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architecture work for development

Chapter IV

FINANCIAL REGULATORY REFORM AFTER THE CRISIS



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FINANCIAL REGULATORY REFORM AFTER THE CRISIS

A. Introduction

In the aftermath of the 2008–2009 global financial crisis, political leaders acknowledged that there were serious shortcomings in the way financial markets and institutions had been regulated. This was amply demonstrated by the failure of large private banks to manage risk, the unchecked expansion of a shadow banking system and the excessive reward schemes common throughout the entire financial sector. Initially, they showed a willingness for fundamental reform of the system aimed at making it more stable, less prone to crises and more resilient to shocks, as well as to orient it more towards supporting the real economy and economic development. They also recognized the need to accommodate the interests and concerns of the larger developing economies in the design of any subsequent reform agenda. Thus in late 2008, the G8 was replaced by the G20, which includes the larger developing countries, as the most relevant forum for international coordination and decision-making. Some of these countries were also given membership in the Financial Stability Board (FSB), which succeeded the Financial Stability Forum (FSF) to coordinate the activities of various financial standard-setting bodies and to take charge of monitoring implementation of the financial reforms agreed by the G20 countries.

The reform programme coordinated by the FSB aimed at strengthening prudential regulation and

the oversight and supervisory capacities of financial authorities. However, today, seven years since the eruption of the global crisis, it has become clear that, apart from some partial improvements, it has been unable to effect the required changes. The existing financial structures still lack adequate instruments to reduce the volatility of capital flows, prevent systemic crises and ensure that finance is available for small and medium-sized enterprises (SMEs) and innovation. Reforms introduced after the 2008–2009 crisis have taken only a limited account of some of the specific needs of developing countries.

This chapter discusses some key financial reforms agreed at the international level and which are in the process of being implemented by national authorities, and assesses their possible impacts, particularly in developing countries. Section B, which examines the new Basel capital requirements aimed at strengthening banks, shows that they still rely excessively on narrowly defined prudential rules as the best approach to banking regulation. The section also examines a number of initiatives to reform the financial system in developed countries. Section C studies the shadow banking system and the proposed measures to mitigate risks arising from this form of financial intermediation. Section D assesses other important issues for financial regulation, such as the excessive use of the ratings of credit rating agencies (CRAs),

the challenges arising from the growing presence of foreign banks in developing countries, and the need to address the vulnerabilities arising from speculative international capital flows. Section E argues for the

need for a more ambitious reform agenda, including the necessary separation or ring-fencing of some bank activities. It also discusses the regulatory elements of a more development-oriented financial system.

B. Post-crisis financial reform and prudential regulation

Over the past 40 years, the financial sector has expanded significantly and international capital mobility, in particular, has soared following successive waves of financial innovation and market deregulation. Global liquidity and the allocation of global funding have become influenced more and more by credit conditions in major financial centres, by the operations of the internationally active banks, and by the activities of a wide range of asset management companies and other institutional investors.

Financial deregulation included the progressive relaxation of quantity controls and other restrictions on banks, such as caps on interest rates or limits on the ability to engage in activities other than traditional lending. One aspect of such deregulation was the retreat from direct government intervention in the financial sector and the erosion of instruments to achieve development targets. In their place, a light-handed regulatory approach based on prudential rules (i.e. required capitalization and liquidity ratios) gained prominence. The central tenet of this approach was that banks should be allowed to freely allocate credit or engage in market-based activities provided they hold sufficient capital to cope with unexpected losses. Market competition was supposed to ensure the right funding for profitable investments, and therefore a high social return.

Since their introduction in 1988, Basel capital adequacy requirements have become an important reference for prudential policies, not only in

countries represented on the Basel Committee on Banking Supervision (BCBS) – originally a small number of developed countries – but also in a large number of developing countries, even though they were not party to the formulation process, and even though the guidelines were not conceived with their financial systems in mind.¹ The Basel Accords seek to prevent internationally active banks from building business volume without adequate capital backing. They also aim to remove the incentive for individual jurisdictions to impose less demanding requirements on the banks in order to attract business. The Basel rules reflected the belief that markets and financial entities were capable of self-discipline, and that

prudent behaviour by a bank was integral to its reputational capital. As such, market forces were expected to prevent banks from taking excessive risks.

The global financial crisis of 2008–2009, which was by far the worst since the 1930s, revealed the serious shortcomings of financial deregulation

and of the conceptual framework based on a commitment to free markets and self-regulation (*TDRs 2009* and *2011*). The narrow focus of prudential regulation based on capital requirements for banks failed to prevent widespread turmoil in late 2008. Indeed, many of the world's largest banks that fully met the Basel II standards in 2008 were crippled by the subprime crisis and its ramifications, prompting very expensive bailout packages by governments that resulted in significant increases in public debt and high social costs.

The global financial crisis of 2008–2009 revealed the shortcomings of the conceptual framework based on a commitment to free financial markets and self-regulation.

In the post-crisis reform process, a consensus seemed to emerge that instability was global, and that international cooperation needed to be strengthened (*TDRs 2009 and 2011*; Haldane, 2014). The international reform agenda under FSB guidance delivered a number of initiatives, including the Basel III Accords, specific provisions for the “globally systemic important banks” and recommendations to improve oversight of shadow banking activities.²

G20 countries agreed to progressively introduce the new standards in their regulatory frameworks. However, the sources of systemic risk, that is, the risk that a default, liquidity squeeze or crisis on a given market would spread to other markets and eventually develop into a full-fledged crisis, are likely to persist, and the fragilities that contributed to the global crisis remain a serious concern. This section critically examines the spirit of the reform process, highlighting its main weaknesses and the challenges they are creating for developing countries.

1. The new Basel III Accords

The Basel Accords offer the most comprehensive regulatory framework for the banking industry.³ However, they have been inadequate, in several ways, to ensure a strengthened financial system. Crucially, capital adequacy rules have not prevented high leverage nor promoted much portfolio diversification, and they have added to the already procyclical nature of the banking business, as noted by several analyses (e.g. Slovik, 2012).

In reaction to the crisis and to the increased scrutiny it was facing, the Basel Committee agreed to provide a new regulatory scheme “to strengthen the resilience of banks and the global banking system” (BCBS, 2011). The package of reforms, announced in October 2010, known as Basel III, includes new capital adequacy rules and a number of liquidity provisions. In accordance with the agreed timetable, G20 countries have been introducing the new standards since 2013, and have targeted full implementation of the framework by 1 January 2019.

With respect to capital rules, Basel III has improved the quality of the capital that banks are required to hold to better absorb potential losses. Common equity and retained earnings have become the predominant form of Tier 1 capital, as the new framework has eliminated the possibility to use preferred stock and debt-equity hybrids to boost core capital.

Many of the world’s largest banks that fully met the Basel standards were crippled by the subprime crisis, prompting very expensive bailout packages by governments.

In addition, Basel III has introduced higher levels of capital compared with its predecessor, Basel II. The minimum level for total capital requirements remained at 8 per cent of risk-weighted assets, but the proportion accounted for by

common equity Tier 1 was raised from 2 per cent to 4.5 per cent of the risk-weighted assets. Basel III also requires banks to hold “capital conservation buffers” of an amount equal to at least 2.5 per cent of the risk-weighted assets, also in the form of common equity Tier 1 capital, to be made available in times of stress. When buffers are drawn down as losses are incurred, banks are required to rebuild them by reducing discretionary distributions of earnings and executive bonuses. Taken together, these measures have brought the total common equity requirements to 7 per cent of risk-weighted assets. The new framework also gives national authorities the discretion to request banks to uniformly adjust upwards the capital conservation buffers built to cope with stress situations, when, in their judgement, credit growth results in an unacceptable build-up of systemic risk. This countercyclical buffer is imposed within a range of 0–2.5 per cent and also should be met with common equity.

Another feature of Basel III is the introduction of a non-risk-based leverage ratio, based on a minimum Tier 1 capital of at least 3 per cent of total assets. For the calculation of the leverage ratio, banks’ exposures must cover on-balance-sheet items such as securities financing transactions, as well as off-balance-sheet items such as derivatives and letters of credits.

Finally, the proposed liquidity provisions in the Basel III package include liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) requirements. The LCR aims to ensure that banks have sufficient short-term liquidity to deal with situations

of stress lasting up to one month. The NSFR aims to help banks deal with liquidity issues, but it has a time horizon of one year, focusing on the maturity structure of a bank's assets and liabilities. That is, it encourages banks to hold more stable funding (for instance from deposits) as well as more liquid assets (BCBS, 2014a and b). Although portrayed as a great leap forward when compared to its predecessor, Basel II, these reforms are unlikely to make banks more resilient.

Since Basel III has not changed the risk-weighting framework, core capital has to be measured, as previously, against risk-weighted assets. This means that in the calculation of the assets that have to be backed by the bank's capital, only assets deemed to be very risky are accounted at their full value, while those considered to be safer are considered at only a proportion of their value. This increases the incentive to invest in low-risk-weighted assets that can be leveraged much more than risky assets.⁴ At the macroeconomic level, the risk-based approach may have adverse consequences for employment and economic growth, because it discriminates against SMEs. Since these firms are perceived to pose greater risks than big firms, banks would be reluctant to extend credit lines to them (Moosa and Burns, 2013) when choosing a portfolio skewed towards assets with low-risk weights. Moreover, Basel III does not question the reliance on external ratings by CRAs or the use of banks' internal risk models to calibrate the risk-weights.⁵ It is not clear why the Basel Committee still sees value in CRAs' ratings when the FSB itself stated that "it is particularly pressing to remove or replace such references [i.e. to external credit ratings] where they lead to mechanistic responses by market participants" (FSB, 2010).

By retaining the system of adjustable risk weights, Basel III has not addressed the procyclicality of Basel II. When default risks are perceived to be low, which is likely during periods of economic expansion – as in the 2003–2007 growth period – credit ratings are upgraded, thereby moving the assets towards a lower risk category for capital requirements. This causes a reduction of required capital for the same asset portfolio, thereby allowing

higher leveraging during the expansionary phase of the cycle. Conversely, capital requirements increase suddenly when the expansion ends and banks' assets are perceived to be more risky. Further, the Basel III reforms fail to address one of the more controversial components of previous Basel rules: banks are still allowed to calculate their regulatory capital themselves as an alternative to the use of external credit ratings, which means that two different banks, each using their own internal risk models, often end up with different capital needs for similar asset portfolios.⁶ Perhaps most fundamentally, the Basel norms continue to rely, implicitly, on large banks' effective self-monitoring, rather than on external supervision, based on the assumption that "market discipline" will

ensure responsible behaviour by financial agents. Yet this assumption is now recognized to be flawed and unrealistic.

Under the risk-weighted framework, institutions have accumulated an excessive level of leverage. Between the enforcement of the Basel risk-weighted capital requirements in 1992 (Basel I) and the global

economic and financial crisis in 2008–2009, banks' ratio of total capital to *unweighted* assets steadily declined. For example, in a sample of large international banks, the ratio fell from 4.8 per cent to less than 3 per cent between 1993 and 2008 (Ingves, 2014).⁷ The Basel III leverage ratio, supposed to serve as a backstop to the risk-based capital requirement, will improve the capital base only marginally. Set at only 3 per cent of unweighted assets, capital may be significantly below the level necessary to ensure banks are minimally positioned to withstand a major shock (Admati and Hellwig, 2013).⁸

2. The proposed framework for systemically important banks

Large, internationally active banks contributed significantly to the global financial crisis of 2008–2009. Their presence in different national jurisdictions and their cross-border trading activities facilitated the spillover of the crisis to various countries. Given their size, complexity, cross-jurisdictional

Basel III introduced higher levels of capital requirements but retained the risk-weighted system and the reliance on credit ratings agencies, thus failing to prevent high leverage and procyclicality.

presence and interconnectedness, these large banks have created global systemic risks and challenges for regulators.

Their complex and intertwined operations, which are difficult to track by financial regulators, and even by the banks' own senior managers, are far from transparent. These banks have become so large that financial experts and policymakers consider them "too big to fail", meaning that letting them collapse would cause unbearable damage to the entire international financial system. The fiscal costs entailed in bailing them out in case of insolvency would be exorbitant, and would require a high level of international coordination, which is difficult to achieve.

Their international expansion and the large size of their balance sheets are difficult to explain on efficiency grounds (BIS, 2010a). Instead, evidence suggests that such expansion was facilitated by an underestimation of risk, which might have distorted their incentives. The "too-big-to-fail" label gives such banks a competitive advantage based on their assumption that if they suffer huge losses from engaging in risky behaviour, they will be rescued by the government. In addition, it gives them access to cheaper funding sources, as they are seen as less likely to default. Another competitive advantage arises from the fact that, under the Basel framework, large banks can choose the most convenient approaches for capital determination. They have the resources to use their own risk models, which gives them flexibility to determine their capital requirements and hold less capital relative to smaller banks that only have the means to adopt the simpler approaches for capital determination.

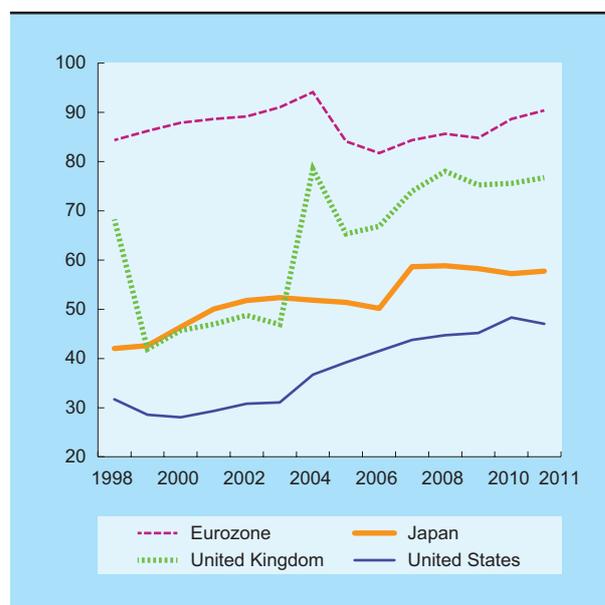
At the national level, the expansion of the activities of large banks has been a major reason behind banking concentration, especially between 1998 and 2007. In the post-2008 period this trend has stopped overall, although in a few countries, including the United States, it continues, partly reflecting post-crisis government-sponsored mergers (chart 4.1).

