

VI. The future of the financial sector

At the current juncture, the financial sector faces several challenges. In the near term, these stem directly from the crisis itself. In the longer term, they are related to efforts by market participants and regulators to build a more resilient financial system. Adjustments to the size of institutions, as well as their scope, funding methods, risk management practices, revenue sources and international operations, will reshape the financial sector.

The crisis revealed structural deficiencies in the sector's business model. For several decades, financial institutions have resorted to high leverage as a way to boost short-term profitability, at the cost of a marked volatility in their performance. Weak capital, illiquid assets and reliance on short-term funding created vulnerabilities that led in recent years to large losses and systemic distress.

A new business model, based on stronger capital and liquidity buffers, would make the performance of financial institutions more robust, thus stabilising the flow of credit to the economy. Several factors will play a role in a successful convergence to such a model. For one, the regulatory environment will need to reward prudent behaviour by financial institutions and create incentives for markets to do the same. For their part, institutions will need to reduce operating costs and restructure their financing, including that of their international activities.

This chapter outlines the financial sector's current business model and then discusses its future evolution. It starts by comparing the risk-return profile and size of the financial sector with those of other sectors of the economy. After discussing likely near-term developments in the financial sector, the chapter turns to the drivers of a new business model, in which sustainable profits are based on strong balance sheets.

The financial sector in the context of the broader economy

A comparison across different sectors of the economy casts unfavourable light on distinct features of the financial business model. Over the long term, this model has produced a sub-par risk-return profile and has disappointed investors at times of economy-wide stress. The importance of greater stability in the financial sector is underscored by the sector's increased weight in overall economic activity and by its growing international dimension.

Relative performance

Finance is about managing risk and leverage. In fact, the performance of financial firms has been underpinned by leverage that is about five times that of firms in other sectors (Table VI.1). High leverage has allowed financial firms to post a competitive return on equity – which is what matters to shareholders – despite a low return on assets.

While the return on equity of financial firms has been comparable to that of firms in other sectors, it has been less stable. Since leverage amplifies the

Financial firms' performance has been competitive ...

... but extremely volatile ...

Profitability and leverage												
Medians across years and institutions												
	Return on assets ¹				Return on equity ²				Leverage ³			
	95–09	95–00	01–07	08–09	95–09	95–00	01–07	08–09	95–09	95–00	01–07	08–09
Banks	0.6	0.7	0.7	0.2	12.2	13.3	12.8	3.2	18.3	17.8	19.1	17.4
Non-bank financials	0.9	1.0	1.0	0.5	11.2	12.3	11.4	5.4	12.1	12.5	12.1	10.8
Non-financials	3.2	3.0	3.4	2.8	11.7	10.9	12.8	9.8	3.0	3.0	3.0	2.9
Energy	5.9	3.9	8.1	5.2	14.2	10.8	18.6	10.1	2.4	2.5	2.3	2.2
Materials	4.3	4.3	4.7	3.2	10.6	8.8	13.1	8.5	2.5	2.4	2.5	2.7
Industrials	2.1	1.4	2.4	2.3	10.4	8.3	11.5	11.0	5.4	6.1	5.4	4.8
Consumer discretionary	2.2	2.1	2.6	1.1	9.1	8.9	10.4	4.2	3.4	4.0	3.1	3.1
Consumer staples	5.4	5.2	5.7	5.1	13.0	12.4	13.8	11.7	2.5	2.4	2.5	3.0
Health care	8.1	8.0	8.3	6.5	18.2	18.8	18.5	15.3	2.3	2.3	2.3	2.3
Information technology	5.1	5.1	5.0	5.6	12.8	15.1	12.8	10.3	2.2	2.2	2.1	2.0
Telecom services	3.2	3.6	2.8	2.9	8.5	10.8	8.4	6.4	2.6	2.7	2.6	2.7
Utilities	2.7	2.5	2.7	2.7	10.8	9.3	11.6	11.9	4.1	3.7	4.4	4.0

¹ Net income over total assets, in per cent. ² Net income over total shareholder funds, in per cent. ³ Total assets over total shareholder funds.

Source: Bloomberg.

Table VI.1

sensitivity of equity returns to economic conditions, financial stocks have been consistently more volatile than non-financial stocks (Graph VI.1, left-hand panel). Moreover, in many countries financial firms have posted lower equity returns than the rest of the market over long periods (centre panel). In some cases, the difference was 4% or more per year over a decade. Thus, despite several decades of higher returns on financial stocks, their risk-adjusted performance has been similar to or weaker than that of non-financial stocks over the past 40 years (right-hand panel).

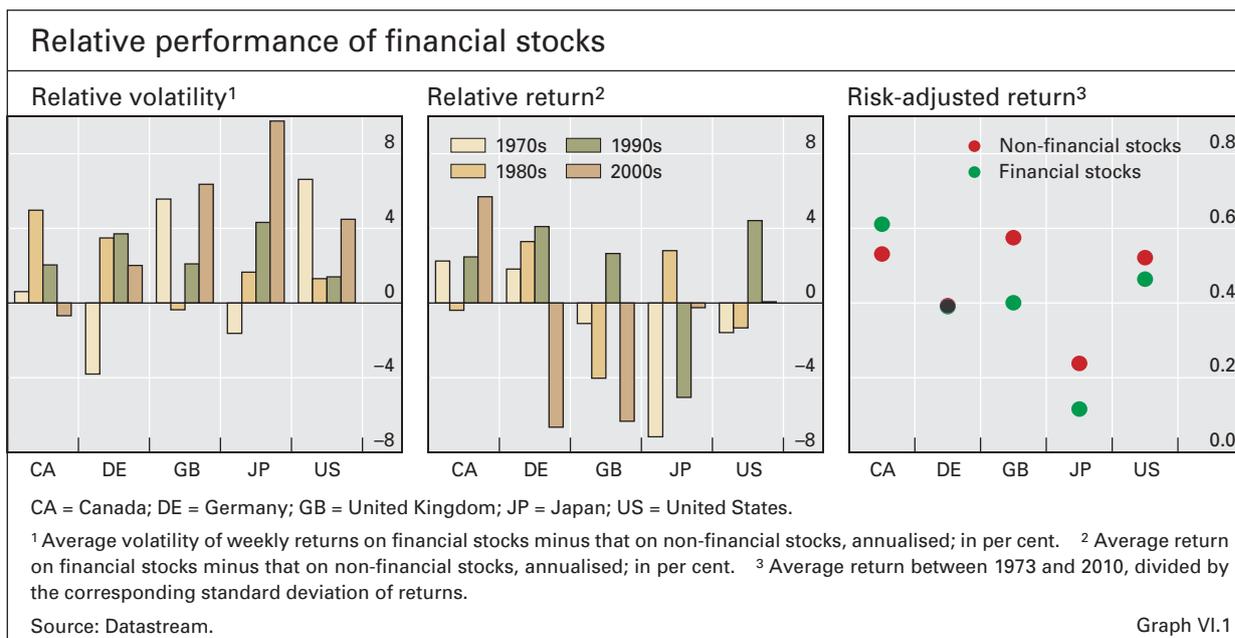
... and sub-par in periods of general stress

