

Financial stability and macroprudential policy

"The crisis has taught us that market economies may be intrinsically unstable. And the costs of this instability are considerable. Whether we look at unemployment, or public debts, it will take many years to deal with the legacy of those few months where the global financial system was on the verge of collapse." Christian Noyer, July 2011

Between 2007 and 2009, the global financial system underwent a crisis of almost unprecedented proportions. It spread, in turn, to different markets, different players and different countries, before severely affecting the real economy. This episode illustrates the importance of the stability of the financial system, i.e. the ability of the financial intermediaries, markets and market infrastructures that comprise it to withstand shocks and allocate savings to profitable investment opportunities without major failures. This Focus highlights the importance of financial stability for the smooth functioning of the real economy and presents the operational objectives and instruments of a public policy, i.e. macroprudential policy, whose explicit and primary aim is to guarantee the stability of the financial system as a whole.

Why is financial stability essential?

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The financial system has undergone major transformations in recent years, while remaining closely linked to the real economy, which itself relies on the former in order to function properly.

A sound financial system is necessary for economic development...

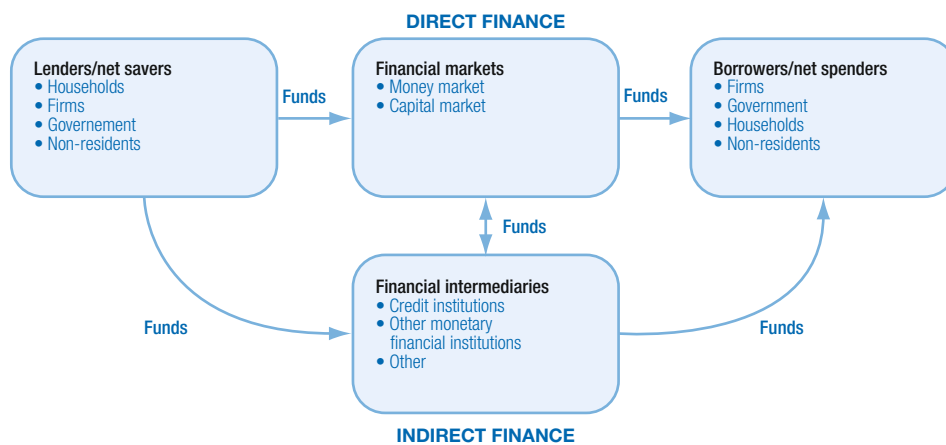
This financial system is made up of three types of entity:

- the financial markets, which are real or virtual places that bring together players with excess capital (lenders) and those with a shortage of capital (borrowers);
- financial intermediaries, such as banks, insurance companies or institutional investors, whose role is to help connect lenders and borrowers. They can also, like borrowers, raise funds directly on financial markets by issuing securities (equities or bonds);
- financial infrastructures, which are responsible for payment transfers and securities trading, clearing and settlement.

The primary function of the financial system is to ensure the efficient transfer of resources from lenders to borrowers. In particular, it provides for the financing of the production of goods and services and household consumption. The financing of these activities is essential to economic development, as they are the main drivers of economic growth. This financing can be obtained through two channels: either directly by issuing securities (equities or bonds) on financial markets, or via banks that grant loans. In modern economies, these two channels are complementary. However, on average, in France banks play a greater role in the financing of the economy than in other countries where disintermediation is more developed, such as the United Kingdom or the United States. Moreover, bank lending is the main source of financing for households and small and medium-sized enterprises.¹ A healthy financial system is therefore a prerequisite for an effective intermediation process, as it allows financial risks to be correctly assessed and is capable of absorbing financial and economic shocks without major repercussions.

¹ See Boutillier and Bricongne (2011).

