisis can spread fast due to the interconnectedness of financial participants.

In order to successfully address the relevant market problems, the new macroprudential responsibilities had to bring new policy tools, which raised principal policy design problem for central banks. Based on systemic risk phenomena, macroprudential policy objectives can be defined as follows:

i. Preventing excessive credit growth
ii. Managing liquidity risks
iii. Restricting excessive concentration
iv. Dealing with SIFIs to avoid moral hazard
v. Strengthening the resilience of financial infrastructures.

Use of macroprudential policy tools contributes to improving the resilience of the financial system and decreasing the build-up of vulnerabilities. The diversity of financial stability risks faced by EU member states is reflected in the different ways that some of the instruments can be used by macroprudential authorities. The range of tools and the discretions available within them allows members to safeguard financial stability at a domestic level which contributes to the stability at the level of the European Union.

The Macroprudential Policy Toolkit

This section is to give a brief overview of the instruments that tackle the risks in accordance with macroprudential policy objectives. (European Systemic Risk Board)
Tools to prevent excessive credit growth:

The countercyclical capital buffer (CCyB) is designed to help counter pro-cyclicality in the financial system. When cyclical systemic risk is found to be increasing, capital should be accumulated thus creating buffers that increase the resilience of the banking sector during periods of stress. This will help maintain the credit supply and moderate the downturn of the financial cycle. The CCyB can also help curb excessive credit growth during the upturn of the financial cycle.

Debt cap rules (loan-to-value ratio and debt-to-income ratio) limit the value of the loan available to retail borrowers and the debt service costs proportionally to the underlying collateral and households' disposable income. This regulation can prevent excessive credit outflow and excessive indebtedness while decreases the probability of cyclical risks.

Defining risk weights for exposures with property collateral and minimum average loss given dafault (LGD is to address asset price bubbles in the real estate sector. LGD values are defined for exposures to households with property collateral.These tools affect the shock-absorbing capacity of financial institutions.
Instruments to manage liquidity risks:

The liquidity coverage ratio requirement expects banks to hold a sufficient quantity and quality of liquid assets to tackle a short-term (30-day) liquidity shock and to avoid emergency sales of assets and a downward spiral in asset prices. Compliance with this requirement can be ensured by raising the stock of high-quality liquidity assets and by borrowing longer-term funds. The adequate timing of the instrument's introduction is essential, as these measures may reduce the profitability of the financial sector and may lead to falling lending activity.

The foreign exchange funding adequacy ratio dampen the external vulnerability of the banking sector. Institutions are expected to hold a sufficient amount of stable foreign currency funds proportionally to their foreign currency assets which require stable financing. It reduces the risks of balance sheet currency and maturity inconsistencies as the banks are oriented to using long-term financing.

The foreign exchange coverage ratio sets a limit to the degree of currency mismatches between assets and liabilities relative to the balance sheet total.This tool reduces banks' reliance on off-balance sheet instruments and the risks of their use.

The mortgage funding adequacy ratio sets a minimum level of mortgage-backed securities required relative to the amount of household mortgage loans.These securities mean, long-term, low cost funding and are stable enough due to their risk rating.

The interbank funding ratio determines the maximum weighted amount of liabilities originated from financial corporations thus reducing the risk of excessive reliance on funds from financial corporations and systemic risk.

Tools to restrict excessive concentration:

The systemic risk buffer is intended to increase the resilience of the financial sector to structural macroprudential risks. Its rate is defined by the authorities. The buffer increases the loss-absorption capacity of institutions either through adding capital or reducing risk-weighted exposure values.

Tools to deal with SIFIs:

Systemically important credit institutions and investment firms are identified and monitored by the authority. Additional capital buffer requirement is imposed on these institutions, if necessary. The requirement can reduce the extent of their risk-taking willingness and tackle the moral hazard problem, It is important to minimze the probability of negative external financial and real economy impacts of important institutions as well as to limit the severe contagion effects of systemically important institutions.

Global Financial Integration and the Effectiveness of Macroprudential Tools

Greater openness to international financial markets is likely to reduce the effectiveness of macroprudential tools, which is challenged by leakage problems It could also worsen the trade-offs authorities face when pursuing financial stability objectives (Obstfeld, 2015). When financial activity leaves the scope of application and enforcement of the macroprudential instrument, leakage problems occur. Domestic leakage means that financial activity moves to domestic financial service providers outside the initial scope of macroprudential tools, while in case of cross-border leakages, the activity goes to foreign service providers out of national measures. There are strategies existing to address the leakage problem including extending the scope of policy instruments to non-bank and foreign credit providers or controlling foreign subsidiaries, affiliates or branches. (IMF-FSB-BIS, 2016).

Due to interconnectedness, financial distress in one institution raises the probability of financial distress in other institutions because of the network of relations in which the institution operates. This chain effect operates on both sides of the balance sheet, which means that there are inter-connections on the funding side as well as on the provision of funds.