Given high leverage, the dependence of financial firms on short-term funding and their opaque and illiquid risk exposures have heightened the sector's sensitivity to economic downturns. As a result, financial stocks have posted particularly weak returns in periods of generalised market stress. When returns on the overall market have been extremely low (concretely, in the bottom 20% of their historical range), returns on financial stocks have tended to be lower than those on non-financial stocks, by 10 percentage points or more on an annual basis (Graph VI.2, left-hand panel). In comparison, financial stocks have outperformed the rest of the market by modest margins during booms (Graph VI.2, right-hand panel). These gains have typically failed to compensate for losses in periods of general stress, reflecting the asymmetrical effect of balance sheet illiquidity and high leverage on equity valuations.

Relative size

The size of the financial sector ...

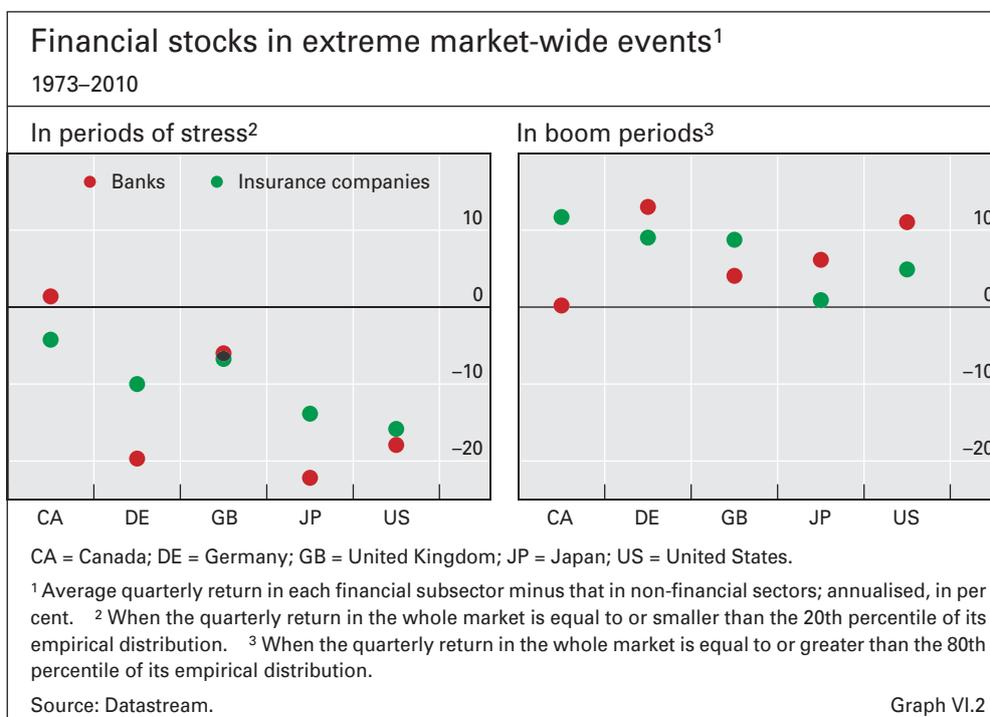
The importance of financial sector stability for economic performance has grown with the sector's share in overall activity. Thanks to advances in communications, computing and financial know-how, the financial sector's size and share in value added have increased over time. In the United States, Canada



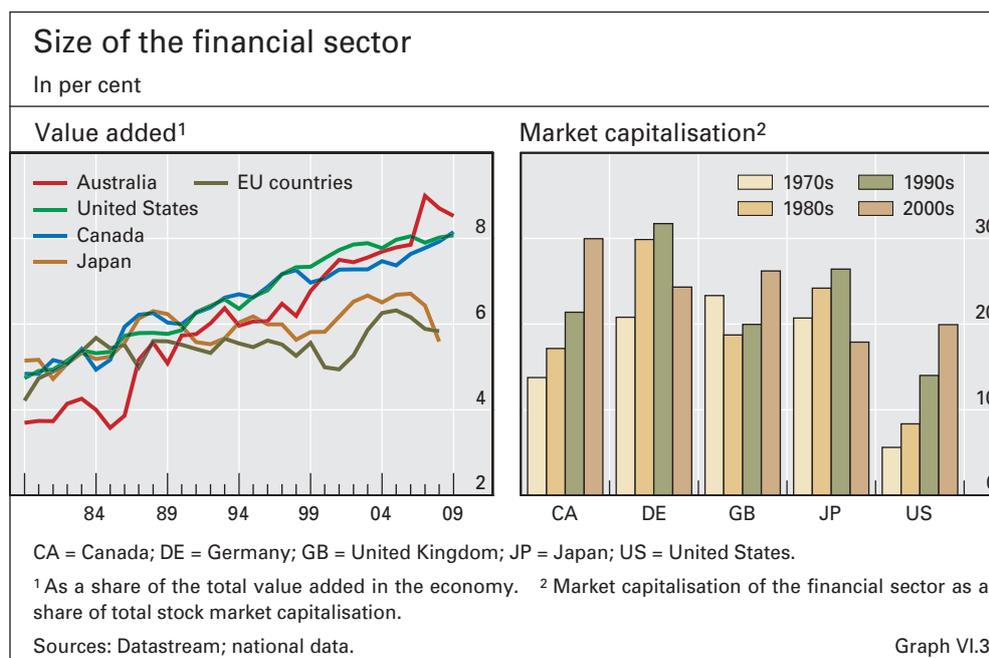
and Australia, this share has approximately doubled since 1980, reaching 8% in 2009. In Europe and Japan, the sector's growth has been somewhat more moderate, resulting in current shares of about 6% (Graph VI.3, left-hand panel).

Financial firms have also accounted for a large, often growing, share in the global investment portfolio.¹ Organic expansion and successive waves of

... has increased in relative terms ...