Functions of financial systems



Source: European Central Bank

... and its malfunctioning could have serious consequences for the real economy

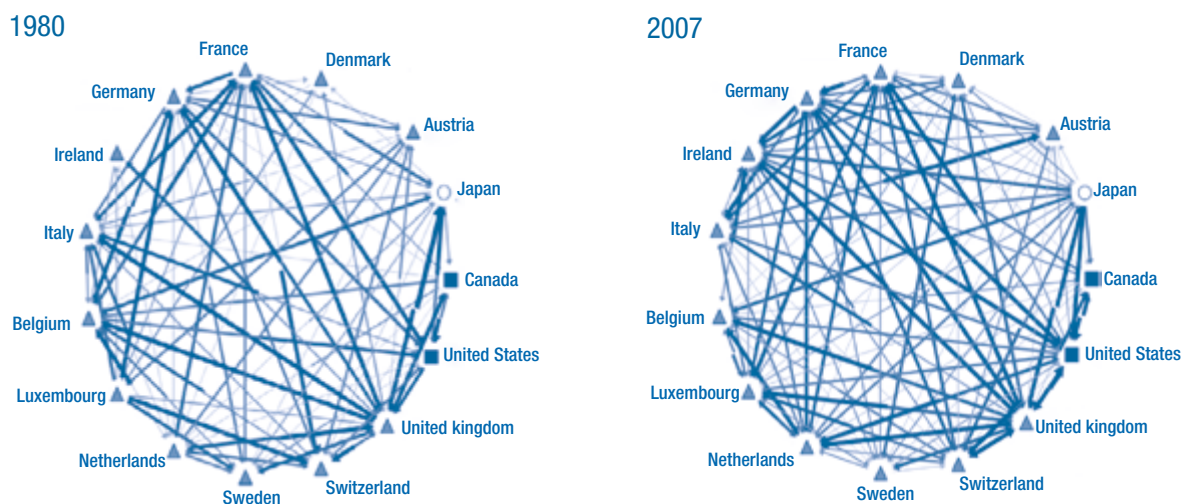
Most of the time, the financial system performs its role efficiently. In certain cases, however, episodes of financial instability may be of such magnitude that financial market distortions feed through to the real economy. Systemic risk can therefore be defined as the risk of a major failure in the provision of financial services with serious consequences for the real economy (Financial Stability Board – FSB, 2011b). One way in which a financial crisis can spill over to real economy is through disruptions to the intermediation process. In particular, banks stop new lending and no longer roll over maturing loans. This is known as a credit crunch. Two mechanisms may be at play. On the one hand, it may be due to the low solvency ratios of banks. Indeed, during economic and financial downturns, losses may reduce their levels of capital but prudential rules only allow banks to take risks if they have sufficient own funds. And, on the other, it may stem from a liquidity shortfall. In times of crisis, if markets stop functioning correctly and banks are no longer sure that they can obtain refinancing, they cease lending. Consequently, the financing of productive activities and consumption declines, which, in turn, curbs economic growth.

The financial and economic crisis of 2007-2009 is an example of a materialisation of systemic risk. At the outset, the crisis was triggered by the massive growth in mortgage lending in the United States on the back of the rise in property prices in the 2000s. These loans were granted to households whose creditworthiness was insufficient to take out a normal mortgage. They were known as subprime loans and they spread throughout the banking system through securitisation. This technique allows banks to offload part of their credit risk by packaging these loans into a single instrument, which is then sold on financial markets. The bursting of the housing bubble triggered a rise in delinquency rates on subprime loans, resulting in a loss of confidence on financial markets. Indeed, the opacity and complexity of the securitisation process had made it practically impossible to determine players' real risk exposure. The collapse of the US investment bank Lehman Brothers on 15 September 2008 marked a major turning point in the crisis, after which financial market tensions peaked. It triggered an acute and widespread crisis of confidence that raised doubts as to the creditworthiness of financial institutions, causing financial markets and the interbank money market to seize up. Consequently, there was a sharp decline in transactions and the counterparty risk premium rose abruptly. The crisis mainly spilled over to the real economy through two channels: the drying up of loans to the private sector and the adverse impact of wealth effects on consumption and labour demand. In 2009, the global economy entered a recession, with a negative GDP of 0.6%.

Recent financial system developments require a closer monitoring of systemic risk

Financial system developments bring progress for economic agents, but also create new risks that must be better captured. The first of these deep structural changes was the acceleration of financial innovation. This contributed to broadening the range of financial products and services, making it possible to spread risk better and provide new investment and hedging opportunities. It nevertheless resulted in a loss of information due to the complexity of the new instruments, which increased the opacity of the financial markets and encouraged excessive risk-taking. This exacerbated imperfections in the financial system, due to either inefficient capital allocations or information asymmetries. The second factor behind the transformation of the financial system was globalisation that, together with liberalisation, facilitated trading between global financial centres and encouraged the opening of national economies. This growing interconnectedness and the increase in business beyond national borders may nevertheless prove dangerous if spillover effects (or domino effects) are triggered. Lastly, new actors appeared with the development of complex financial institutions and the growth of the shadow banking system. The latter plays a similar role to that of the banking sector but is largely unregulated.

Illustration of increased interconnectedness



Source: Minoiu (C.) and Reyes (J.A.) "A network analysis of global banking: 1978-2009", IMF Working Paper No. 74, April 2011.

Note: These network charts are constructed using cross-border bank lending data. Thicker and darker coloured links indicate larger flows.

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How to maintain financial stability? The role of macroprudential policy

The financial crisis prompted the recognition that the policies that had been implemented until then were inadequate. Initiatives to safeguard financial stability have become one of the priorities of the G20, as announced at the London Summit of April 2009.²

² Statement issued by the G20 leaders, London 2 April 2009: "We have agreed that all systemically important financial institutions, markets, and instruments should be subject to an appropriate degree of regulation and oversight. In particular, we will amend our regulatory systems to ensure authorities are able to identify and take account of macroprudential risks across the financial system including in the case of regulated banks, shadow banks, and private pools of capital to limit the build up of systemic risk".