Since the global crisis, systemic risks associated with large banks have been a major concern. A United Nations Report recommended subjecting large financial institutions to additional capital requirements (United Nations, 2009). It also proposed the adoption by governments of strong anti-trust policies to discourage banks from growing too big. Other

Chart 4.1

ASSETS OF THE FIVE LARGEST BANKS AS A PROPORTION OF TOTAL ASSETS OF THE BANKING SECTOR IN SELECTED ECONOMIES, 1998–2011

(Per cent)



Source: Bankscope, Bureau van Dijk.

bodies have suggested similar regulatory changes. For example, the G20, at its Washington Summit in November 2008, recommended a review of the scope of financial regulations to ensure that all systemically important financial institutions are adequately regulated. A year later, the G20 Summit in London further proposed that complex financial institutions be subject to special oversight, and that regulators be given access to relevant information on financial institutions, markets and instruments in order to be able to detect possible failures or situations of stress that pose systemic risks.

Since 2011, the FSB has identified global systemically important banks (G-SIBs) using a methodology developed by the Basel Committee (BCBS, 2011).⁹ The latest update of November 2014 identifies 30 such banks (all of them from developed countries, except three from China), which are expected to build a greater loss absorption capacity as well as to have crisis management groups, cross-border cooperation agreements and disaster plans

(known as “living wills”). In 2014, the FSB presented proposals to enhance the loss-absorbing capacity of G-SIBs in resolution, according to which these banks would face capital surcharges, leading to total capital requirements equal to 16–20 per cent of their risk-weighted assets. This is meant to allow an orderly resolution that minimizes any impact on financial stability and ensures the continuity of critical functions.¹⁰

However, even these proposals may be insufficient to address the “too-big-to-fail” issue. First, the fact that loss-absorbing capacity is calculated using risk weights creates an opportunity for exercising considerable discretion in meeting the requirements. Second, it is not clear whether national regulators will cooperate without a globally agreed bank resolution regime; indeed, without such a regime, there could even be a local-asset-seizing frenzy to defend national interests in case of bankruptcy.

3. *The prudential framework and developing countries*

Since their introduction in 1988, Basel guidelines on capital requirements have become a significant reference for regulators throughout the world. More than 100 countries have adopted the Basel I guidelines for capital requirements (Barth et al., 2006), and all the developing countries that are G20 members, but also a large number of non-members, have implemented the Basel II requirements. Although most of these countries adopted the Basel II “standardized approach”, some of the non-members of the G20 (e.g. Bahrain, Malaysia and Thailand) also implemented the more complex internal ratings-based approach, allowing large banks to determine capital requirements on the basis of a self-assessment of risk. According to the FSB’s assessment of implementation of the regulatory reforms in November 2014, all the major developing

economies that are FSB members have already become fully compliant with the new Basel III capital adequacy rules.¹¹ Among other developing economies that are not FSB members, adherence to Basel III has been rather weak (BIS, 2014 and 2015).¹² Table 4.1 summarizes the degree of implementation of Basel II and III in developing countries by region.

The adoption of the Basel II capital requirements by a large number of developing countries, and the steps they have taken to comply with the Basel III arrangements is somewhat puzzling. After all, implementation of the Basel recommendations

is voluntary, and the Basel Committee does not possess any formal supranational supervisory authority. Moreover, many developing countries that are adopting Basel standards were not even party to the formulation process. Indeed, Basel guidelines were not conceived with developing countries in mind; they were conceived for countries hosting large and complex, internationally active financial institutions with the purpose of harmonizing national regulations (Powell, 2004).

Nonetheless, there are various reasons for the partial adoption of Basel rules by developing countries. Since their introduction, Basel principles have come to be regarded by policymakers as the global seal of approval for the quality of countries’ banking supervision systems. Many developing countries “imported” regulatory credibility as a result of official and market pressures, especially those economies whose regulatory frameworks came under scrutiny following the financial crises of the late 1990s and early 2000s (Walter, 2008). In addition, some large developing countries which joined the G20 came under further pressure to implement Basel regulations. All the G20 countries, including the developing-country members, agreed to allow the Financial Sector Assessment Program (FSAP)¹³ to conduct an analysis of their domestic financial sector – which includes an assessment of their observance of Basel guidelines – as well as to accept peer reviews of their supervisory frameworks (Walter, 2015).

Given their size, complexity, cross-jurisdictional presence and interconnectedness, large banks have created global systemic risks and challenges for regulators.

Basel guidelines were conceived for countries hosting large and internationally active financial institutions; they do not consider developing countries’ needs.

Table 4.1

BASEL IMPLEMENTATION IN DEVELOPING AND TRANSITION ECONOMIES					
Total economies surveyed	Basel II		Basel III		
	Capital requirements (Standardized approach)	Capital requirements (Internal ratings based approach)	Leverage ratio	Liquidity coverage ratio	
	(Per cent)		(Per cent)		
<i>Region (whole sample)</i>					
Africa	30	27	10	13	13
East, South and South-East Asia	17	82	59	47	29
Latin America and the Caribbean	21	38	23	14	24
Transition economies from Europe and Asia	11	73	9	18	18
West Asia	9	100	33	33	33
<i>Region (excluding BCBS members)</i>					
Africa	29	23	7	10	10
East, South and South-East Asia	11	27	13	0	7
Latin America and the Caribbean	18	16	7	7	3
Transition economies from Europe and Asia	10	23	3	7	3
West Asia	7	23	3	3	3

Source: UNCTAD secretariat calculations, based on BIS, 2014 and 2015.

Note: The data cover the following economies, by region: *Africa*: Angola, Benin, Botswana, Burkina Faso, Côte d'Ivoire, Democratic Republic of the Congo, Egypt, the Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Morocco, Mozambique, Namibia, Niger, Nigeria, Senegal, **South Africa**, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia and Zimbabwe; *East, South and South-East Asia*: Bangladesh, Bhutan, **China**, **Hong Kong (China)**, **India**, **Indonesia**, Malaysia, Mauritius, Nepal, Pakistan, the Philippines, **Republic of Korea**, **Singapore**, Sri Lanka, Taiwan, Province of China, Thailand and Viet Nam; *Latin America and the Caribbean*: **Argentina**, Belize, Bolivia (Plurinational State of), **Brazil**, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, **Mexico**, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay; *Transition economies from Europe and Asia*: Albania, Armenia, Belarus, Bosnia and Herzegovina, Georgia, Kyrgyzstan, Montenegro, Republic of Moldova, **the Russian Federation**, Serbia and the former Yugoslav Republic of Macedonia; and *West Asia*: Bahrain, Jordan, Kuwait, Lebanon, Oman, Qatar, **Saudi Arabia**, **Turkey**, United Arab Emirates (countries in bold are members of the Basel Committee).

Implementation of the new Basel III capital requirements by the major developing economies may not have been particularly difficult because, in general, their banking systems had higher capital levels before the global crisis than those stipulated in Basel III.¹⁴ However, this picture is not uniform. In India, for instance, public banks, which account for 62 per cent of Indian bank loans, will find it difficult to meet the Basel III capital requirements between now and 2019 (Moody's, 2014). The degree of compliance varies much more for Basel III's new liquidity requirements. An FSB survey indicates that Argentina, Brazil, Indonesia and Mexico are behind other countries such as China and South Africa in their extent of compliance (FSB, 2014a). According to a recent assessment by Fitch (2015), smaller banks in Mexico will struggle to meet the liquidity coverage

ratio, and will face an even bigger challenge when the net stable funding ratio requirements are eventually adopted by their country's regulators.

Developing countries other than the G20 members appear to be facing a much greater challenge in meeting Basel requirements. A critical challenge is the level of complexity of Basel rules, particularly the new rules under Basel III, which not only require sophisticated technical capabilities for their implementation but are also resource intensive (Haldane and Madouros, 2012). FSAP reports on countries from different developing regions indicate a general lack of compliance with Basel standards due to critical capacity gaps. These include, overall, insufficient and poorly trained staff who also lack the experience to perform regulatory and supervisory functions

satisfactorily. These gaps become even more critical with respect to the very complex Basel III rules.

There are other significant concerns related to the implementation of Basel III. The adoption of the NSFR, which aims at reducing the maturity mismatches between banks' assets and funding sources, may have adverse consequences for developing countries, as banks in those economies are mainly funded through (short-term) deposits. As such, the requirement for a strict match between maturities of assets and liabilities may reduce banks' abilities to supply long-term credit. Another challenge has to do with the implementation of countercyclical capital buffers. Economies at early stages of financial development may experience rapid credit growth which triggers the buffer mechanism, even though there may not be a build-up of systemic risks (Drehmann and Tsatsaronis, 2014).

A more general concern is that Basel regulations have increasingly focused (without much success) on a narrow view of financial stability at the expense of regulations geared towards the realization of growth and equity objectives. Reliance on risk-weighting for capital determination, whether through the standardized approach or the more complex methods, is likely to result in credit rationing to sectors that need support from a development perspective. The Basel guidelines for credit risk measurement may increase the capital requirements for financing SMEs (which are generally viewed as presenting higher risks) and for long-term projects, while making lending cheaper to larger firms, including international companies that are usually awarded higher ratings by external CRAs.

Therefore, it seems that, despite developing countries' greater representation on international forums, the reforms undertaken following the global financial crisis do not seem to address a number of their concerns. The focus on narrowly defined prudential reforms may be inadequate for preventing future crises. They are also complex and difficult to implement in many developing countries, and indeed, their implementation may pose obstacles to economic development.

4. Some attempts to ring-fence banking operations

In parallel to the adoption of the regulatory reforms coordinated by the FSB at the international level, many developed countries drafted new national legislation to address systemic risks in their financial systems. Of all the reform proposals triggered by the financial crisis, the most far-reaching are those containing provisions to "ring-fence" financial activities, which go beyond the prudential approach of the Basel framework.

The basic argument for ring-fencing is that insulating depositors' assets from risky bank activities would limit the probability of a bank run in case of insolvency resulting from "casino" investment decisions. Such separation would also facilitate resolution of a banking group in difficulty and would reduce the likelihood or the necessity of government intervention to save banks that have run into trouble as a result of their high-risk trading activities. A historical

precedent is the United States Glass Steagall Act, which prohibited commercial banks with privileged deposit insurance from engaging in market activities, while excluding investment banks from accepting deposits. That reform, which was part of the New Deal of 1933, regulated the functioning of the United States financial system for a period of over 65 years until the

Financial Services Modernization Act of 1999 lifted restrictions on banks.

The United States did not reintroduce deep bank reorganization measures after the 2008–2009 financial crisis, but opted instead for a rule restricting some of the activities of banks. Among its various provisions, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 included the Volcker Rule, which prohibits two types of activities. First, a banking entity under United States jurisdiction is not allowed to engage in proprietary trading. This means that banks cannot buy or sell securities for their own account.¹⁵ Second, the Rule prohibits banks from sponsoring, acquiring or retaining an ownership interest in hedge funds and private equity funds.

Despite developing countries' greater representation on international forums, the reforms undertaken seem to neglect a number of their concerns.

In late 2013, the United Kingdom introduced legislation on banking reform based on the so-called Vickers Report. Unlike in the United States, the reform did not focus on prohibiting banks' risky activities but on ring-fencing deposit-taking institutions. As such, it was decided that retail banking had to be set apart from investment banking in a separately capitalized subsidiary. The aims of the reform were to help insulate domestic retail banks from external financial shocks and facilitate resolution of troubled banks should the need arise (FSB, 2014b). The recommendations of the Vickers Report were a response to the worrying fact, from the United Kingdom perspective, that the international exposure of that country's banking sector was many times larger than the domestic economy measured by its GDP. One of the aims of ring-fencing was to protect domestically oriented banking from whatever might happen in the globally oriented activities (Wolf, 2014).¹⁶ The ring-fencing applied only to large financial groups holding core deposits of over £25 billion.

The European Commission (EC) also examined the possibility of structural reform of the European Union's financial system. Based on the recommendations of its High-level Expert Group on Bank Structural Reform (the so-called Liikanen Commission), the EC submitted draft regulations, a core proposal of which was that proprietary trading and other high-risk trading activities should be assigned a separate legal entity from the rest of a bank's businesses. If the reform is enacted, it will be restricted to banks holding assets larger than 30 billion euros, and it will apply not only to deposit-taking banks, but also to their parent companies and subsidiaries. France and Germany have already introduced rules partially based on the recommendations of the Liikanen Commission.

The structural measures proposed by the United States, the United Kingdom and the European Union aim to lower the probability of bank failure and its systemic implications by reducing the risk for deposits associated with banks' interconnectedness (Viñals et al., 2013). A possible way to restructure

the financial sector would be to establish a firewall between banks taking deposits and those engaged in broker-dealer activities. However, ring-fencing initiatives – just like proposals to raise minimum capital requirements – face strong resistance from the banking industry lobby. Indeed, none of the ring-fencing rules discussed above is fully in place yet. Implementation of the Volcker Rule in the United States has been postponed several times, and a further delay to 21 July 2016 set by United States regulators is being considered. In the United Kingdom, regulators expect to finalize rules in 2016, with banks fully complying by 2019, but there is considerable resistance from the sector.