¹ For an illustration of the growth of UK banks' balance sheets relative to overall economic activity in the United Kingdom, see P Alessandri and A Haldane, "Banking on the state", speech, Bank of England, November 2009.



consolidation have generally increased the relative size of the largest financial firms, as indicated by their weight in the overall capitalisation of headline equity price indices in many countries (Graph VI.3, right-hand panel). Patterns have differed internationally. The increase has been steeper and more stable in North America than in Europe. For its part, the share of Japanese financial firms in Japan’s overall equity market capitalisation has plummeted since the country’s financial crisis in the early 1990s.

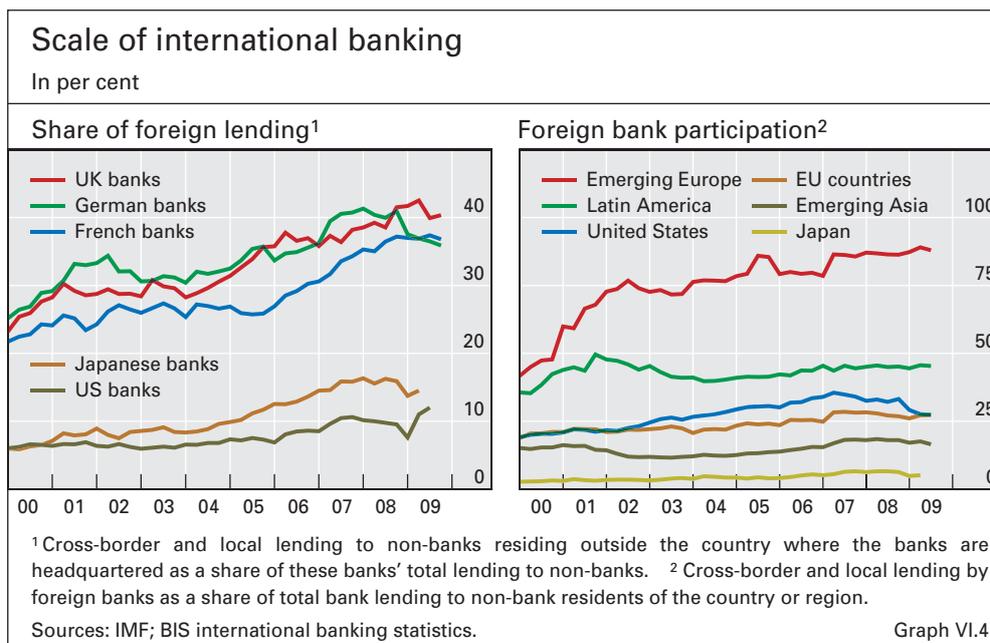
Growth of international banking

... and also along its international dimension

The expanding international dimension of finance also increases the importance of the sector’s stability. The growth in the international business of financial firms has contributed to global economic integration but also to the spillover of stress across borders. International lending – whether conducted from the home office, or by local affiliates in foreign countries, or via international hubs – has trended upwards as a share of banks’ total (ie domestic plus international) lending to non-banks (Graph VI.4, left-hand panel).² For European banks, this share has grown strongly over the past five years, and currently stands at more than one third. Partly because of their larger domestic economies, Japanese and US banks channel abroad less than 15% of their lending.

Non-bank borrowers’ reliance on foreign banks has varied across national economies but has been generally substantial (Graph VI.4, right-hand panel).

² The different forms of international bank lending are associated with different degrees of currency, funding, country and banking group-level risks. See P McGuire and N Tarashev, “Bank health and lending to emerging markets”, *BIS Quarterly Review*, December 2008; R McCauley, P McGuire and G von Peter, “The architecture of global banking: from international to multinational?”, *BIS Quarterly Review*, March 2010; and Committee on the Global Financial System, “Funding patterns and liquidity management of internationally active banks”, *CGFS Papers*, no 39, May 2010.



At one extreme are the countries of emerging Europe, which obtain more than 80% of their bank borrowing from banks headquartered abroad. At the other extreme is Japan, where borrowers depend on international lenders for just 5% of their financing. In between, foreign banks account for roughly one quarter of overall bank credit in the United States and EU countries. And contrary to conventional wisdom that foreign banks play a larger role in emerging markets, their share in emerging Asian economies is less than 20%.

The financial sector in the near future

In the near term, sector developments will be closely linked to the fallout from the crisis and the related policy responses. Currently, financial firms need to address uncertainties about the post-crisis economic environment and expected changes to the prudential regime. In addition, recent rises in the effective funding rate – a result of market participants' uncertainty about the sustainability of the recent surge in bank profits and about the consequences of financial exposures to troubled sovereigns – have slowed down the recovery process (see Chapter II). Further ahead, institutions will need to address three major challenges: refinancing a large portion of their liabilities; ending their dependence on emergency support measures by the public sector; and redressing balance sheet weaknesses and reducing operating costs.

The maturity profile of banks' bond financing shortened during the crisis. For some time, supply constraints prevented financial institutions (although not borrowers from other sectors) from issuing debt beyond the short maturities (Graph VI.5, left-hand panel). This implies particularly high refinancing needs over the course of the next two years, when bonds worth a total of \$3 trillion are due to mature (Graph VI.5, right-hand panel).

Importantly, the refinancing will take place in an environment radically different from that in which balance sheets expanded and securitisation could

In the near term, the sector must deal with ...

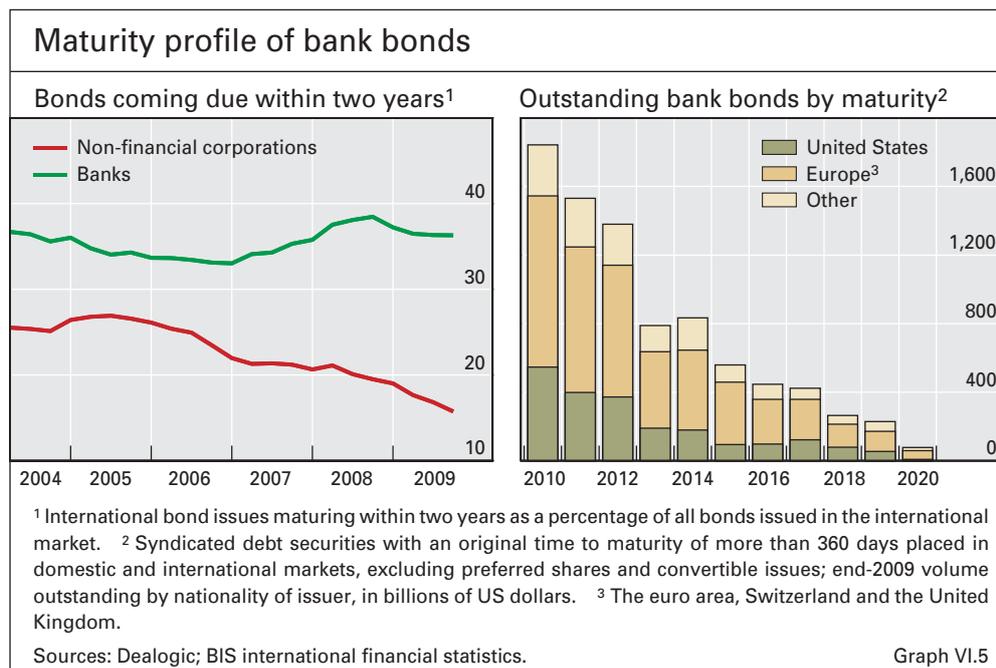
... refinancing challenges ...