The objectives of macroprudential policy

While it is true that all economic policies, be they monetary, fiscal, exchange rate or structural, may help to promote financial stability, macroprudential policy was developed with the explicit and primary aim of guaranteeing the stability of the financial system as a whole and preventing the build-up and materialisation of systemic risk.

The objective of macroprudential policy is two-fold.

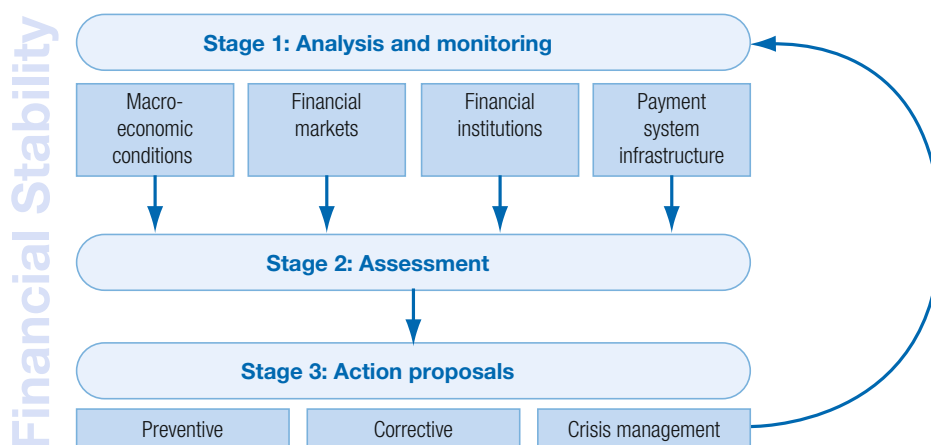
On the one hand, it aims to mitigate financial system procyclicality, i.e. the mechanism through which financial systems can amplify economic cycles, either by encouraging boom cycles during which risks accumulate and are underestimated or, conversely, by exacerbating disruptions during bust cycles due to excessive risk aversion. These dynamics may result in the formation of asset price bubbles or abrupt business cycle reversals. However, the aim of mitigating procyclicality is not to eliminate financial cycles. Indeed, if they are of reasonable magnitude, they are a normal reflection of economic activity. Rather, it seeks to prevent the excessive volatility and magnitude of such cycles.

On the other hand, macroprudential policy aims to enhance the resilience of the financial system, i.e. its ability to absorb financial or economic shocks without major repercussions. To do this, it mainly targets systemically important institutions, i.e. those whose failure could jeopardise the whole of the financial system. It does not set out to prevent all failures, but to avoid those which the financial system could not cope with. Also, from this point of view, macroprudential policy strives to limit collective defaults, which occur as a result of strong interlinkages or massive exposures to an identical risk. By reducing the probability and the impact of systemic defaults, macroprudential policy seeks to ensure that taxpayers are not called upon to bail out the financial system.

Macroprudential policy instruments

Initiatives to preserve financial stability are organised in three stages: the monitoring and analysis of economic and financial conditions, the assessment of systemic risk, and the implementation of suitable measures to address it.

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Source: Banque de France

A number of regular publications are devoted to analysing financial stability: at the international level (the IMF's *Global Financial Stability Report*), at the European level (the ECB's *Financial Stability Review* and the *Risk dashboard* of the European Systemic Risk Board–ESRB) and at the French level (the *Financial Stability Review* and *Documents and Debates* of the Banque de France). Several new instruments have been put in place to identify and monitor systemic risk. For example, the Banque de France has developed a set of systemic risk indicators based on market data and uses analyses from the theory of networks and complex systems in order to identify interdependencies between financial institutions and detect possible contagion channels.

Systemic risk indicators developed by the Banque de France

- **The distance-to-default (DD):** derived from the models of Black & Scholes (1973) and Merton (1974) and applied to French banks. Measures an institution's probability of default at one year based on the ratio of the value of assets to debt: the lower the ratio, the more likely the firm will become insolvent.
- **The banking stability indicator (BSI):** derived from the work of Segoviano and Goodhart (2009) and applied to a sample of European banks and to euro area countries to take account of sovereign risk. Measures the joint probability of default of several institutions using market data (credit default swaps – CDS).
- **The marginal expected shortfall (MES):** obtained from the capital asset pricing model (CAPM) and applied to a sample of international banks. Measures the expected return on the institution's investment conditional on a major financial system shock.

Once the risk has been identified, macroprudential instruments attempt to mitigate this risk or stop it from building up. There are two types of macroprudential instrument.