It is still unclear whether these measures will be able to inhibit further expansion of large banks and make it easier for government authorities to manage or control them. Pressures from some financial actors have made the proposed regulations much more complex than they needed to be. Exceptions, loose definitions and supervisory judgements could weaken the outcomes of the reforms. In the United States, there are important exceptions to the prohibition of proprietary trading and other trading activities. The exceptions include permission to engage in hedging activities to mitigate risks, proprietary trading involving United States Government debt instruments and market-making. The lack of a precise definition of proprietary trading enables banks to determine for themselves which trading activities are permitted, and which are not. And despite reforms in France and Germany, the intention seems to be to maintain the universal banking model, although national supervisors will have the discretion to separate certain activities from core banking, but only when they judge a financial institution's solvency to be under threat.

Therefore, it remains to be seen to what extent the various regulatory and structural reform measures will be sufficiently effective in reducing the complexity and interconnectedness of large banks so as to make them safer, and whether they will discourage these banks from becoming even larger, or help reverse long-term trends in banking concentration.

Ring-fencing bank activities would limit the probability of a bank run in case of losses from "casino" investment decisions...

... and facilitate the resolution of a banking group in difficulty, thus reducing the likelihood of expensive government bailouts.

C. The rise of the shadow banking system

1. The emergence and principal features of the shadow banking system

After the 2008–2009 global financial crisis, large banks reduced some of their lending activities to repair their balance sheets and adapt to tighter regulations. As a result, banks' credit to the private sector in developed countries has witnessed a downward trend.

Despite this movement, total global debt expanded by \$57 trillion between 2007 and 2014, which increased the ratio of global debt to GDP by 17 percentage points to 286 per cent of GDP (McKinsey, 2015). The growth in borrowing occurred principally outside the traditional regulated banking system. In developed countries, forms of non-bank finance, such as corporate bonds and credit issued by non-bank institutions, have soared since the global crisis. Meanwhile, bank managers have continued to move activities off their balance sheets, after packaging the loans into securities to sell in the markets. Although securitization has declined in importance compared with the pre-crisis period, it remains significant: in 2014, 32 per cent of the stock of household debt (mainly mortgages and credit card loans) in developed countries was securitized, against 36 per cent in 2007 (McKinsey, 2015).

The shift in credit intermediation from the banking to the non-banking sector reflects the larger role of the asset management industry (IMF, 2015). This industry is composed of institutional investors, including insurers, and investment funds such as hedge funds and mutual funds, as well as off-balance sheet entities such as special purpose entities, all of which buy and sell securities and other financial assets.¹⁷ Financing via capital markets involves both "direct finance" mechanisms, in which investors bear all the credit risk, and the so-called shadow banking

system. Both complement (but also compete with) traditional banking, and are alternative sources of funding for real economic activity. Shadow banking, however, poses a number of threats to financial stability, as it performs the same functions as traditional banking without appropriate regulation.

In the shadow banking system credit intermediation takes place with less transparency than traditional banking. Agents in that system take deposits (just as banks do) or accept deposit-like investments, extend credit and perform maturity and liquidity transformation, often relying on leveraging techniques to increase profitability. They convert short-term liabilities, such as deposit-like shares in money market mutual funds (MMMFs), into a wide range of long-term assets – from government securities to bonds issued by means of complex securitization techniques. Financial companies performing bank-like intermediation face fewer restrictions on their size and leverage, but lack access to explicit liquidity guarantees. This makes the shadow banking system inherently fragile.

The role of the shadow banking system in the 2008 financial crisis is well known, and has been documented and analysed in previous UNCTAD reports (e.g. *TDRs 2009* and *2011*). The G20 and the FSB have identified a number of problems with that system, which contribute to global financial fragility. However, not nearly enough has been done in terms of regulation of the shadow banking system. Clearly, more ambitious reforms are needed.

Shadow banking is the outcome of deregulation of the financial system over the past four decades. This market-based system developed mainly in the so-called Anglo-Saxon countries, and then expanded to most of the other countries, including the developing ones. In the process, institutional investors (including insurance companies, pension funds and

mutual funds) became major participants in global financial markets, and the size of their assets under management rapidly caught up with those of the banking system. Subsequently, most institutions turned to specialist asset managers to help them invest, which drove growth in equity markets during the 1980s and in the hedge funds industry in the 1990s. Direct investment by institutional investors provided a stable and reliable source of funding for borrowers and the opportunity for investors to hold a diversified portfolio of financial assets.

The development of innovative forms of market intermediation allowed many asset managers (such as hedge funds) and broker-dealers (often belonging to financial conglomerates) to expand investments by leveraging within the financial system and funding asset purchases with their debt. As a significant proportion of the debt issued by intermediaries was short term, the financial companies performed maturity transformation. In the traditional banking system, intermediation between depositors and borrowers occurs in a single entity. By contrast, the credit intermediation process performed by the shadow banking system can involve not just one, but a web of specialized financial institutions that channel funding from lenders to investors through multiple market-based transactions and lending vehicles.

A simple example facilitates an understanding of the basic functioning of the shadow banking system. The typical lender in the credit intermediation chain is a household investing its cash holdings in shares of an MMMF in search of a higher yield than the one typically offered by a deposit in a commercial bank.¹⁸ The lender may also be a treasurer of a large company seeking to invest available cash in a different form than bank deposits, which in most countries are not insured for large sums. The final borrower in the shadow banking system is any entity issuing securities (i.e. a government or private corporation) to fund its expenditures or investments. It can also be a household if its loans or debts (e.g. mortgage or credit card debt) are packaged into securities by banks or specialized financial institutions. Securitized bonds (including structured securities) are in fact a key component of the shadow banking system. The

cash resources from MMMFs and companies are invested in short-term debt securities (i.e. commercial paper and government bills or any debt about to reach maturity) and in short-term (often one day) repurchase agreements (repos). Repos are a form of secured lending backed by collateral, so that they seem safer than non-insured bank deposits (see

box 4.1). Investments in bills or commercial paper do not carry significant maturity risk, as the short-term funding is matched with short-term investments. But the liquid resources provided through repos often end up being used by the borrower for the outright purchase of a long-term security or another asset in such a way that the system performs maturity trans-

formation, similar to what banks do but in a less transparent way. The broker-dealer may indeed use the funds it raises through repos to purchase high-quality securities, which it then uses as collateral for the transaction.¹⁹ Hedge funds are typically engaged in repos and other kinds of short-term borrowing for leveraged investing.

Shadow banking is growing strongly in developing economies, although the steps involved in the chains of credit intermediation tend to be simpler. That said, it can still pose systemic risks, both directly, as its importance in the total financial system grows, and indirectly through its interlinkages with the regulated banking system (Ghosh et al., 2012).

2. How big is shadow banking?

The perimeter of the shadow banking system and its overall size are currently under debate. The FSB, engaged since 2011 in a global project to monitor and measure shadow banking, originally defined it as “credit intermediation activities involving entities outside the regular banking system” (FSB, 2014c). Following this definition, the size of the system is determined by the volume of total financial assets of non-bank financial intermediaries, excluding insurance companies, pension funds and public financial institutions (which are regulated). Many judged this definition as being too broad.

In the shadow banking system, credit intermediation takes place with less transparency and regulation and higher leverage than traditional banking.

Box 4.1**REPOS: THE CORE TRANSACTION OF THE SHADOW BANKING SYSTEM**

A repurchase agreement (or repo) is an acquisition of funds through the sale of securities, with a simultaneous agreement by the seller to repurchase them – or substantially similar ones – at a later date, often overnight. The borrower pays interest at a rate negotiated with the lender, and retains the risk and return on that collateral, so that the role of the security involved in the transaction is only to provide collateral to the lender. Repos are therefore a means of secured lending of short-term funds. In practice, however, a sizeable portion of the funds used remains in repos for relatively long periods, as the daily contracts are rolled over. In that sense, repos are a deposit-like funding source for the borrower. Meanwhile, the owners of the funds can treat them virtually as demand deposits, as they have ready access to the cash, should the need arise, by not renewing or rolling over the repo.

Repos are attractive to corporate treasurers and other holders of large cash balances because they can earn a secured market rate of return until they are used for payments. In addition, repos may seem safer than bank deposits, which are not protected by deposit insurance for large amounts. Repos, along with commercial paper, are also a typical investment product for MMMFs, whose shareholders are also ultimate lenders in the shadow banking system.

The borrower in the repo transaction may use the cash to finance a long position in the asset involved in the collateral, in amounts and at prices that reflect the security provided to the lender (ICMA, 2015). Broker-dealers also frequently arrange reverse repos in order to borrow the securities with which to engage in a repo; by matching a repo and a reverse repo transaction, they may profit by the difference in interest rates. Dealers also use reverse repos to acquire securities to make a short sale.

The advantage for borrowers through repos, including commercial banks and broker-dealers, is that they are not required to hold reserves against funds obtained through the repos.^a Another advantage is the flexibility in recording these transactions in the books, at least for firms operating in the United States under the Generally Accepted Accounting Principles (GAAP). For instance, some lenders choose to record their ownership of securities rather than their ownership of repos, which may be considered a better risk and thus less costly in terms of capital requirements. For borrowers, assets sold in repos may be removed (temporarily) from the balance sheets, thereby disguising the true level of the leverage (ICMA, 2015).^b

The bankruptcy “safe harbour” for repos has been a significant factor contributing to the growth of shadow banking (Gorton and Metrick, 2009). In the United States, repos are exempt from core bankruptcy rules such as the automatic stay on debt collection under Chapter 11 of the United States Bankruptcy Code. Under New York law (the main jurisdiction for United States repos), a party to a repo contract is allowed to unilaterally enforce the termination provisions of the agreement as a result of a bankruptcy filing by the other party by selling the collateral to recover the deposit. Without this protection, a party to a repo contract would be a debtor in bankruptcy proceedings (Gorton and Metrick, 2009).^c In Europe, the repo transfers legal title to collateral from the seller to the buyer by means of an outright sale. Therefore in major financial centres, for large depositors, repos can act as substitutes for insured demand deposits.

It encompasses non-leveraged activities by fund managers that administer investments on behalf of their clients, who bear gains and losses directly, so that there is no intermediation per se. In response to this, the FSB started reporting on a narrower measure, filtering out non-bank financial activities that have no direct connection with credit intermediation (e.g. the

transactions of non-leveraged equity funds) or that are prudentially consolidated into banking groups (e.g. securitized products held by banks and assets from the broker-dealer activities of the universal banks).

The IMF has proposed measuring the volume of the “non-core” liabilities of both banks and

Box 4.1 (concluded)

An interesting feature of repos is that the collateral posted by a client to its broker may be used as collateral also by the broker for its own purposes with an unrelated third party. The same collateral can therefore support multiple transactions. Indeed, brokers may rehypothecate the assets received as collateral, for instance from a hedge fund, to gain access to the money they lend to its customer. The client that borrowed the money (the hedge fund) can use its increased assets for a new repo transaction. The dealer uses the security to raise more funds, and so on, *ad infinitum* (Singh and Aitken, 2010). Unlimited leverage has practical constraints. Market participants tend to apply haircuts (a percentage discount) to the collateral in a repo in order to calculate its purchase price. Applying haircuts is equivalent to asking for an overcollateralization. The adjustment is intended to take account of the unexpected losses that one party to the repo trade might face in buying (or selling) the securities if the other party defaults. Haircuts limit the leverage. For instance, a hedge fund financing its asset position through a repo (and using the purchased asset as collateral) will need to buy part of its position with its own resources. An infinite multiplier would also come up against the credit limits imposed by financial institutions on their counterparties and, if applied, against limits due to regulatory constraints.

According to the International Capital Market Association (ICMA), there are large repo markets in Europe, the United States, Latin America and Japan, as well as rapidly emerging (although still relatively small) repo markets in China and a number of African countries. Outstanding repo contracts in the European repo market totalled an estimated 5.5 trillion euros in December 2014, but this estimate is not comprehensive as it only includes the most active participants in the European repo market (ICMA, 2015). The Federal Reserve Bank of New York reported that the outstanding repo business of primary dealers (who may account for as much as 90 per cent of the United States market) amounted to almost \$5 trillion in 2014. The ICMA Centre at Reading University has suggested that, although the global market for repos has contracted since 2007, it may have amounted to 15 trillion euros in 2012. Gorton and Metrick (2009) suggest an amount up to three times larger for the United States.