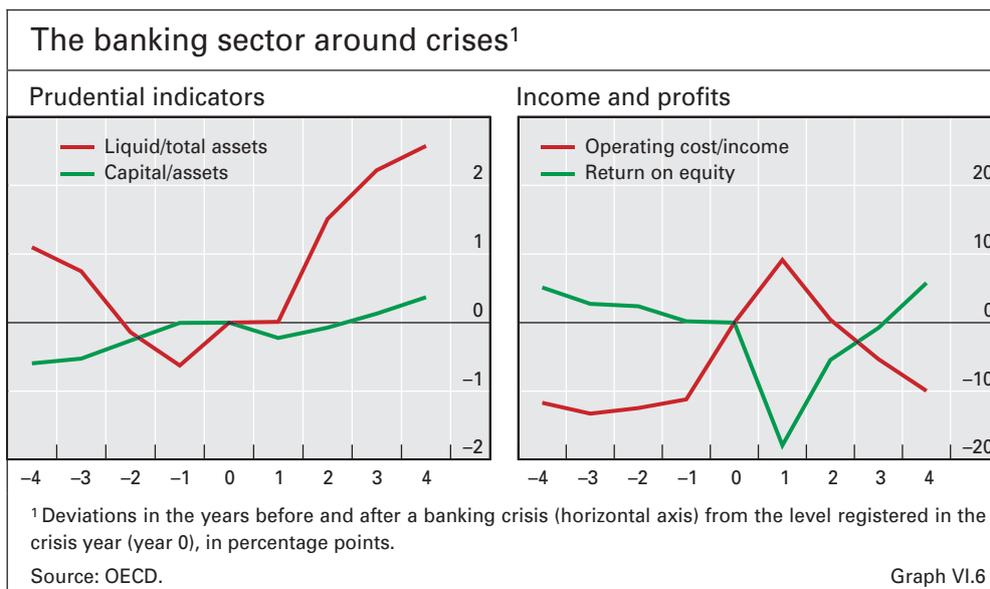
be relied on. Recently, credit spreads on bank bonds have been markedly higher than their pre-crisis levels. For medium-term maturities, they have ranged between 50 and 200 basis points, a tenfold increase from before 2007. Banks will compete for bond market funding amid an ongoing increase in public sector borrowing and an eventual reduction in central bank holdings of public debt. In the long run, banks that have trouble tapping new funding sources will have to shrink.

... the phasing-out of official support ...

The second major challenge for the financial sector arises from the eventual phasing-out of public sector support. The extraordinary measures introduced in response to the crisis helped to quell uncertainty and provide necessary support for markets and institutions. Yet the situation will not be normalised until these measures are fully withdrawn. Currently, only some measures have diminished in importance. Examples are the reduced demand from euro area banks for longer-term repos with the ECB and the declining take-up of the Federal Reserve's Commercial Paper Funding Facility in the United States.

Moreover, evidence suggests that the remaining measures continue to have an impact on banks' funding costs. When gauged by the incremental improvement in bank ratings, the impact of official support might actually be stronger now than before the crisis. According to Moody's, official support in 2009 for the 50 largest banks translated on average into a three-notch upgrade of their rating (from A3 to Aa3), up from a two-notch upgrade in 2006 (from A1 to Aa2). In addition, as recently as December 2009, about one quarter of all bonds issued by banks with higher than average credit default swap (CDS) spreads featured some form of government guarantee. Similarly, government stakes – the outcome of capital injections into troubled banks – remain substantial for a number of important institutions and are likely to diminish only gradually as the performance of these institutions improves. Also, central





banks still hold large portfolios of assets that they purchased with a view to supporting specific markets, such as that for securitised mortgages.

The third challenge facing the financial sector stems from the need to repair balance sheets and strengthen profitability. After periods of distress, the banking sector tends to act quickly to restore its health. In particular, it rebuilds its liquidity buffers and cuts back operating costs within four years of a crisis (Graph VI.6). In the aftermath of the 1990s crises in the Nordic countries, for example, banks there cut costs by consolidating, shedding branches and reducing staff numbers.³ In general, such actions are aimed in large part at capturing the attention of investors via a competitive level of return on equity (Graph VI.6, right-hand panel). Importantly, past experience also suggests that post-crisis recoveries are facilitated when financial institutions provide prudential authorities with a realistic picture of their health and convince markets that they are effectively tackling the problem of excess capacity in the sector.⁴

... and challenges to profitability

Converging to a new business model

Both market participants and prudential authorities are demanding a structural overhaul of the financial business model. Increased vigilance by funding markets, as well as greater rigour on the part of rating agencies, has led to more stringency and differentiation in assessing the risk of financial firms. Looking forward, a key priority for the authorities is to embed the current demands in prudential rules that will strengthen the resilience of the sector, forming the basis for sustainable profits. Such rules would induce

An overhaul of the financial business model ...

³ See C Borio, B Vale and G von Peter, "Resolving the financial crisis: are we heeding the lessons from the Nordics?", *BIS Working Papers*, no 311, June 2010, which presents an in-depth comparison between the resolution regimes of the recent and Nordic crises.

⁴ See BIS, *63rd Annual Report*, June 1993, Chapter VII.

financial institutions to hold stronger liquidity and capital buffers and to use reliable sources of funding.