They can either be instruments specifically constructed for macroprudential policy, such as countercyclical capital buffers, which require the accumulation of precautionary reserves during cyclical upswings that could then be used to address difficulties in the event of an economic downturn.

Or they can be recalibrated instruments, originally used in other economic policies, and adapted for financial stability purposes. Banks' capital requirements are an example of this. While the minimum solvency ratios imposed by the Basel Committee on all banks are a microprudential instrument as they aim to ensure the financial soundness of each institution, the obligation for systemically important institutions to hold additional capital (capital surcharge) is a macroprudential measure since it sets out to limit the risks to the financial system as a whole by enhancing the capacity of critical institutions to absorb shocks.

Moreover, macroprudential instruments can be ranked in two categories according to their desired objective, i.e. to mitigate procyclicality or to increase the financial system's resilience to shocks. The first type of instrument attempts to prevent the formation of bubbles and smooth business cycles. This can be achieved, for instance, by limiting economic agents' debt-to-income ratios to prevent unsustainable credit booms, or by imposing dynamic loss provisioning measures. The second type of instrument aims to enhance the capacity to absorb shocks, like the capital surcharge for systemically important institutions or the requirement to hold liquid assets in the event of a market seize-up, and to reduce the complexity of the financial system.

Example of macroprudential instruments

	Objective	
	Mitigate procyclicality	Enhance resilience
Type 1: purely macroprudential instruments		
	<ul style="list-style-type: none"> • Countercyclical capital buffers 	<ul style="list-style-type: none"> • Capital surcharges for systemically important institutions • Liquidity ratios
Type 2: recalibrated instruments		
	<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

Financial stability institutions

The reports of the Basel Committee (2011), the IMF (2011) the FSB (2011) and the recommendation of the ESRB (2011) call for a clear definition of the institutional framework and mandate of macroprudential policy that, like all economic policies, could, failing this, result in conflicts of objectives due to its interaction with other policies.

First, it could create a conflict of objectives with microprudential policy, whose primary goal is to ensure the financial soundness of each institution. While these two policies are generally complementary, a beneficial impact at the institution level may sometimes have adverse effects on the system as a whole. For example, the microprudential requirement of maintaining high capital ratios during crises may affect the system as a whole since it encourages banks to deleverage and reduce lending volumes, leading to a slowdown in economic growth. Second, it could result in a conflict of objectives with monetary policy especially during periods where it keeps interest rates at a low level, which may lead to the formation of asset price bubbles. Lastly, it may give rise to a conflict of objectives with macroeconomic and fiscal policy. Excessive deficits or public debt levels may greatly increase the vulnerability of the financial sector. Macroprudential policy may impose tighter capital requirements during a credit boom, thus reducing the supply of credit to the economy and ultimately dampening demand, which influences economic policy.

These potential conflicts with different policies can be avoided by clearly identifying the macroprudential authority, its powers and its responsibilities, the use of specific instruments, the active involvement of the central bank thanks to its detailed knowledge of the financial sector, formalised governance arrangements (the strict separation of decision-making bodies in particular) and a clear prioritisation of objectives.

In recent years, international, European and French institutional frameworks have developed to better take account of the financial stability objective, leading to the emergence of new players. First, the Financial Stability Forum, created in 1997, became the Financial Stability Board in March 2009, with a broader membership base including all G20 countries and a renewed mandate. Henceforth, its role is to promote international financial stability through enhanced information exchange and cooperation in financial system supervision and oversight.

New pan-European supervisory bodies were also established. The ESRB was thus created in December 2010 in accordance with the recommendations of the *de Larosière Report* (2009). Its role is to monitor and assess potential threats to financial stability in Europe, and to issue early warnings with a view to eliminating these threats. It comprises representatives of the central banks of the 27 EU countries, the ECB, the European Commission and the European System of Financial Supervision. The architecture of financial stability institutions will naturally continue to change in Europe, where the establishment of the banking union was approved at the European Council meeting of 28-29 June 2012, in line with the *Van Rompuy Report*. The European draft regulation, while maintaining the ESRB, confers greater macroprudential powers to the ECB.

Lastly, in France, a macroprudential authority should be set up in 2013 with greater powers and in which the Banque de France would play an increased role. To create this body, the *Conseil de régulation financière et du risque* (COREFRIS), created in 2010, will be reinforced. The new authority will be named the *Conseil de Stabilité Financière* (CSF). It will comprise the Minister of the Economy, the Governor of the Banque de France, Chairman of the *Autorité de contrôle prudentiel* – ACP (Prudential Supervisory Authority), the Vice-Chairman of the ACP, the Chairman of the *Autorité des Marchés Financiers* (Financial Markets Authority) and the *Autorité des Normes Comptables* (Accounting Standards Authority), and a number of qualified experts. At the same time, the Banque de France will be given an explicit financial stability mandate.

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