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- ^a If they are banks, the leverage ratio may apply, depending on the accounting rules of the jurisdictions where they are based.
 - ^b The firms often use loopholes specific to the United States GAAP. In order to ensure that the balance sheet makes clear which assets have been sold in repos, the International Financial Reporting Standards (IFRS) requires that securities against a repo be reclassified from “investments” to “collateral” and balanced by a “collateralized borrowing” liability.
 - ^c According to Morrison et al. (2014), evidence shows that exemptions from the Bankruptcy Code’s normal operation for repos distort the capital structure decisions of financial firms by subsidizing short-term financing at the expense of other, safer debt channels, including longer term financing. When financial firms prefer volatile short-term debt to more stable long-term debt, they (and markets generally) are more likely to experience a “run” in the event of a market shock, such as the downturn in housing prices witnessed during the global financial crisis.

non-bank financial institutions to estimate the size of the shadow banking system (IMF, 2014). Non-core liabilities are all the funding sources of financial firms that differ from bank deposits. According to this definition, which includes all non-traditional financial intermediation, securitization is also part of shadow banking, regardless of whether it is

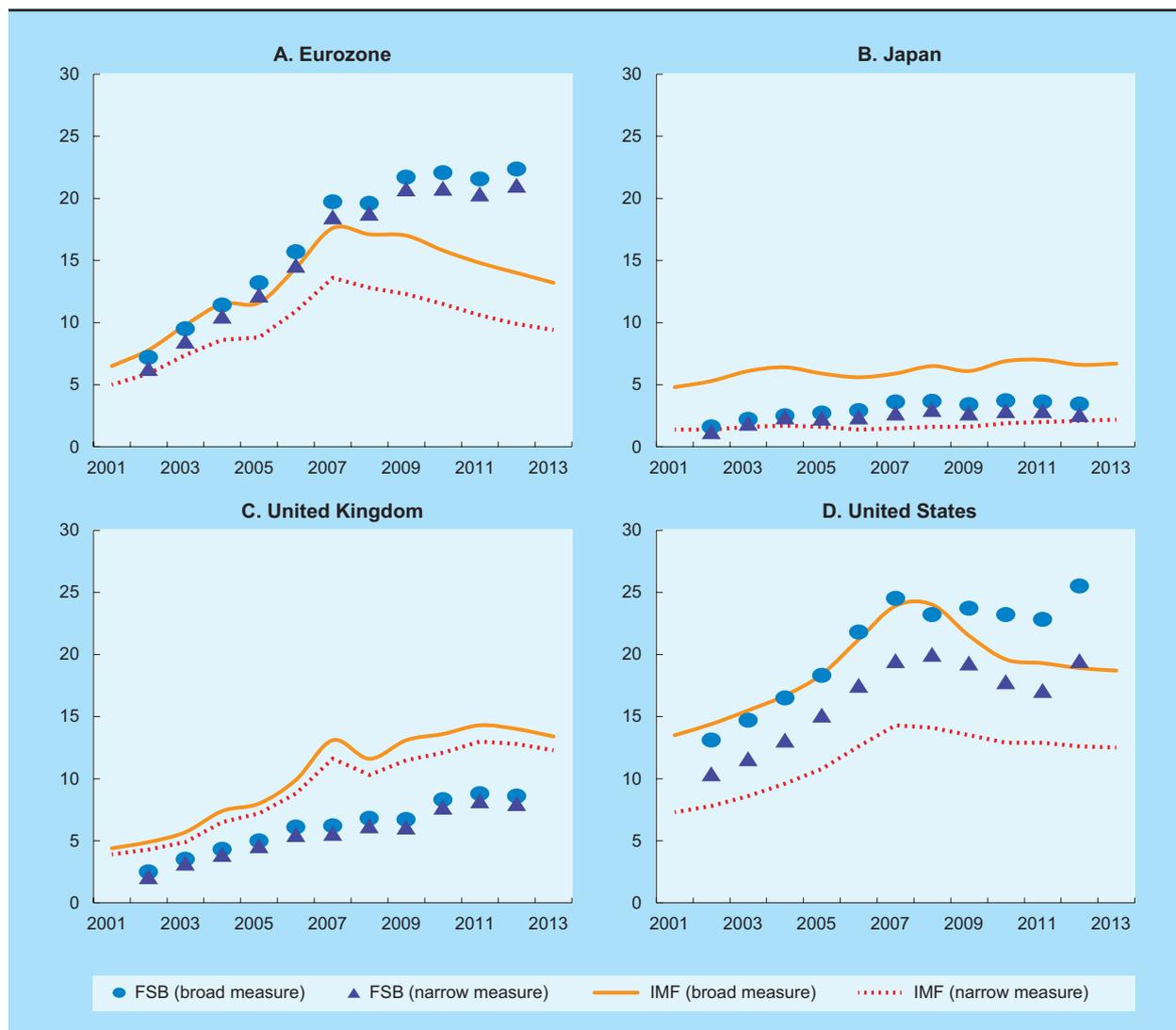
conducted directly on balance sheet by a bank or indirectly through a special purpose entity (SPE). The IMF has also suggested a narrower measure of shadow banking which excludes interbank debt.

Based on the FSB’s broad measure, shadow banking activity has expanded significantly since

Chart 4.2

SIZE OF SHADOW BANKING BY DIFFERENT MEASURES, 2001–2013

(Trillions of dollars)



Source: Harutyunyan et al., 2015; and FSB, 2014c.

2002, particularly in developed economies, and, notably, it continued rising after the financial crisis. Its overall size in terms of assets was an estimated \$75.2 trillion, or about one fourth of total financial intermediation worldwide at the end of 2013, a sharp rise from \$67 trillion in 2011 and \$71 trillion in 2012. The largest shadow banking systems are located in the United States, the eurozone and the United Kingdom (chart 4.2), but shadow banking intermediation has been also expanding in a few developing countries such as China (see box 4.2).

Other forms of shadow banking exhibited a similar growth trend until 2007, but the pattern changed after the crisis, when it stagnated or declined, according to IMF measures.²⁰ The main reason for this, both in the United States and in the eurozone, was sluggish activity among issuers of asset-backed securities and a fall in commercial bank debt issuance. MMMFs' shares, which also shrank after the crisis, further contributed to the drop in total non-core liabilities. In contrast, FSB estimates point to a pick-up of shadow banking activity after the mild

Box 4.2

SHADOW BANKING IN CHINA

In China, the rise of a shadow banking system is quite recent, as banks have completely dominated the credit system since the market reforms of the late 1970s. Even as recently as the end of 2008, bank loans represented almost 90 per cent of outstanding credit in China (Elliott et al., 2015; Elliott and Yan, 2013). Reforms in the country's finance and banking sectors over the 1990s and 2000s (Okazaki, 2007; Kruger, 2013) resulted in greater sophistication of financial instruments and also made it more possible to avoid regulatory controls.

Shadow lending in China takes place through a wide range of entities involving five main sources of financing: wealth management products, entrusted loans, trust loans, financing companies and informal loans. Many shadow banking activities are specifically designed to circumvent banking regulations, and can therefore be interpreted as forms of internal regulatory arbitrage (Chandrasekhar and Ghosh, 2015). For example, despite caps on lending volumes of banks and limits on loans to potentially risky borrowers (such as local government financing vehicles, real estate developers, coal miners and shipbuilders), those loans actually continued to increase, because they were routed through shadow lending.

Wealth management products (WMPs) provide a return based on the performance of the underlying assets (a single loan or a pool of loans), typically higher than bank deposit rates to which monetary authorities apply caps, thereby enabling interest rate liberalization "by stealth" (Kruger, 2013). They are promoted as low-risk instruments, and a significant number of them offer guaranteed returns (IMF, 2014). Entrusted loans are inter-company loans in which one firm serves as the ultimate lender and records the loan asset on its balance sheet, while banks act as intermediaries and collect fees. Funds of entrusted loans typically flow into assets such as property and stocks, and they are a potential risk to financial stability since they generate a new round of credit and increase leverage. There are other channels through which non-financial firms offer credit to one another, such as corporate discounting of bank acceptance bills, which can also be used to add to leverage (Elliott et al., 2015).

Guarantee companies, originally created to help SMEs obtain access to bank loans, charge prospective borrowers a fee, and in exchange serve as a guarantor to a bank, pledging to pay for any losses in the event of a default. In effect, the "credit guarantee" company sells insurance to the bank for a risky loan, with the borrower having to take on the premium. Like any insurance scheme, this arrangement may be risky if the risks are correlated between borrowers. Finally, other forms of intermediation consist of informal lending by individual money lenders (such as pawn shops and kerb lenders) to households and small businesses.

Independent estimates of the extent of shadow banking in China vary wildly from a low of 8–22 per cent of GDP to a high of as much as 70 per cent of GDP in 2013 (Chandrasekhar and Ghosh, 2015). According to the IMF (2014), social financing through shadow banking had risen to 35 per cent of GDP by early 2014, and it is expanding at twice the rate of bank credits. The value of total assets of WMPs accounted for 25 per cent of GDP, having grown by 50 per cent since early 2013, and threefold since early 2011. Under the broadest definitions of shadow banking, China's shadow banking sector remains much smaller relative to the size of its GDP than those of the United States (150 per cent), the United Kingdom (378 per cent) and many countries of the eurozone.

As part of their efforts to curb the risks associated with the informal financial sector, the Chinese authorities introduced insurance for bank deposits of up to 500,000 renminbi per depositor per bank in April 2015, covering both individuals and businesses. This should make the distinction between bank deposits and unprotected wealth management products clearer, but there is still likely to be intense political pressure to step in and rescue unprotected investors when such schemes fail (EIU, 2015). Officials have frequently stated that the Government will not back shadow banking transactions undertaken by banks, although the issue is complex, since bank ownership in China is held by the Government in the form of shares.

drop in 2008, reflecting growth in the volumes intermediated by investment funds and positive valuation effects following the recovery of asset prices from their low values in 2008–2009.

However, the size of shadow banking tends to be grossly underestimated, as most measures exclude the shadow banking entities domiciled in many offshore financial centres, or tax havens. The FSB recognized that incorporating data from these offshore centres, which are non-FSB member jurisdictions, would help fill gaps in the current global monitoring exercise. Such gaps may be large, as financial entities move sizeable portions of their shadow activities to offshore centres to avoid regulations in their home countries.

3. Risks associated with shadow banking

The specialization of each institution participating in the chain of intermediation of the shadow banking system allows borrowers and lenders to avoid credit spreads and other fees charged by traditional banks. In that sense, shadow banking may bring efficiency gains from specialization with lower costs for clients and healthy competition for banks. It has been argued that securitization enables the mobilization of illiquid assets, thus broadening the range of potential lenders, and that structured finance techniques can be used to tailor the distribution of risk and returns to better fit the needs of ultimate investors (IMF, 2014). However, activities that resemble banking, particularly by taking deposits, create specific financial risks. Unlike banks, to which authorities apply capital requirements and other rules, the transactions in the shadow banking system are not regulated and lack explicit public sector credit guarantees or access to central bank liquidity backstops. Problems in the intermediation chain can therefore trigger a systemic crisis in the whole financial system.

Since the 2008 crisis, various features of the shadow banking system have been highlighted as highly problematic for financial stability. A leading

concern is the quality of some financial products traded in that system. Some of the loans packaged into securities to be sold in the market (i.e. asset-backed securities) have often been poorly underwritten, with issuers not recording the risks in their balance sheets, and instead transferring them to the buyers (Coval et al., 2008).²¹ As the 2008 crisis has shown, the “originate and distribute model” carries moral hazard. Banks are likely to be more careful in evaluating risk when they plan to keep a loan on their books, while securitization may lead to weakened lending standards and a deterioration of credit quality. A particular concern relates to complex securitization structures (e.g. collateralized debt obligations), for which risks are particularly difficult to assess.

A second concern, directly related to macroeconomic stability, is that shadow banking is highly procyclical. When asset prices are high, the value of the collateral for repos increases, enabling more leverage. Shadow banking therefore contributes to asset price bubbles (Pozsar et al., 2013), and also to a credit crunch when a financial cycle comes to an abrupt end. Some types of collateral used for transactions may even become unacceptable during periods of turmoil.

Indeed, a third concern is that shadow banking is particularly prone to risks of clients’ sudden and massive withdrawals of funds originating from market-based transactions instead of from a run on deposits. Indeed, the panic of 2007–2008 originated in a securitized bank run (a repo run) driven by the withdrawal of repurchase agreements (Gorton and Metrick, 2009). Uncertainty as to the real value of the assets serving as collateral led to massive redemptions on the repo market.

A fourth concern relates to contagion effects from runs on the shadow banking system to the rest of the financial system. One mechanism of contagion is through asset prices. In the event of a run on the shadow banking system, massive sales of assets may have repercussions for prices of financial and real assets and a direct impact on the mark-to-market valuation of securities in the books of the traditional banks. A second mechanism of contagion relates to

Shadow banking may bring efficiency gains from specialization, with lower costs for clients and healthy competition for banks, but many of its features are highly problematic for financial stability.

the fact that banks also fund activities in the wholesale market, where illiquidity caused by shadow banking activities may induce the banks to engage in rapid deleveraging. This can lead to a further fall in prices and create negative feedback loops. Such spillovers also take place internationally. Finally, since banks and insurance companies provide shadow entities with back-up liquidity lines and implicit guarantees to special purpose vehicles, incidents in shadow banking may directly affect traditional intermediaries (Greene and Broomfield, 2014).

4. *Insufficient reforms*

It is surprising that, so far, regulatory reforms have paid relatively little attention to the many entities and activities of shadow banking. Indeed, focusing mainly on reforming the regulated financial sector may even be inducing a large migration of banking activities towards the shadow banking system, as hinted earlier (see also IMF, 2014).

At the G20 Seoul Summit in November 2010, leaders requested the FSB to develop recommendations to strengthen oversight and regulation of shadow banking activities.²² In response, the FSB developed a framework for conducting annual monitoring exercises to identify entities and activities in credit intermediation and assess global trends and risks posed by the shadow banking system.²³ FSB recommendations to improve the market infrastructure and the resilience of institutions are now under consideration by national authorities. They address a number of identified concerns, including a heavy reliance on short-term wholesale funding for some intermediaries, weakened lending standards due to some securitized assets and structured products, and a general lack of transparency that hides growing amounts of leverage and maturity mismatches, as well as the ultimate bearer of the associated risks.

The proposed reforms cover four areas (discussed below), and some countries have already adopted new regulations.

- (i) In order to mitigate risks in banks' interactions with shadow banking entities, there are recommendations to set risk-sensitive capital requirements for banks' investments in equity

funds and a proposed supervisory framework for measuring and controlling banks' large exposures, including to shadow banking activities. Countries that are members of the Basel Committee have agreed to fully implement the framework by 2019.

- (ii) In order to limit massive and sudden redemptions, the following measures are proposed: limit the use of constant net asset value to allow the share prices of those funds to fluctuate in line with the market value of the funds' assets, impose capital buffers, require redemption restrictions, establish liquidity and maturity portfolio requirements, and require stress testing.²⁴
- (iii) In order to improve transparency in securitization, it is recommended that risk retention requirements be included for entities sponsoring securities, and that banks and other financial sponsors of securitization transactions be required to retain part of the loans on their books. The latter was approved by the United States in 2014.
- (iv) Regarding repo agreements, in October 2014 the FSB published a regulatory framework for securities financing transactions in order to limit excessive leverage as well as maturity and liquidity mismatched exposures. It consists of minimum qualitative standards for methodologies used by market participants that provide securities financing to calculate haircuts on the collateral received, and numerical haircut floors that will apply to non-centrally cleared repos, in which financing against collateral other than government securities is provided to entities other than banks and broker-dealers.