Capital tools can lead to increased provision of credit by non-bank companies, such as finance companies, or by bank affiliated leasing companies if consolidated supervision is not effective. As a result, capital tools may fall subject to domestic leakages, whereas cross-border leakages can cause challenges to capital-based tools. This occurs in case of branches, or where local corporations can borrow directly from abroad. In such cases,

additional measures may be considered e.g. recommendations for the fiscal authorities to address tax distortions encouraging corporate borrowing.

Global financial integration makes macroprudential policy be affected by different cross-border impacts. They can be positive such as *externalities* from appropriate macroprudential action, *leakages* that undermine the effectiveness of domestic action, unfavourable *spillovers* of action of other countries and moving of activities across borders. Domestic macroprudential policy is effective when it contributes to containing risks in one country. Such a policy can support financial stability elsewhere and is regarded as positive externality. Sound and effective macroprudential policies can diminish the likelihood of a financial crisis in one country, which reduce the scope for negative spillovers at the regional or international level. National macroprudential frameworks can be strengthened by international arrangements, which include IMF surveillance and Financial Sector Assessment Program, FSB peer reviews, BIS central bank meetings. Leakage problems can be addressed by an agreement between countries on "reciprocity" in the imposition of macroprudential measures targeting domestic exposures. This approach is demonstrated in the Basel III agreement on the Countercyclical Capital Buffer. EU authorities have developed a similar, voluntary approach aimed at all measures addressing exposures.

Macroprudential measures taken by one country can also affect cross-border lending. They can create negative spillovers for other countries. Tightened measures with more than just a domestic scope can lead to a reduction in lending into other countries, particularly when it occurs in times of financial stress. Expansionary effects may arise when banking groups respond to a domestic tightening by increasing their lending abroad. It is not undesirable when it goes to less vulnerable economies, but macroprudential steps have to be considered to prevent a credit boom or other financial imbalances in the recipient country.

Limitations to macro-prudential policy

There are also limitations to macro-prudential policies. Macro-prudential policies may be circumvented by banks, if they are designed deficiently. There are other financial intermediaries e.g., shadow banking entities or foreign branches that are not subject to the measures. They may adopt business strategies that undermine the intention of the policy. Arbitrage or policy leakages discussed above remain key areas of concern for macro-prudential policymakers. Monetary policy can also curb the effectiveness of macro-prudential policies, particularly if the policies have clashing goals e.g., expansionary monetary or fiscal policies are incompatible with restrictive macro-prudential policy.

Both monetary and macro-prudential policies affect the credit and therefore interact, which may lead either to conflicts, or to complementarity. It depends on the moves in the real and financial cycles. The objectives of monetary and macro-prudential policies need to be taken into account to avoid their potential conflict.

Fiscal policy also interacts with macroprudential policies. Tax measures, for instance, on housing strongly affect credit and property pricing.

The resilience of the Eurozone

The global crisis has raised the question: Is the Eurozone resilient enough to withstand the bad shocks that it is likely to face in the forthcoming months and years? There appears to be a consensus that the EMU in its current state is not resilient. The deepening of the Eurozone has been put on the agenda, which raises the old dilemma whether deepening or convergence should take place first. Economic convergence has not been sufficient in EMU. Large differences have remained in key areas despite some progress has been made

in current account balances and the government balances. The structural recovery of European economies is still questionable. New EMU policy package has been launched: European Monetary Fund (EMF), which in line with the idea of deepening of the EMU, would enhance its resilience. Literature identifies three main types of convergence: real, nominal and cyclical convergence (Van Loon, Y. 2017). Convergence on income (real convergence) or government balances (nominal convergence) focus on output rather than institutions and related policies. As the idea that nominal convergence would lead to real convergence has been strongly criticized, a new alternative has taken place, which is convergence in economic structures. It implies a more direct focus on the fundamental soundness of national economies and the role of the EU and its internal market.

Resilient economic structures would prevent macroeconomic imbalances and would be more capable of addressing economic crises. Furthermore, a well-functioning European market would provide important shock absorbers through increased capital and labour mobility as an important sign of a well-functioning monetary union. It also requires good national institutions and a stable macroeconomic environment. The national economic structures are examined by looking at five indicators of the Global Competitiveness Index (GCI): the quality of institutions; macroeconomic environment; financial market development; goods market efficiency; and labour market efficiency. EMU economies need to continue to reform and address the fundamental health as well as openness of their capital and labour markets.

Conclusion

Systemic events such as sector-wide banking crises have significant real impacts as demonstrated by the recent global crisis. Macro-prudential policy aims to reduce the likelihood and scale of systemic crises in the future, strengthen the resilience of the financial sector and diminish the possibility of systemic vulnerabilities to build up. According to the definition of resilience "it requires the ability to absorb shocks while retaining system functionality, to self-organise, and to innovate and learn" (Greenham et al. 2013). Recent financial crises have shown that such vulnerabilities can emerge through the pro-cyclicality of bank lending and interconnectedness. Highly interconnected financial systems dominated by large banks can amplify the impact of such weaknesses in a downturn. Policy makers now have a range of instrument to address financial stability. The efficiency of the banking industry has been increased recently. As maximum efficiency and resilience are conflicting, and so rather than seeking to maximise either, they should strive to find the optimal balance between them.

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