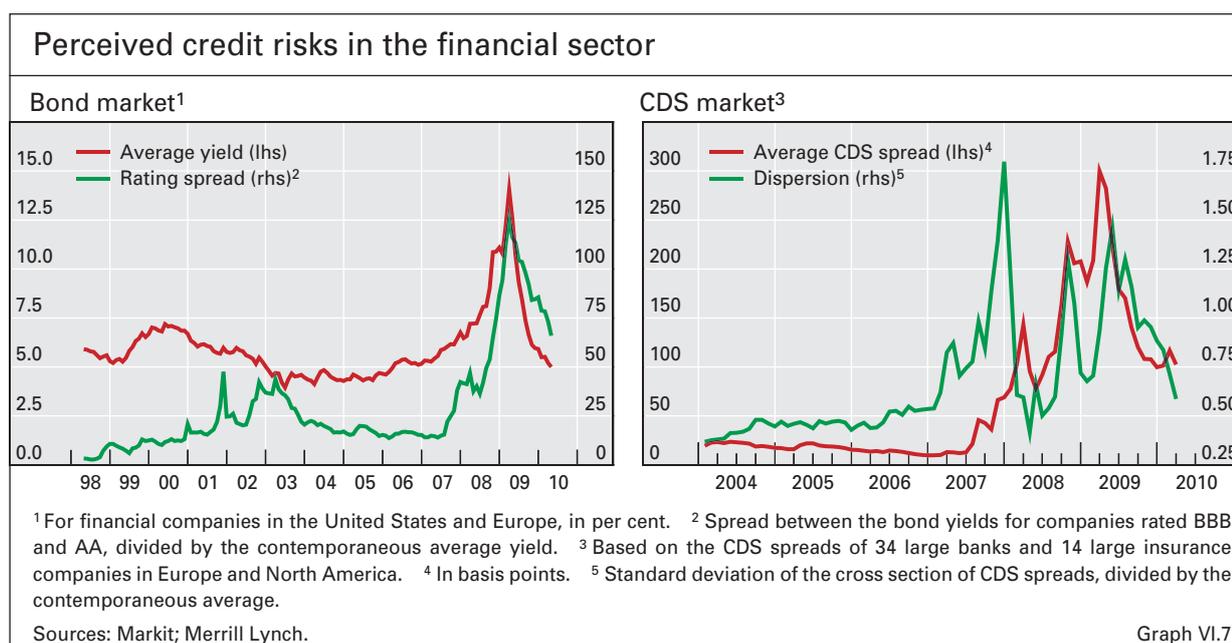
Drivers of the convergence process

Rating agencies, market participants and prudential authorities will guide the transition of the financial sector to a new business model. From the onset of the crisis, rating agencies have announced that their future ratings will reflect greater scrutiny of financial institutions. Indeed, agencies have started to review more carefully those elements of banks' business that are more dependent on market functioning and sentiment. Examples are large trading operations and short-term wholesale funding. In addition, franchise stability and collateral arrangements have gained importance in the determination of credit ratings.

Market participants have also revised their assessment of the risks embedded in exposures to financial institutions. Increasingly, they are supplementing information from the rating agencies with quantitative analysis based on market and institutional data. As a result, the funding costs of financial firms have become more sensitive to credit risk. For instance, even as yields on bank bond indices in the United States and Europe have declined, the differential between the yields on riskier and on relatively safer institutions has remained wide (Graph VI.7, left-hand panel). Although it has come down from its crisis peak, this differential (normalised by the average yield) is still wider than that seen between 1998 and 2008. The CDS market paints a similar picture, albeit over a shorter time period (Graph VI.7, right-hand panel).

Market pressures have already forced financial institutions to build more resilient balance sheets. Even so, institutions' progress in improving their liquidity buffers and in finding more stable sources of funding was insufficient to prevent the escalation of tensions in interbank markets in May 2010 (see Chapter II). More generally, given the experience that financial markets amplify

... is demanded by market players ...



the cycle, market participants are likely to slacken their vigilance during the next boom phase. Prudential authorities must lock in and build on current gains in market-driven discipline, thus supporting the structural resilience of the sector.

... and prudential authorities

Current regulatory efforts in this direction seek to improve banks' risk management, governance and transparency and to facilitate the orderly resolution of large internationally active banks (see Chapter I). The proposed changes will boost the quality and size of capital and liquidity buffers and will constrain institutions' leverage. In line with the renewed focus of market participants, these changes will expand the risk coverage of the regulatory framework and place greater emphasis on tangible equity. Furthermore, international cooperation to improve the transparency and comparability of financial institutions' balance sheets aims to level the playing field, promote market discipline and restrict the scope for regulatory arbitrage.

Towards improved funding and liquidity management

Stable sources of funding and strong liquidity buffers buttress the resilience of the financial sector's performance. In periods of stress, they support markets' confidence in the ability of institutions to continue financing their operations or downsize their balance sheets at a low cost. And this confidence, which is reinforced by greater balance sheet transparency, is of the utmost importance for financial intermediation. As soon as it vanishes, key financial markets seize up, quickly inflicting material damage on fundamentally viable institutions.

From the outset, the crisis exposed deficiencies in banks' funding strategies and asset management. As financial losses started to mount, the scarcity of information about financial institutions' illiquid balance sheets heightened market uncertainty. This aggravated the difficulties of banks dependent on sentiment-driven short-term funding markets, creating a vicious circle.⁵