Additional work on other shadow banking entities is also under way within the FSB in order to list the entities that could be covered, map the existing regulatory and supervisory regimes in place, identify gaps in those regimes, and suggest additional prudential measures for those entities, where necessary.

The aim of these regulatory reform proposals is to transform shadow banking into a resilient market-based system of financing. However, while they address particular risks, the proposed actions appear to be insufficient to deal with the system's inherent systemic risks. A major challenge to regulatory

reform of the shadow banking system is how to ensure appropriate oversight and minimize risks to financial stability while not inhibiting sustainable non-bank financing conduits that do not pose significant risks, particularly where shadow banking fills a gap.

In the case of securitization, the balance sheet capital retention requirements of less than 5 per cent seem arbitrary and small; investors may still confuse MMMFs with deposits and be susceptible to panics. For repos, the proposed haircuts are only for bilateral transactions, leaving open the possibility of large rehypothecation (and leverage) in centrally cleared markets. The FSB even dropped the minimum haircuts requirement on repos with government bonds that it had initially suggested to make repo-supported leverage more expensive (FSB, 2012). In addition, the FSB monitoring exercise is not comprehensive, as data collection from offshore financial centres is lacking.

Measures such as a financial transactions tax (FTT) applied to repos, which would significantly reduce leverage in the shadow banking system, are

missing from the FSB reform agenda, and have been fiercely opposed by most market participants (including central banks).²⁵ Other ambitious reforms more consistent with a market-based approach have been suggested, but they have not received proper consideration. For instance, Gorton and Metrick (2009) have proposed principles for regulation of shadow banking entities based on the premise that any kind of banking should be brought under the regulatory umbrella. On this premise, regulators would have to provide strict guidelines on what kinds of collateral may be used for repos and on minimum haircuts (to limit leveraging and reduce rehypothecation). Totally unregulated repos may still be authorized, but authorities would have to make it clear that the buyer of the repo will not receive special bankruptcy protection.

To sum up, despite some moves towards tightening rules relating to specific activities, shadow banking remains largely unregulated, probably because of the pressure to avoid impacts on the price of financial services or on the profitability of financial institutions. This means that the systemic risks arising from the very nature of shadow banking could continue to pose a threat to global financial stability.

D. Other important issues in financial regulation

The global financial crisis raised unprecedented concerns about the governance of financial institutions and the lack of transparency of information in financial markets. The list of distorted incentives at the root of the crisis is long, but at the top of that list are the role of credit ratings in regulations for risk assessment (discussed below) and, of particular importance for developing countries, the absence of international macroprudential regulations to tame speculative international capital movements. In this context, foreign banks with branches and subsidiaries in developing countries are important channels for transmitting global financial spillovers to these economies, and therefore pose specific regulatory challenges.

1. *Credit rating agencies: The need for more than a code of conduct*

Credit rating agencies (CRAs) are a fundamental institution of today's financial markets.²⁶ By rating large corporate borrowers, sovereign bonds, municipal bonds, collateralized debt obligations and other financial instruments, CRAs provide prospective investors with guidance on the borrower's creditworthiness. The role of ratings is to provide investors with information and opinions on whether a bond issuer may renege on its commitments. The rating services cater to both non-specialist bondholders (e.g. the general public and small financial firms) and specialist

investors (i.e. financial intermediaries such as banks, insurance companies and pension funds). They help the former by providing the necessary information to assess the creditworthiness of borrowers; and they can help the latter obtain information concerning unfamiliar bond markets or new lending activities.

The activities of CRAs, as expressed through news about ratings, have an impact on asset allocation, as ratings contribute to the determination of the interest rate – or price – the borrower must pay for obtaining financing. Reliance on credit ratings has increased over time with the development of financial markets and the use of ratings in regulations, standards and investment guidelines, both at the national and international levels, as evidenced by their frequent references to CRAs' ratings. They constitute a key component of regulatory risk measurement, and can be used to determine capital requirements for banking institutions. They also influence decisions on whether the rated assets can be used as collateral, and determine benchmarks for asset managers' strategies. The Basel II capital adequacy framework allows banks to consider external credit assessments of the borrower – or the specific securities issued by the borrower – for the determination of risk weight for the banks' exposures. Another example is the reliance by many central banks on CRAs' assessments of the financial instruments they accept for open market operations, both as collateral and for outright purchase.

However, the wide use of CRA ratings has now come to be recognized as a threat to financial stability and a source of systemic risk.

The 2008–2009 global financial crisis served as a reminder of a number of serious problems in the ratings industry. It became clear that many ratings, such as those relating to subprime collateralized debt obligations and other securities – including from governments – had been artificially inflated. This was related to the business models of the rating agencies, which contain serious conflicts of interest: essentially, rating agencies are paid by the very issuers whose securities they are rating.²⁷ Overrating debts and underestimating the default risk allows the issuer to attract investors. “Buy-side” investors

may have incentives to accept inflated ratings, as this increases their flexibility in making investment decisions and reduces the amount of capital to be maintained against their investments. This also explains why institutions buy overpriced securities (Calomiris, 2009).

The overreliance on CRAs' assessments of structured financial products contributed significantly to the 2007–2008 subprime crisis, as well documented, for instance by the IMF (2010). However, the debate considerably pre-dates the 2008 global crisis, when CRAs clearly performed badly in measuring the risk of subprime debts. They were heavily criticized for their role in the 1997 Asian financial crisis and the 2001 dot-com bubble for having been slow to anticipate these crises, and then for having abruptly downgraded the debtors.

Downgrades in ratings have triggered large sell-offs of securities as a consequence of market participants adjusting to regulations and investment policies (“cliff effects”). The high volatility in the European sovereign debt market in 2011 after a number of rating downgrades is an example of the linkages between downgrades and the prices of debt instruments. Conversely, rating upgrades can contribute to mechanistic purchases of assets in “good times”, which can fuel financial bubbles. Another major concern with CRAs is related to deficiencies in their credit assessment process. An additional source of unease is that CRAs' ratings, which are based on subjective criteria rather than on economic fundamentals for determining sovereign debt sustainability, exercise a strong influence on markets, issuers of securities and policymakers (see also box 4.3).

Overreliance on ratings has therefore become a concern for international regulatory authorities. The FSB published its *Principles for Reducing Reliance on Credit Rating Agency Ratings* in 2010, which were endorsed by the G20. The goal of the principles is to reduce the use of CRAs, and to provide incentives for improving independent credit risk assessments and due diligence capabilities. Member jurisdictions have committed to presenting a timeline and specific actions for implementing changes in the regulations. At the same time, the FSB has suggested that

In assessing sovereign debt sustainability, credit rating agencies follow ideological prejudices rather than economic fundamentals.

Box 4.3

BIASING INFLUENCES ON CRAS' RATINGS OF SOVEREIGN DEBT

Ratings of sovereign debtors involve considerable judgement about country factors, including economic prospects, political risk and the structural features of the economy. CRAs provide little guidance as to how they assign relative weights to each factor, though they do provide information on what variables they consider in determining sovereign ratings. Broadly speaking, the economic variables aim at measuring the creditworthiness of an economy by assessing the country's external position and its ability to service its external obligations, as well as the influence of external developments.

CRAs' assessments appear to be based on a bias against most kinds of government intervention. In addition, they often associate labour market "rigidities" with output underperformance, and a high degree of central bank independence as having a positive impact on debt sustainability (Krugman, 2013).

Sovereign ratings of the three major rating agencies are strongly correlated (see table), possibly signalling a very low degree of competition in the CRA market. At the same time, their ratings are significantly correlated with indicators that measure the extent to which the economic environment is "business-friendly", regardless of what impact this might have on debt dynamics.

CORRELATION BETWEEN SOVEREIGN RATINGS OF THE "BIG THREE", JANUARY 1990 TO MARCH 2015

	<i>Fitch</i>	<i>Moody's</i>	<i>Standard and Poor's</i>
<i>Fitch</i>	1	0.955	0.970
<i>Moody's</i>		1	0.956
<i>Standard and Poor's</i>			1

Source: UNCTAD secretariat calculations, based on *Thomson Reuters Eikon* database.

Note: The sample includes 129 issuers. The number of observations are: Fitch vs. Moody's: 17,908; Fitch vs. Standard and Poor's: 18,317; and Moody's vs. Standard and Poor's: 23,258.

An econometric model, based on a pooled sample of the average value of the "Big Three's" sovereign ratings of 51 developing countries for the period 2005–2015, indicates a close linear fit (R^2 of 44 per cent) between those ratings and the following variables estimated by the Heritage Foundation: "labour freedom", "fiscal freedom", "business freedom" and "financial freedom" (chart 4B.1A). However, these variables appear to have barely any relation to the countries' fundamentals, which would determine their ability to service their sovereign debt.

For instance, "financial freedom" is considered a measure of independence from government control and "interference" in the financial sector. Consequently, an ideal banking and finance environment is believed to be one where there is a minimum level of government intervention, credit is allocated on market terms, and the government does

not own financial institutions. Also, in such an environment, banks are free to extend credit, accept deposits and conduct operations in foreign currencies, and foreign financial institutions can operate freely and are treated in the same way as domestic institutions. The "labour freedom" index is a quantitative measure that considers various aspects of the legal and regulatory framework of a country's labour market, including regulations concerning minimum wages and layoffs, severance requirements, measurable regulatory restraints on hiring and hours worked. "Fiscal freedom" is a measure of the tax burden imposed by the government, based on a combination of the top marginal tax rates on individual and corporate incomes, and the total tax burden as a percentage of GDP. Finally, "business freedom" refers to the ability to start, operate and close down a business (Heritage Foundation, 2015).

By contrast, the econometric estimates show a much weaker correlation (R^2 of 16 per cent) when CRAs' ratings are regressed on the four most relevant variables used in the standard macroeconomic literature to assess debt dynamics (chart 4B.1B). Those variables are: the level of the primary budget surplus, the government-debt-to-GDP ratio, economic growth and the current account balance.

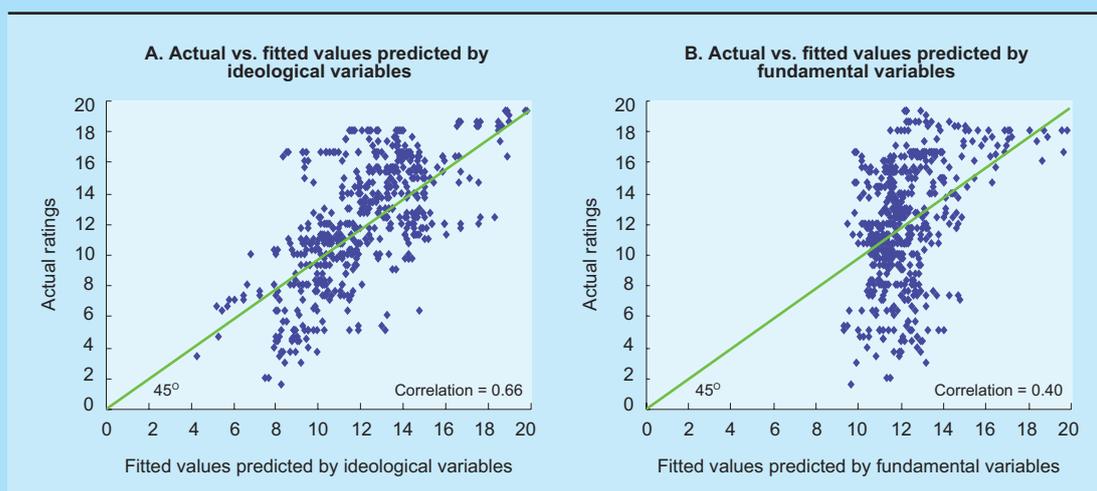
These estimates show that CRAs' sovereign ratings are based much more on subjective assessments and prejudices (for instance, that government intervention reduces growth and efficiency) than on the "fundamental" variables related to debt sustainability.

There is a strong risk that alternative approaches to credit assessment might reproduce the same flaws of the underlying CRA models. Indeed, other CRAs, including the Chinese firm, Dagong, have produced judgements similar to those of the "Big Three": Moody's, Standard and Poor's and Fitch (chart 4B.2). This suggests either that other participants base their judgments on similar models, or that the "Big Three" are market makers in the ratings industry. As such, there is the added concern that internal credit risk assessments made by risk departments of investors' institutions also deliver ratings with similar flaws.

Box 4.3 (concluded)

Chart 4B.1

**SOVEREIGN RATINGS OF DEVELOPING COUNTRIES,
ACTUAL AND FITTED VALUES, 2005–2015**
(Average of the ratings of the “Big Three”)

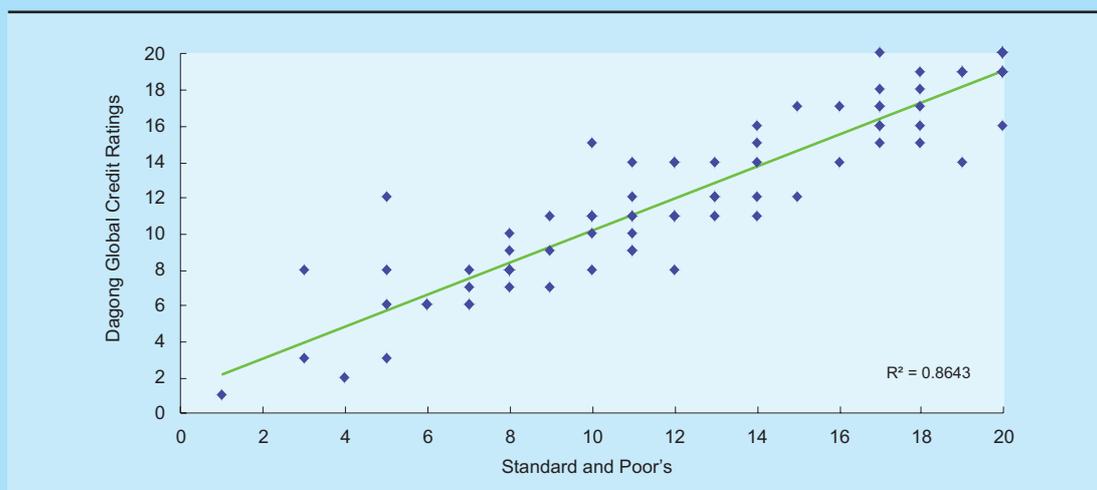


Source: UNCTAD secretariat calculations, based on *Bloomberg* and *Heritage Foundation* databases; and IMF, *World Economic Outlook*, 2015.

Note: Countries covered are those for which data were available from all the selected CRAs. Country ratings have been converted into numerical order, ranging from 0 (defaulted security) to 20 (highest rating). For chart A, fitted values correspond to the best possible prediction of the average rating based on a linear regression against four variables taken from the Heritage Foundation Index of Economic Freedom: “labour freedom”, “fiscal freedom”, “business freedom” and “financial freedom”. For chart B, fitted values are the best possible prediction of the average rating based on a linear regression against four macroeconomic variables: budgetary primary surplus, ratio of public debt to GDP, current account balance and GDP growth rate.

Chart 4B.2

CORRELATION BETWEEN COUNTRY RATINGS OF SELECTED CRAs



Source: UNCTAD secretariat calculations, based on Standard and Poor's; and Dagong.

Note: Country ratings have been converted into numerical order, ranging from 0 (defaulted security) to 20 (highest rating). Countries covered are those for which data were available from both CRAs. Data are as on July 2015.

references to CRA ratings be removed or replaced once alternative provisions in laws and regulations have been identified and can be safely implemented.

Regulatory efforts have also sought to establish a code of conduct for CRAs. A report by the International Organization of Securities Commissions (IOSCO, 2015) focuses on the quality and integrity of the rating process, avoidance of conflicts of interest, transparency, timeliness of ratings disclosures and confidential information. Regional and national regulators have the discretion to adopt more stringent regulations for CRAs. For example, in the United States, the Dodd-Frank Act has attempted to address problems relating to CRA ratings by requiring that banks no longer use those ratings in their risk assessments for the purpose of determining capital requirements. Recent European Union regulations require greater disclosure of information on structured financial products and on the fees that CRAs charge their clients (EC, 2013 and 2014). Nevertheless, the pace of regulatory change has been slow.

Credit rating agencies are still of relevance for the financial sector, despite their disastrously inaccurate ratings assessments prior to major crises. Following widespread recognition that the concentration of the sector in the three biggest international CRAs has created an uncompetitive environment, and that it is therefore necessary to reduce their power, there have been different suggestions for more substantial changes. The OECD highlighted the need to curb conflicts of interest, an issue that CRAs could address, for instance by moving from an “issuer pays” to a “subscriber pays” business model (OECD, 2009). But this new model would require some kind of public sector involvement to avoid free-rider issues. Others have suggested more radical measures, such as completely eliminating the use of ratings for regulatory purposes (Portes, 2008), or transforming the CRAs into public institutions, since they provide a public good (Aglietta and Rigot, 2009). Also, banks could pay fees to a public entity that assigns raters for grading securities. Alternatively, banks could revert to what has historically been one of their most important tasks, namely assessing the creditworthiness of the

potential borrowers and the economic viability of the projects they intend to finance (Schumpeter, 1939; Brender, 1980).

Policymakers should be made aware of the current flaws in the construction of risk measures, and a conceptual framework for an alternative approach should be designed. Alternative sources of credit assessment should avoid repeating the same kinds of mistakes that led CRAs to underestimate risk.

2. *The negative impacts of speculative international capital flows*

Another major concern about the new financial reforms is the virtual absence of concrete international regulations to tame speculative, short-term international capital flows. Over the past few decades, many countries have experienced strong macroeconomic and financial volatility as a result of capital inflows driving exchange rates away from fundamentals followed by capital reversals triggered by changes in international monetary conditions (*TDRs 2009* and *2011*). Some proposals that could have addressed this issue, such as an international agreement for a tax on international currency transactions, have been discussed at a policy level, but have received little political support from developed countries so far.

Risks related to international capital flows are not only a concern for developed countries and for the larger developing economies that are viewed as emerging markets. Increasingly, many middle- and low-income

countries that are considered “frontier markets” may also have to cope with volatile capital flows. Their growing reliance on international capital markets to raise finance, which was made possible by low international interest rates and investors’ growing appetite for risk, makes them vulnerable to sudden reversals of foreign capital. It was such reversals that triggered several financial crises in large developing countries in the late 1990s.

Capital account management to regulate the amount and composition of foreign capital flows

Financial reforms have not included concrete international regulation to tame speculative cross-border capital flows.

can help mitigate such risks. Brazil, Indonesia and the Republic of Korea, among others, have introduced measures to reduce excessive capital inflows with reasonable degrees of success. Further, not all developing countries have promoted rapid international financial integration. While some have sought to enhance their integration into the global financial system, favoured the installation of foreign banks and started issuing commercial external debt, others have preferred delaying such integration. Ethiopia, for instance, has not resorted to easily available foreign capital, and has imposed restrictions on the capital account in its balance of payments. Foreign banks are not allowed to operate in that country. This strategy does not impede the development of a domestic financial system to serve the needs of the real economy because of a strategy for long-term credit provision through its development bank, along with considerable funding from private domestic banks (Alemu, 2014). As a result, its financial system is able to channel funds to priority sectors, including manufacturing and infrastructure.

3. Foreign bank presence in developing countries

A related issue has been the growing commercial presence of foreign-owned banks in developing countries. This trend started in the late 1990s and continued with full force in the new millennium until the global financial crisis. Initially, in the 1990s, privatization of State-owned banks was an important factor in the growing presence of foreign banks in developing countries. Subsequently, joint ownership with local private banks and fully owned subsidiaries gained importance.

According to one recent estimate, the current share of foreign banks in the total number of banks averages 24 per cent in OECD countries and around 40 per cent in developing countries (Claessens and van Horen, 2014). Between 1995 and 2009, foreign banks as a percentage of the total number of banks doubled in such countries, and a large majority of them are from developed economies (Buch et al., 2014). Moreover, this proportion is typically higher in poorer and smaller countries than in the major developing economies, reaching in some cases 100 per cent. Among the major developing countries, there

are considerable variations in foreign bank presence. The Republic of Korea, which had no foreign banks before it joined the OECD in 1996, has seen the fastest increase in their presence over the past two decades, though their share in the total number of banks in the country is still lower than the average for other major developing countries. China, India and South Africa also have a lower foreign bank presence than other developing countries, both in terms of the number of banks and their shares in total banking assets.

In addition to joint ownership with local partners, foreign banks have entered host countries by establishing branch offices or full subsidiaries, the former being the more typical pattern in Asian and African countries, and the latter in Latin America. Foreign branches take the form of unincorporated banks or bank offices located in a foreign country. They are integral parts of their parent bank, and not independent legal entities with separate accounts and capital bases. They cannot incur liabilities and own assets in their own right; their liabilities represent real claims on their parent bank. They provide globally funded domestic credits. By contrast, foreign subsidiaries are stand-alone legal entities created under the law of the host country. They have separate accounts and capital bases from those of their parent company and are financially independent. They have to comply with the host country's regulations and supervision, and are covered by the host country's deposit insurance schemes.

Much has been written on the pros and cons of foreign banks in developing countries. One body of literature suggests that foreign banks may bring efficiency gains, improve competitiveness, reduce intermediation costs and generate positive spillovers to local banks in developing countries, and also enhance their resilience to external financial shocks.

However, their presence might also create challenges. For example, foreign banks often cherry-pick the best creditors and depositors, leaving smaller and marginal customers, including SMEs, to be served by local banks. Moreover, foreign banks tend to focus more on lucrative activities where they have a competitive edge, notably in trade financing, an area in which they enjoy a cost advantage over local banks in being able to confirm letters of credit through their head offices; and their international financial intermediation, rather than domestic intermediation,

often attracts the best customers in need of such services. They are also better able to benefit from regulatory arbitrage by shifting operations back and forth between the home and host countries. They can easily avoid the cost of legal reserves by moving large deposits to offshore accounts, which also enables them to offer higher interest rates. Since local banks cannot easily avoid these costs, they may face competitive disadvantages.

Moreover, foreign banks intermediate between international financial markets and domestic borrowers much more easily than local banks, funding local lending from abroad, including through their parent banks. During the recent surge in capital flows to developing countries, foreign banks have been extensively engaged in intermediations resembling carry-trade operations, benefiting from large interest-rate arbitrage margins between reserve-issuing countries and developing countries as well as currency appreciations in the latter, as discussed in chapters II and III.

Since the global financial crisis, it has been increasingly recognized that the large presence of foreign banks in developing countries could have implications for financial volatility (Fiechter et al., 2011). Indeed, because of their close international linkages, foreign banks in such countries act as conduits of expansionary and contractionary impulses from global financial cycles, particularly with the growing liberalization of international financial flows. Thus, when global liquidity and risk appetite are favourable, foreign banks can contribute to the build-up of excessive credit; and when global financial conditions become tight, these banks can intensify their destabilizing and deflationary impact on host countries, transmitting credit crunches from home to host countries, rather than insulating domestic credit markets from international financial shocks. The shift of international banks from cross-border to local lending implies that at times of stress in the home country, deleveraging by parent banks could result in credit contraction in host countries.

This was seen in Asia during the eurozone crisis, where lending by local subsidiaries and branches was a substantial part of overall European bank claims (Aiyar and Jain-Chandra, 2012; He and McCauley,

2013). Several other studies have also found that foreign subsidiaries cut lending more than domestically owned banks during the global crisis (Claessens and van Horen, 2014; Chen and Wu, 2014). This was particularly true where they funded a large proportion of their lending from abroad rather than from local deposits (Cetorelli and Goldberg, 2011). At the height of the crisis in 2008, in Brazil and China, the growth of foreign bank credit lagged behind that of domestic

banks, and “foreign banks in one [emerging market economy]... withdrew earlier than domestic banks from the interbank market” (BIS, 2010b). During both the Asian crisis in 1997 and the crisis in developed countries in 2008, foreign banks were slower than domestic banks to adjust their lending to changes

in host-country monetary policy, thereby impairing its effectiveness (Jeon and Wu, 2013 and 2014).

Recent experience suggests that local subsidiaries of foreign-owned international banks may not act as stabilizers of interest rate shocks to developing economies’ local bond markets. During the bond market collapse in 2008, rather than increasing their exposure to offset the impact of the exit of foreign investors, these banks joined them, reducing their holdings of local government bonds and scaling back their market-making activity (Turner, 2012).

Other challenges arising from the presence of foreign banks relate to the structure of the banking system. Such banks may be systemically important in the host country, even though their activities may represent only a small proportion of their global business. This creates regulatory difficulties for host supervisors, especially when there is a lack of home-host country coordination in the supervision of the transnational banks’ activities. This becomes a particularly serious issue when host supervisors have to deal with resolution problems arising from cross-border failures. One response to these challenges has been to ensure that foreign banks are effectively regulated by the host-country’s supervisors. Another is for the host country to require foreign banks’ branches to hold their own capital, as some countries have done. Other measures (introduced in Mexico, for example) impose higher capital requirements on foreign banks or transfer limits on revenues and asset purchases by a bank to its parent company (FSB, 2014b).

Foreign banks in developing countries act as conduits of expansionary and contractionary impulses from global financial cycles.

E. Fixing finance: The need for a more positive agenda

Reforms of the international financial system have certainly not gone far enough to enable it to forestall shocks and make it more resilient. Current regulatory practices and proposed reforms seem to be designed to preserve – with some fine tuning – the existing system rather than to transform it. The new Basel rules, which are supposed to make banks safer, still rely on risk-weighting for capital calculation and, more regrettably, may be based on the continued belief that private institutions can by themselves – or through CRA assessments – properly establish the level of capital to withstand unexpected losses. Furthermore, those rules do not address in a satisfactory manner concerns about moral hazard, which has become a significant issue with regard to systematically important institutions. Those institutions would still have to be bailed out to avoid possible contagion effects, and so the “market discipline” that underlies the Basel norms is unlikely to work. Meanwhile, the shadow banking system remains almost completely unregulated. With respect to the ring-fencing initiatives taken in a number of jurisdictions, the new rules are yet to be fully adopted, and in any case may not be effective, as the restrictions have been diluted with a host of exemptions, such as those applied to the Volker Rule’s ban on proprietary trading in the United States.

Part of the slow progress on reforms has been due to powerful interests linked to the financial industry systematically opposing more and stronger regulations – and also to ideological obstacles. The view that a freely operating private sector will find the optimal way to allocate financial resources remains deep-seated in national and international policy circles.

Since the various recent attempts at re-regulation of finance have not brought about fundamental changes in the financial system, the factors that contributed to financial crises continue to pose a constant threat to stability and growth. The system continues to rely on the interaction of too-big-to-fail financial institutions with very volatile capital markets, remains highly leveraged, and would still require large public bailouts in case of a crisis.