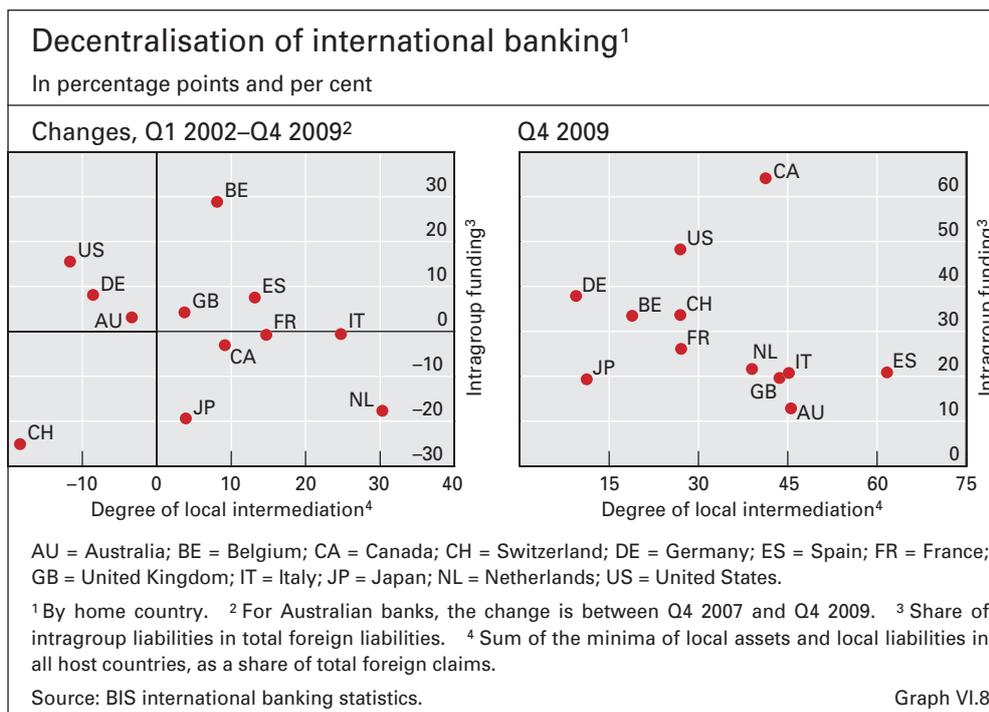
Heightened funding and liquidity risks

Banks' liquidity and funding problems have been particularly acute on the international scene, where information problems are greatest. In response to disruptions in the foreign exchange swap market, central banks intervened and provided emergency swap lines on an unprecedented scale in 2008. Similar strains resurfaced more recently, necessitating a second wave of official liquidity support in May 2010. In addition, host countries suffered disruptions in intermediation as foreign banks experienced strains in their home market or in third countries. Each case has triggered calls for a more decentralised model of international banking, so that lending is funded, extended and supervised to a greater degree in the same location.

The extent to which banks have adjusted the model of their international operations over the years has differed across countries. Canadian, Dutch and Japanese banks have moved towards a more decentralised model, which involves more local funding of foreign lending and less reliance on intragroup

A move towards more decentralised international banking ...

⁵ For empirical evidence that stable funding sources improve the returns on financial stocks and enhance the resilience of banks, see A Beltratti and R Stulz, "Why did some banks perform better during the credit crisis? A cross-country study of the impact of governance and regulation", *NBER Working Papers*, no 15180, July 2009; and R Huang and L Ratnovski, "Why are Canadian banks more resilient?", *IMF Working Papers*, no WP/09/152, July 2009.



transfers (Graph VI.8, left-hand panel). For their part, US, German and Australian banks have moved in the opposite direction. Such developments have resulted in a marked divergence in the degree of decentralisation of national banking systems (Graph VI.8, right-hand panel).

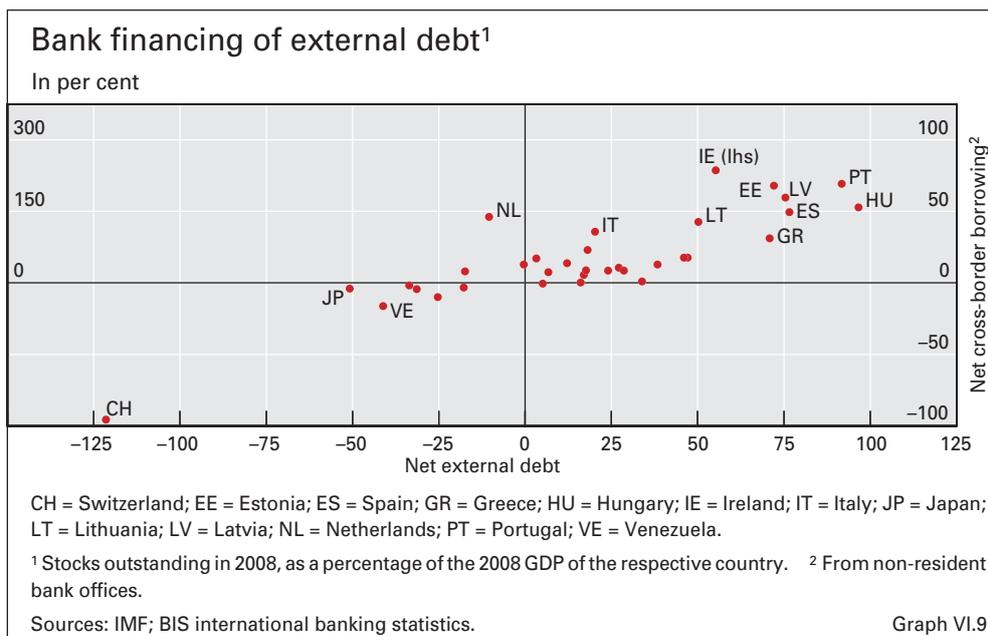
... entails trade-offs

From a borrower's point of view, any shift towards a more decentralised model of international banking will carry both benefits and costs. For instance, such a model would help insulate the domestic economy from disruptions elsewhere to the operations of internationally active banks. At the same time, however, a more decentralised model would also imply a lower degree of diversification against local shocks. In addition, to the extent that cross-border banking flows support high levels of net external debt (top right quadrant in Graph VI.9), any reduction in these flows would need to be offset by alternative sources of financing.

The trade-offs associated with a move towards a more decentralised model of international banking serve as a general reminder that it is impossible to eliminate all risks via institutional reorganisation. Risks in liquidity and funding management will need to be mitigated via stronger liquidity buffers and greater reliance on stable funding sources, such as retail deposits.

Higher capital: is there a trade-off between resilience and profitability?

The success of regulatory reform depends on the balance it strikes between the objectives of the prudential authorities and the incentives of financial institutions. Contrary to an often repeated assertion, empirical evidence from recent years fails to uncover any tension between banks' capitalisation and return on equity during the boom period although it does point to a link between lower capital ratios and higher losses during the crisis. In addition, stylised analysis of the balance sheet and income statement of a representative



bank shows that, by rewarding the long-term resilience of better capitalised institutions, funding markets could actually help to ensure high long-term profits in the financial sector. Investors also need to recognise that banks' recent net earnings have been artificially supported by official guarantees. Moreover, the sector will need to address overcapacity before its profitability can become truly sustainable.

The experience of 40 large banks during the last boom reveals no discernible link between return on equity and capital holdings. The banks with low returns on assets between 2004 and 2006 were the ones that increased leverage to attain a competitive return on equity. Such banks had relatively lower capital ratios but posted a return on equity that was no higher than that of banks with a stronger capital base (Graph VI.10, left-hand panel). To the extent that higher capital ratios led to greater resilience, there is then no evidence of a trade-off between enhanced safety and high returns.