The Basel Accords are neither sufficient to bring about financial stability nor to ensure that financial institutions will pursue social and development goals. Therefore, the implementation of Basel rules should

Slow progress on reforms has been partly due to systematic opposition to more and stronger regulations by powerful interests in the financial industry.

not be the main focus or priority in improving the financial system for developing countries. One major shortcoming of the incentive structures created by regulatory practices and deregulation in the financial sector has been the homogenization of financial institutions and the proliferation of “universal banks”, which perform both

retail and market activities. When all banks, regardless of their purpose and ownership structure, are governed by a similar regulatory framework, such as the Basel rules that were originally designed for internationally active banks, they have incentives to adopt similar behaviour patterns.

In the past decade, in particular, banks collectively resorted to high-risk operations that were potentially more profitable, incorporating broker-dealers’ activities and investor practices resembling those of hedge funds undertaken by large proprietary trading desks (Haldane, 2009). As a result, many cooperative development banks, and even public banks, ended up behaving like commercial banks,

even though their sole motivation was not intended to be profitability, but rather to ensure certain kinds of financing in particular contexts.

This tendency towards homogenization has led to similar portfolios and exposures. In Europe, many banks became involved in risky activities that had little to do with their core business, and recorded significant trading losses in the 2008–2009 crisis (Ayadi, 2010). However, some institutions, such as cooperative and savings banks in Germany, which did not conform to universal banking models, withstood the crisis, and therefore did not require public bailouts (CEPS, 2010). And the large cooperative French bank, *Crédit Mutuel*, proved to be the best national performer in the stress test exercise coordinated by the European Banking Authority in 2014.²⁸

The concerns related to homogenization are equally relevant for all countries, although there are some additional issues for developing countries. The lack of diversity means that there is an insufficient variety of institutions to cater to different needs, especially to the requirements and interests of small producers and those who otherwise lack access to formal finance (Ghosh, 2012). It follows that the regulatory regime should recognize the importance of differences and regulate financial institutions according to their functions. Thus, the rules that apply to commercial banks or investment banks should not be the same as those applied to development banks, savings banks and cooperative banks.

Clearly, a more ambitious reform agenda is necessary if finance is to become less fragile and volatile, and better serve the needs of the real economy and society. Ongoing efforts to strengthen prudential regulation alone will not suffice; also necessary are structural reforms that focus both on financial stability and on social and development objectives. Such reforms should include the requirement of a strict separation of retail and investment banking. Such ring-fencing does not mean that large private financial institutions will no longer be able to decide what activities they

should engage in, but rather, that each activity should be institutionally separated into different legal entities and subject to specific regulations.

Structural reforms should also bring the shadow banking system under the regulatory umbrella, while allowing it to retain its intermediation func-

A more ambitious reform agenda is necessary to make the financial system less fragile and volatile, and to ensure it better serves the needs of the real economy and society.

tions. Money market mutual funds (or their equivalent) could become “narrow savings banks”, as suggested by Gorton and Metrick (2010). Accordingly, entities wishing to offer banking services, such as transaction accounts, withdrawals on demand at par and assurances of maintaining the value of the account, should be reorganized

as special-purpose banks, with appropriate prudential regulation and supervision. In exchange, such entities should have access to central bank lender-of-last-resort facilities. Alternatively, those funds may offer accounts that provide higher interest rates than deposits, but with a fluctuating value reflecting the market value of the asset portfolio, but of course with no access to public guarantees. With regard to securitization, only specific entities (what Gorton and Metrick term “narrow funding banks”) with charters, capital requirements and strict oversight should be allowed to buy asset-backed securities, while other institutions should be forbidden to do so. Final investors, instead of buying securitized assets, would buy the liabilities of these narrow banks. The regulator should also determine the criteria for narrow funding banks’ portfolios and determine the amount of minimum capital they would need to operate.

Shadow banking entities, like any kind of banking, should be brought under the regulatory umbrella.

However, ring-fencing alone will not ensure that the financial system will allocate enough resources to meet broad

development goals. As risks involved in development finance are beyond the acceptance limits of commercial banks, the State should employ various tools to help shape a more diversified system, both in terms of its institutions and functions.

As is discussed further in chapter VI, the channelling of financial resources for socially productive purposes requires some amount of State intervention. This could include public incentives, when

profitability does not spontaneously attract the private sector. It also necessitates a broader role for central banks (*TDR 2011*). Beyond their focus on fighting inflation, they should be able to intervene in the provision and orientation of credit, as they did for decades in many successful industrialized countries in Europe but also in East Asia, and still do in a number of developing countries (*TDR 2013*). At the very least, regulation should not discourage the financing of long-term investments, innovation and SMEs just because they may appear to be more risky from a narrow, prudential point of view. Financing these activities and agents is essential for an economy's growth and development, which also improves the overall quality of banks' assets, whereas a lack of growth would result in the accumulation of non-performing assets.

The goals of a regulatory framework should therefore be more ambitious than ensuring stability based on rigid prudential norms; regulations should also encourage the proliferation of different types of financial products and organizations for catering to the different needs of the real economy (Kregel and Tonveronachi, 2014).

In conclusion, a more positive reform agenda is needed to establish a closer link between financial systems and the real economy. This is critical for ensuring sustainable economic growth and for supporting the global aspirations reflected in the post-2015 Development Agenda and its accompanying Sustainable Development Goals. ■

Notes

- 1 The BCBS was designed as a forum for regular cooperation on banking supervisory matters, but its membership originally was confined to central bank representatives of only 13 countries: Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom and the United States. Following a proposal by the G20 in November 2008, full membership was extended to representatives of the central banks of Argentina, Brazil, China, Hong Kong (China), India, Indonesia, the Republic of Korea, Mexico, the Russian Federation, Saudi Arabia, Singapore, South Africa and Turkey.
- 2 Other important initiatives coordinated by the FSB include the development of principles for sound executive compensation practices; the over-the-counter derivatives market reform, which aims at giving more transparency to regulate such transactions; and the implementation of the *Global Legal Entity Identifier System*, whose purpose is to uniquely identify legal entities involved in financial transactions.
- 3 It should be noted that Basel I and II Accords sought to establish a level playing field for internationally active banks, while Basel III aimed at improving the resilience of banks in the face of the global crisis.
- 4 For instance, before the subprime crisis, the calculation of regulatory capital on the basis of risk-weighted assets encouraged the accumulation by banks of triple-A tranches of the structured mortgage-backed securities.
- 5 The Basel framework gives a menu of options for minimum capital requirements for credit risk: (i) the Standardized Approach, which involves changing risk weights based on assessments made periodically by rating agencies; (ii) the simplified Standardized Approach quite similar to Basel I to which fixed weights are assigned as well; (iii) the Internal-Ratings-Based approach (IRB), which is based on banks' own risk assessment models for capital determination; and (iv) the advanced IRB approach (A-IRB), which is also based on banks' own risk assessment models for capital determination, but differing from the IRB approach in that it uses the loss given default as the input variable instead of the probability of default.
- 6 These disparities are confirmed by studies conducted by the BCBS (2013).
- 7 The prevailing economic orthodoxy claimed that lower capital requirements reduce the cost of financial services, and that banks can safely manage their affairs from a narrow capital base.

- 8 Alessandri and Haldane (2009) suggest that banks' capital should be at least 20–30 per cent of their total unweighted assets.
- 9 In October 2012, the Basel Committee, acknowledging that problems associated with the “too-big-too-fail” banks did not apply only to the large global banks, issued a set of principles on the assessment methodology and the higher loss absorbency requirement for *domestic systemically important banks* (D-SIBs).
- 10 Adoption of these rules is scheduled for 2019.
- 11 In terms of liquidity requirements, China, India, South Africa and Turkey were expected to have final rules in force as of January 2015, while Argentina, Brazil, Indonesia and Mexico had published draft regulations.
- 12 A survey by the BIS (2014) shows that only a few countries, such as Belarus, Colombia, Kenya, Liberia, Pakistan, Peru, Qatar, the former Yugoslav Republic of Macedonia and Zimbabwe, are partially incorporating the new guidelines into their regulatory frameworks.
- 13 The FSAPs are prepared jointly by the IMF and World Bank for developing and emerging economies, and by the IMF alone for developed countries.
- 14 The World Bank, which assesses the effects of reforms jointly with the FSB, reports that the capital and leverage ratios of banks in some developing countries are higher than those required under Basel III (World Bank, 2013).
- 15 Proprietary trading refers to a bank's trading of stocks, bonds and other financial instruments with its own resources, as opposed to trading on behalf of clients, so as to make a profit for itself.
- 16 Ring-fenced activities have to be legally, financially and operationally independent from the rest of the financial group (FSB, 2014a: 7).
- 17 A special purpose entity, or special purpose vehicle (SPV), is a legal entity that has been set up for a specific, limited purpose by another entity – the sponsoring firm, typically a bank. An essential feature of an SPV is that it is “bankruptcy remote” meaning that it cannot become legally bankrupt (Gorton and Souleles, 2005). SPVs are often domiciled in offshore financial centres in order to engage in financial activities in a more favourable tax environment. Financial institutions also make use of SPVs to take advantage of less restrictive regulations relating to their activities. Banks, in particular, use them to raise Tier I capital in the lower tax jurisdictions of offshore financial centres. SPVs are also set up by non-bank financial institutions to take advantage of more liberal netting rules than prevail in their home countries, thereby allowing them to reduce their capital requirements (FSF, 2000).
- 18 The shares of money market funds are redeemable at par, and are therefore widely (though sometimes erroneously) regarded as being as safe as bank deposits.
- 19 The broker-dealer may not hold directly the high-quality assets it needs for the repo funding, but may get it through a securities lending operation (a swap between two securities). Through the securities lending transaction, a third party (usually an institutional investor such as an insurance company or a pension fund) lends high-quality securities to the broker-dealer, as a way to “enhance” the yield of the portfolio, and receives as collateral high-yield securities. As these deals occur simultaneously, the broker-dealer gets the funding to purchase the risky asset. If the return on the high-yield asset is high enough, the broker-dealer will be able to pay the interest rates of the repo and of the securities lending, and still make a profit. For a discussion on securities lending, see Pozsar and Singh, 2011; and Adrian et al., 2013.
- 20 See Harutyunyan et al. (2015).
- 21 What triggered the 2008 global crisis was precisely a series of defaults on collateralized debt obligations, a particular type of structured debt assembled from subprime mortgages. In the case of these structured securities, even the “senior” tranches, expected to be safer because they had first priority to receive cash flows from ultimate borrowers and had triple A ratings by the main credit rating agencies, had to be written off by final investors (see *TDRs 2009 and 2011*).
- 22 Before the FSB received its mandate from the G20, the United States' Dodd-Frank Act of July 2010 addressed issues related to shadow banking. The EC set up a parallel process, publishing a green paper in 2012 and its own action plan in 2013 (EC, 2012).
- 23 See FSB, 2012 and 2014c.
- 24 For example, in July 2014 the United States Securities and Exchange Commission adopted amendments to the rules that govern MMMFs, to be implemented by 2016. These require a floating net asset value for prime funds with institutional investors. For funds with only retail investors, the new rules include liquidity fees and redemption gates to manage redemption pressures, enhanced diversification, disclosure and stress testing requirements, as well as updated reporting.
- 25 The draft directive for FTT implementation issued by the EC in 2011 caused an uproar among some market participants, and was eventually dropped in 2013. Financial institutions declared that the initiative would hurt the competitiveness of European banking, increase financial instability by making risk management more expensive and reduce investment in fast-growing companies (Gabor, 2014).
- 26 Although there is a plethora of CRAs across the globe – more than 70, according to the IMF (2010) – the global market is dominated by the “Big Three”:

- Standard & Poor's and Moody's, with market shares estimated at 40 per cent each, and Fitch with an estimated market share of 15 per cent (Schroeter, 2011).
- 27 Excluding those of sovereign debtors.
- 28 The 2014 stress test was carried out in cooperation with the European Systemic Risk Board, the EC and the European Central Bank, as well as competent authorities from all relevant national jurisdictions across the European Union plus Norway (EBA, 2014).