Indeed, the crisis demonstrated that higher capital ratios did contribute to the resilience of the best performers among the same 40 banks (Graph VI.10, centre panel). The banks with high capital holdings in 2006 required low levels of support in the form of emergency measures between 2007 and 2009. More importantly, only banks with low capital ratios in 2006 needed extensive emergency support during the crisis. This pattern is quite distinct even though it leaves out additional major determinants of how banks fared in the crisis, such as the size of their liquidity buffers.⁶

The crisis also exposed the precarious nature of bank profits. Banks that had enjoyed high returns on equity just before the crisis needed high levels of

High capital is not incompatible with high profitability ...

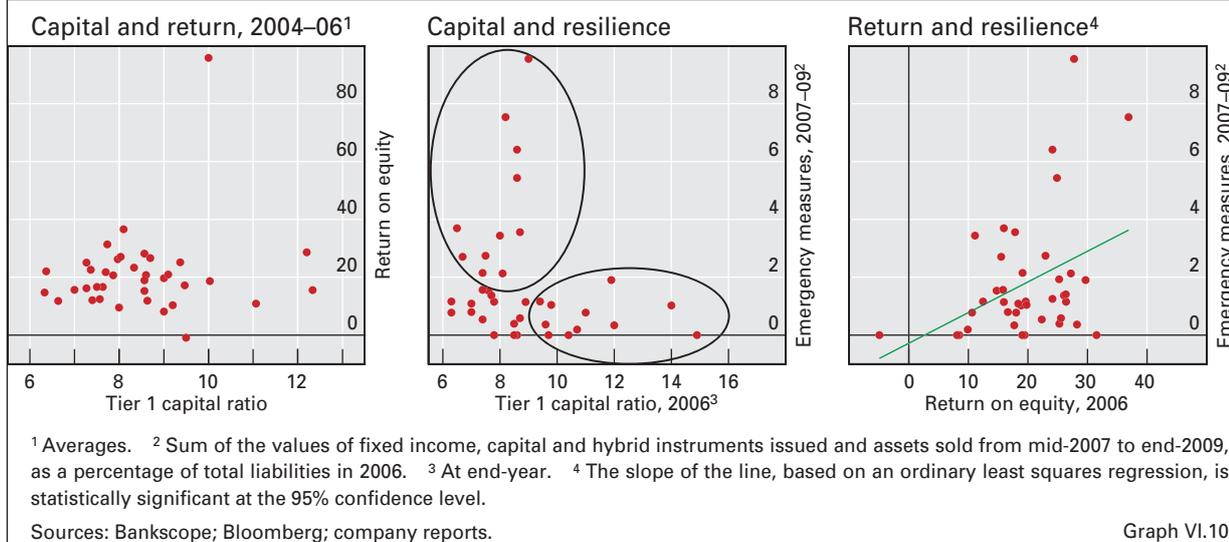
... and it also improves resilience

High and sustainable profits are supported by ...

⁶ For further evidence that higher capital ratios support a more robust performance in crises, see A Beltratti and R Stulz, "Why did some banks perform better during the credit crisis? A cross-country study of the impact of governance and regulation", *NBER Working Papers*, no 15180, July 2009; and K Buehler, H Samandari and C Mazingo, "Capital ratios and financial distress: lessons from the crisis", *McKinsey Working Papers on Risk*, no 15, December 2009.

Pre-crisis characteristics and in-crisis performance of 40 large banks

In per cent



emergency support as it unfolded (Graph VI.10, right-hand panel). This is a specific illustration of the structural fragility of banks' business models. Consistent with the long-term picture depicted by Table VI.1 and Graphs VI.1 and VI.2, high shareholder returns in the sector were unsustainable because they were generated by high leverage and risk-taking that proved to be unmanageable in a period of stress.

... resilient balance sheets ...

Looking forward, strong capital buffers should contribute to a resilient performance by financial institutions. As markets recognise this resilience, the cost of funding will decline and, with it, the return on assets in the sector will rise. And since higher capital constrains leverage, it will also limit institutions' capacity to boost return on equity in good times at the cost of elevated losses in bad times.

Lower returns on equity could actually be a desirable outcome for the long-term investor as well as for the economy at large. In the light of recent experience (Graph VI.10, right-hand panel), equity holders will arguably require lower but more stable returns on equity that are likely to translate into higher profits in risk-adjusted terms. For the economy as a whole, a more stable performance of the financial sector would imply a reduced incidence of financial crises and a lower magnitude of the associated costs.

In addition, a reduction of returns on equity from the high levels supported by explicit and implicit public guarantees would contribute to the healthy functioning of the financial sector. As noted above, government support has recently boosted the average Moody's rating for the 50 largest banks by three notches. For 2009 levels of bank CDS spreads, this upgrade translates into a 1 percentage point decline in funding costs, which lifts returns on equity. This amounts to a subsidy, which keeps profits in the sector at artificially high levels and distorts economic decision-making. Thus, higher capital holdings would not only improve institutions' resilience but, by

Capital holdings and profitability of a representative bank

What effect will higher capital requirements have on banks' profits and how might banks respond? This box seeks to provide quantitative answers and to put them in perspective by measuring the benefits that banks enjoy from government support. The results, presented in Graph VI.A, are based on end-2006 balance sheets and income statements for national banking systems in the euro area, as published by the OECD. Averaging across banking systems delivers the balance sheet and income statement of a representative bank, with leverage (ie assets-to-capital ratio) of 20, return on equity (or net income divided by equity capital) of 14% and operating expenses equal to 40% of interest expenses. It is assumed that, initially, the bank charges an interest rate on loans of 6% (which is the ratio of interest income to interest earning assets) and that 60% of its capital qualifies as regulatory capital.

The graph's two left-hand panels illustrate the impact of higher capital requirements on net income and the return on equity. The assumption is that the bank meets higher capital requirements by transforming a uniform fraction of its different debt instruments into equity, without changing the assets side of its balance sheet. The resulting decline in leverage improves the bank's creditworthiness, which is assumed to depress the interest rate only on its bond issues. Keeping revenues constant, this decline in funding costs raises net income to the extent indicated by the red lines in the graph. In addition to their positive impact on net income, higher capital holdings also depress leverage, which results in a net negative impact on the return on equity (green lines).

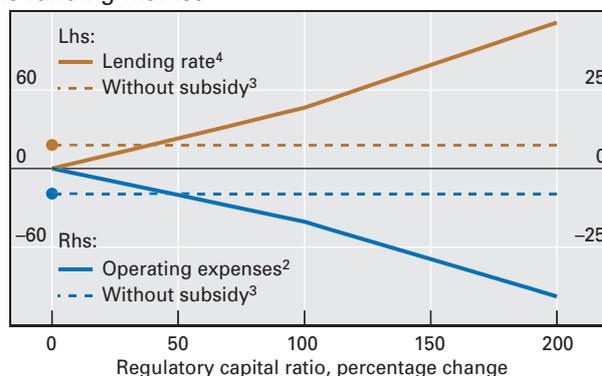
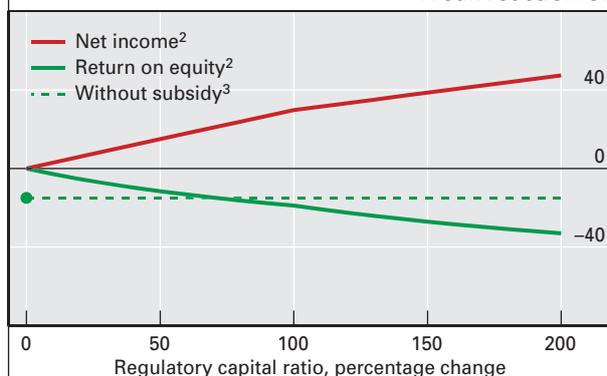
The stronger the reaction of funding markets to changes in the bank's capital ratio, the greater is the positive impact of higher capital requirements on net income and the smaller is the negative impact on the return on equity. The top and bottom panels reflect different assumptions regarding this reaction.

Impact of greater capital holdings

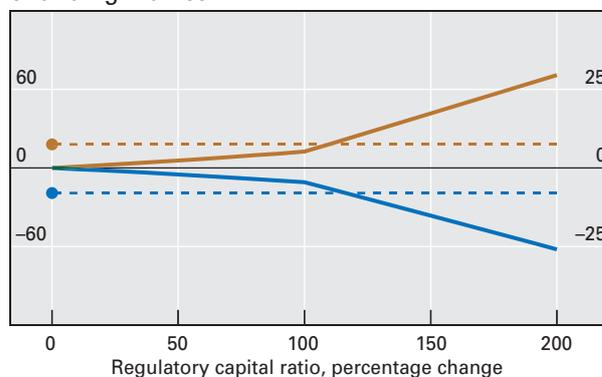
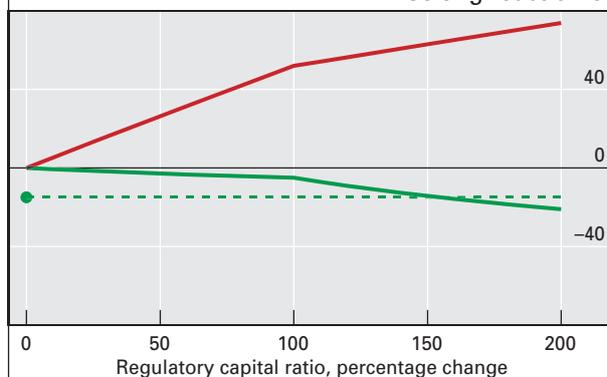
Profitability

Offsetting adjustments¹

Weak reaction of the funding market



Strong reaction of the funding market



¹ The plotted changes in the lending rate and operating expenses keep the return on equity constant. ² Percentage changes. ³ Impact on the return on equity (left-hand panels) and offsetting adjustments to the lending rate and operating expenses (right-hand panels) if capital holdings do not change but funding costs increase by 1 percentage point. ⁴ Change in basis points.

Source: OECD.

Graph VI.A

A weak reaction by the funding market translates into a 15% (17%) decline in the funding rate for a 100% (200%) rise in regulatory capital. At a risk-free rate of 3.5%, this decline corresponds to the narrowing of CDS spreads in the euro area when credit ratings improved from A to AA (to AAA) in 2005. Corresponding to the narrowing of CDS spreads in 2006, the decline in the funding rate under a strong market reaction is set to 40% (48%).

The right-hand panels illustrate two alternative ways of restoring the bank's initial return on equity given its new capital requirements. One way is to increase the rate on loans (brown lines). Alternatively, a cut in operating expenses could stabilise the return on equity at the same level (blue lines).

To put these results into perspective, the graph also shows how the removal of government support might affect profits. According to Moody's, the rating in 2009 of the 50 largest banks would have worsened on average by three notches (from Aa3 to A3) in the absence of government support. Recent data on bank CDS spreads indicate that such a downgrade would increase the interest rate that banks pay on their securities by 1 percentage point. The dashed lines in the left-hand panels quantify the resulting decline in the representative bank's return on equity when capital holdings are at their initial level. In the right-hand panels, the dashed lines plot the corresponding increase in the lending rate and decrease in operating expenses that would maintain the initial level of the return on equity in the absence of government support.

reducing the return on equity, would also serve to offset the distortionary impact of government support.

... and funding
markets that
reward prudence

A back of the envelope calculation illustrates the extent to which higher capital offsets the impact of government support on a representative bank (see box). For a broad range of increases in capital holdings, the resulting return on equity remains above the level that would prevail under the initial capital holdings but in the absence of a subsidy due to public guarantees. In Graph VI.A (left-hand panels), this is the range where the solid green lines are above the dashed lines. Concretely, when the funding market provides high rewards for building a resilient balance sheet, an increase in capital holdings by up to 150% would have a smaller impact on return on equity than a removal of public guarantees (bottom left-hand panel).

The bank could compensate for the higher cost of equity compared with debt, by cutting its operating costs or raising its lending rate (Graph VI.A, right-hand panels). Provided that the funding market reacts strongly to improvements in the resilience of the bank's balance sheet, the cut in operating expenses would be modest (bottom right-hand panel). For instance, the cut that keeps the return on equity at its initial level, given an increase in capital holdings of up to 120%, is smaller than the cut that would achieve the same result if capital holdings stayed fixed but government subsidies were removed (solid vs dashed blue lines). A similar conclusion is reached if the bank adjusts by raising its lending rate (brown lines).

Summing up

The crisis exposed deficiencies in the financial sector's business model that had prevailed for several decades. Since financial institutions have generated competitive returns on equity via high leverage on opaque and illiquid balance sheets, their performance has been volatile at all times and sub-par in periods of general stress. The importance of strengthening the sector's resilience has

increased in line with its weight in overall economic activity and with the scale of the international component of financial intermediation. Higher prudential buffers and lower leverage will help ensure the structural resilience of the financial sector. Continuing progress by banks in restructuring their cost base, stabilising their balance sheets and eliminating excess capacity will support the trend towards sustainable profitability.