References

- Admati A and Hellwig M (2013). *The Bankers' New Clothes: What's Wrong with Banking and What to do about It*. Princeton, NJ, Princeton University Press.
- Adrian T, Begalle B, Copeland A and Martin A (2013). Repo and securities lending. Federal Reserve Bank of New York Staff Reports, no. 529, New York.
- Aglietta M and Rigot S (2009). *Crise et Rénovation de la Finance*. Paris, Odile Jacob.
- Aiyar S and Jain-Chandra S (2012). The domestic credit supply response to international bank deleveraging: Is Asia different? Working Paper No. 12/258, IMF, Washington, DC.
- Alemu G (2014). Financial inclusion, regulation and inclusive growth in Ethiopia. Working paper 408, Overseas Development Institute, London.
- Alessandri P and Haldane AG (2009). Banking on the State. Paper presented at the Federal Reserve Bank of Chicago 12th Annual International Banking Conference, Chicago, 25 September.
- Ayadi R (2010). Diversity in European banking: Why does it matter?, CEPS Commentary, 18 October. Available at: <http://www.ceps.eu/ceps/dld/3815/pdf>.
- Barth J, Caprio G and Levine R (2006). *Rethinking Bank Regulation: Till Angels Govern*. Cambridge, Cambridge University Press.
- BCBS (2011). Basel II: A global regulatory framework for more resilient banks and banking systems. Basel, Bank for International Settlements.
- BCBS (2013). Regulatory Consistency Assessment Programme (RCAP): Analysis of risk-weighted assets for credit risk in the banking book. Basel, Bank for International Settlements.
- BCBS (2014a). Basel III: The net stable funding ratio. Basel, Bank for International Settlements.
- BCBS (2014b). Guidance for supervisors on market-based indicators of liquidity. Basel, Bank for International Settlements.
- BIS (2010a). Long-term issues in international banking. Report submitted by a Study Group established by the Committee on the Global Financial System. CGFS Papers No. 41, Basel.
- BIS (2010b). The global crisis and financial intermediation in emerging market economies. BIS Paper No. 54, Basel.
- BIS (2014). Financial Stability Institute : FSI Survey, Basel II, 2.5 and III Implementation. Available at: <http://www.bis.org/fsi/fsiop2014.pdf>.
- BIS (2015). Progress report on adoption of the Basel regulatory framework. Basel.
- Brender A (1980). Analyse cybernétique de l'intermédiation financière. *Cahiers de l'ISMEA*, CM n° 7, Paris.
- Buch CM, Neugebauer K and Schröder C (2014). Changing forces of gravity: How the crisis affected international banking. ZEW Discussion Paper No. 14-006, Centre for European Economic Research, Mannheim. Available at: <http://ftp.zew.de/pub/zew-docs/dp/dp14006.pdf>.
- Calomiris CW (2009). The debasement of ratings: What's wrong and how we can fix it. New York, NY, Columbia University. Available at: <https://www0.gsb.columbia.edu/faculty/ccalomiris/RatingAgenciesE21.pdf>.
- CEPS (2010). *Investigating Diversity in the Banking Sector in Europe: Key Developments, Performance and Role of Cooperative Banks*. Brussels, Centre for European Policy Studies.
- Cetorelli N and Goldberg L (2011). Global banks and international shock transmission: Evidence from the crisis. *IMF Economic Review*, 59(1): 41–76.
- Chandrasekhar CP and Ghosh J (2015). Who's afraid of China's shadow banking? *Business Line*. Available at: <http://www.thehindubusinessline.com/opinion/columns/c-p-chandrasekhar/whos-afraid-of-chinas-shadow-banking/article7244825.ece>.
- Chen G and Wu Y (2014). Bank ownership and credit growth in emerging markets during and after the 2008–09 financial crisis: A cross-regional comparison. Working Paper 14/171, IMF, Washington, DC.

- Claessens S and van Horen N (2014). Foreign banks: trends and impact. *Journal of Money, Credit and Banking*, 46 (1): 295–326. February.
- Coval JD, Jurek JW and Stafford E (2008). The economics of structured finance. Finance Working Paper No. 09-060, Harvard Business School, Cambridge, MA. Available at: <http://ssrn.com/abstract=1287363> or <http://dx.doi.org/10.2139/ssrn.1287363>.
- Drehmann M and Tsatsaronis K (2014). The credit-to-GDP gap and countercyclical capital buffers: Questions and answers. *BIS Quarterly Review*, March. Basel, Bank for International Settlements.
- EBA (2014). Results of 2014 EU-wide stress test. London, European Banking Authority. Available at: <http://www.eba.europa.eu/risk-analysis-and-data/eu-wide-stress-testing/2014/results>.
- EC (2012). Green paper: Shadow banking. Brussels. Available at: http://ec.europa.eu/internal_market/bank/docs/shadow/green-paper_en.pdf.
- EC (2013). Stricter rules for credit rating agencies to enter into force. Press Release, 18 June, Brussels.
- EC (2014). EU moves to strengthen regulatory control of credit rating agencies. Brussels, 3 October. Available at: <http://www.out-law.com/en/articles/2014/october/eu-moves-to-strengthen-regulatory-control-of-credit-rating-agencies/>.
- EIU (2015). Financial Services Report China 2nd Quarter 2015. Economist Intelligence Unit, 8 May.
- Elliott D, Kroeber A and Qiao Y (2015). Shadow banking in China: A primer. The Brookings Institution, Washington, DC.
- Elliott, D and Yan K (2013). The Chinese financial system: An introduction and overview. Monograph Series No. 6, John L. Thornton China Center at the Brookings Institution, Washington, DC.
- Fiechter J, Ötoker-Robe Í, Ilyina A, Hsu M, Santos A and Surti J (2011). Subsidiaries or branches: Does one size fit all? Discussion Note SDN 11/4, IMF Washington, DC.
- Fitch (2015). Mexico's smaller banks to be more challenged meeting LCR. Fitch Ratings, New York/Monterrey.
- FSB (2010). Principles for reducing reliance on CRA ratings. Available at: http://www.financialstabilityboard.org/wp-content/uploads/r_101027.pdf?page_moved=1.
- FSB (2012). Global Shadow Banking Monitoring Report. Basel, 18 November.
- FSB (2014a). Overview of progress in the implementation of the G20 recommendations for strengthening financial stability. Report of the Financial Stability Board to G20 Leaders. Basel.
- FSB (2014b). Structural banking reforms: Cross-border consistencies and global financial stability implications. Report to G20 leaders for the November 2014 Summit. Basel.
- FSB (2014c). *Global Shadow Banking Monitoring Report 2014*. Available at: <http://www.financialstabilityboard.org/2014/11/global-shadow-banking-monitoring-report-2014/>.
- FSF (2000). Report of the Working Group on Offshore Financial Centres. Available at: http://www.financialstabilityboard.org/wp-content/uploads/r_0004b.pdf?page_moved=1.
- Gabor D (2014). A step too far? The European financial transactions tax and shadow banking. Bristol, University of the West of England.
- Ghosh J (2012). Appreciating diversity: Regulatory reform and banking practices in the developed and developing worlds. *PSL Quarterly Review*, 65(263): 429–436.
- Ghosh S, Gonzalez del Mazo I and Ötoker-Robe Í (2012). Chasing the shadows: How significant is shadow banking in emerging markets? Economic Premise Number 88, World Bank Poverty Reduction and Economic Management Network, Washington, DC.
- Gorton G and Souleles N (2005). Special purpose vehicles and securitization. Working Paper Series 11190, National Bureau of Economic Research, Cambridge, MA.
- Gorton G and Metrick A (2009). Haircuts. Working Paper Series No. 15273, National Bureau of Economic Research, Cambridge, MA.
- Gorton G and Metrick A (2010). Regulating the shadow banking system. Brookings Papers on Economic Activity No. 2, Brookings Institution, Washington, DC.
- Greene E and Broomfield EL (2014). Dividing (and conquering?) shadows: FSB and US approaches to shadow banking at the dawn of 2014. *Butterworth Journal of International Banking and Financial Law*, 29(2): 111–115.
- Haldane AG (2009). Rethinking the financial network. Speech at the Financial Student Association, Amsterdam, 28 April. Available at: <http://www.bankofengland.co.uk/publications/Documents/speeches/2009/speech386.pdf>.
- Haldane AG (2014). Managing global finance as a system. Speech at the Maxwell Fry Annual Global Finance Lecture, Birmingham University. Available at: <http://www.bankofengland.co.uk/publications/Documents/speeches/2014/speech772.pdf>.
- Haldane AG and Madouros V (2012). The dog and the frisbee. Speech at the Federal Reserve Bank of Kansas City's 366th economic policy symposium on The Changing Policy Landscape, Jackson Hole, Wyoming, 31 August. Available at: <https://www.kansascityfed.org/publicat/sympos/2012/ah.pdf>.
- Harutyunyan A, Massara A, Ugazio G, Amidzic G and Walton R (2015). Shedding light on shadow banking. IMF Working Paper WP/15/1. Washington, DC.
- He D and McCauley RN (2013). Transmitting global liquidity to East Asia: Policy rates, bond yields, currencies and dollar credit. Working Paper 431, BIS, Basel.

- Heritage Foundation (2015). Index of Economic Freedom. Washington, DC. Available at: <http://www.heritage.org/index/about>.
- ICMA (2015). Frequently asked questions on repo. Zurich, International Capital Market Association. Available at: <http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/short-term-markets/Repo-Markets/frequently-asked-questions-on-repo/>.
- IMF (2010). *Global Financial Stability Report: Sovereigns, Funding, and Systemic Liquidity*. Washington, DC. Available at: <https://www.imf.org/external/pubs/ft/gfsr/2010/02/pdf/chap3.pdf>.
- IMF (2014). *Global Financial Stability Report: Risk Taking, Liquidity, and Shadow Banking: Curbing Excess While Promoting Growth*. Washington, DC.
- IMF (2015). *Global Financial Stability Report. Navigating Monetary Policy Challenges and Managing Risks*. Washington, DC. Available at: <http://www.imf.org/External/Pubs/FT/GFSR/2015/01/index.htm>.
- Ingves S (2014). Implementing the regulatory reform agenda: The pitfall of myopia. Speech at the Federal Reserve Bank of Chicago, Chicago, 6 November. Available at: <http://www.bis.org/speeches/sp141118.htm>.
- IOSCO (2015). *Code of Conduct Fundamentals for Credit Rating Agencies*. Final report of The Board of the International Organization of Securities Commissions, FRO/2015, London.
- Jeon BM and Wu J (2013). Foreign banks, monetary policy, and crises: Evidence from bank-level panel data in Asia. In: Jeon BM and Olivero MP, eds. *Global Banking, Financial Markets and Crises. International Finance Review*, 14. Bingley, Emerald Group Publishing Limited: 91–113.
- Jeon BM and Wu J (2014). The role of foreign banks in monetary policy transmission: Evidence from Asia during the crisis of 2008–9. Working Paper 01/2014, Hong Kong Institute for Monetary Research, Hong Kong. Available at: http://www.hkimr.org/uploads/publication/372/wp-no-01_2014-final-.pdf.
- Kregel J and Tonveronachi M (2014). Fundamental principles of financial regulation and supervision. Working Paper Series No. 29, Financialisation, economy, society and sustainable development (FESSUD), University of Leeds, Leeds.
- Kruger M (2013). Reform and risk in the Chinese financial system. China Institute Occasional Paper Series Issue No. 2. Available at: <http://www.china.ualberta.ca/Research%20and%20Publications/~media/China%20Institute/Documents/Publication/Occasional%20Paper/ChinaInstituteOccasionalPaper2-MarKruger.pdf>.
- Krugman P (2013). Ideological ratings. *New York Times*, 8 November 2013. Available at: http://krugman.blogs.nytimes.com/2013/11/08/ideological-ratings/?_r=0.
- McKinsey (2015). Debt and (Not Much) deleveraging. McKinsey Global Institute.
- Moody's (2014). Indian public-sector banks will require more capital for Basel III compliance. *Global Credit Research*, 22 September.
- Moosa I and Burns K (2013). The Basel III controversy: A critical assessment of the views of Australian regulators. *JASSA The Finsia Journal of Applied Finance*, 2: 26–29.
- Morrison ER, Roe MJ, Sontchi HCS (2014). Rolling back the repo safe harbors. *The Business Lawyer*, 69(4): 1015–1048.
- OECD (2009). *The Financial Crisis: Reform and Exit Strategies*. Paris.
- Okazaki K (2007). Banking system reform in China: The challenges of moving toward a market-oriented economy. Occasional paper, Rand Corporation. Available at: http://www.rand.org/content/dam/rand/pubs/occasional_papers/2007/RAND_OP194.pdf.
- Portes R (2008). Rating agency reform. Working paper, London Business School and CEPR, London. Available at: <http://www.voxeu.org/index.php?q=node/887>.
- Powell A (2004). Basel II and developing countries: Sailing through the sea of standards, Policy Research Working Paper Series 3387, World Bank, Washington, DC.
- Pozsar Z and Singh M (2011). The nonbank-bank nexus and the shadow banking system. Working Paper 11/289, IMF, Washington, DC.
- Pozsar Z, Adrian T, Ashcraft A and Boesky H (2013). Shadow banking. *Economic Policy Review*, 19(2). Federal Reserve Bank of New York, NY.
- Schroeter UG (2011). Credit ratings and credit rating agencies, In: Caprio G, ed, *Encyclopedia of Financial Globalization*, Elsevier.
- Schumpeter JA (1939). *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*. New York, Toronto and London, McGraw-Hill.
- Singh M and Aitken J (2010). The (sizable) role of rehypothecation in the shadow banking system. Working Paper 10/172, IMF, Washington, DC.
- Slovik P (2012). Systemically important banks and capital regulation challenges. OECD Economics Department Working Paper no. 916, OECD Publishing, Paris.
- Turner P (2012). Weathering financial crisis: Domestic bond markets in EMEs. BIS Papers 63, BIS, Basel.
- UNCTAD (TDR 2009). *Trade and Development Report, 2009. Responding to the Global Crisis: Climate Change Mitigation and Development*. United Nations publication. Sales No. E. 09.II.D.16, New York and Geneva.
- UNCTAD (TDR 2011). *Trade and Development Report, 2011. Post-crisis Policy Challenges in the World Economy*. United Nations publication. Sales No. E.11.II.D.3, New York and Geneva.
- UNCTAD (TDR 2013). *Trade and Development Report, 2013. Adjusting to the Changing Dynamics of the World Economy*. United Nations publication. Sales No. E.13.II.D.3, New York and Geneva.

- United Nations (2009). Report of the Commission of Experts of the President of the United Nations General Assembly on Reforms of the International Monetary and Financial System. New York.
- Vināls J, Pazarbasioglu C, Surti J, Narain A, Erbenova M and Chow J (2013). Creating a safer financial system: Will the Volcker, Vickers, and Liikanen structural measures help? Staff Discussion Notes No. 13/4, IMF, Washington, DC.
- Walter AW (2008). *Governing Finance: East Asia's Adoption of International Standards*. Ithaca, NY, Cornell University Press.
- Walter AW (2015). Emerging countries and Basel III: Why is engagement still low? *New Thinking and the New G20 Series*, Paper No. 4, Centre for International Governance Innovation, Waterloo, Ontario.
- Wolf M (2014). *The Shifts and the Shocks: What We've Learned – and Have Still to Learn – from the Financial Crisis*. London, Penguin Press.
- World Bank (2013). Implementing post-crisis financial regulatory reforms: What does it mean for emerging market and developing economies and how the World Bank Group can help. Washington, DC, Available at: http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/EMDEs_note.pdf.