High-level Expert Group on reforming the structure of the EU banking sector

Chaired by

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FINAL REPORT

Brussels, 2 October 2012

High-level Expert Group on reforming the structure of the EU banking sector

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LETTER FROM THE CHAIRMAN

Commissioner Michel Barnier established a High-level Expert Group on structural bank reforms in February 2012. Our task has been to assess whether additional reforms directly targeted at the structure of individual banks would further reduce the probability and impact of failure, ensure the continuation of vital economic functions upon failure and better protect vulnerable retail clients.

We organised hearings with a large number of stakeholders who represented providers of banking services, consumers of such services, investors in banks, policymakers and academics. The Group has furthermore held a public consultation of stakeholders, the responses to which are published together with this report.

In evaluating the European banking sector, the Group has found that no particular business model fared particularly well, or particularly poorly, in the financial crisis. Rather, the analysis conducted revealed excessive risk-taking – often in trading highly-complex instruments or real estate-related lending – and excessive reliance on short-term funding in the run-up to the financial crisis. The risk-taking was not matched with adequate capital protection, and strong linkages between financial institutions created high levels of systemic risk.

A number of regulatory reforms have been initiated to address these and other weaknesses that endanger financial system stability. The Group has reviewed these on-going regulatory reforms, paying particular attention to capital and liquidity requirements and to the recovery and resolution reforms.

Stronger capital requirements will enhance the resilience of banks. The implementation of the new Capital Requirement Regulation and Directive (CRR/CRDIV) will constitute a major improvement in this respect. Connected to its mandate, the Group also expects the on-going fundamental review of the trading book by the Basel Committee to improve the control of market risk within the banking system.

The Group sees the Commission's proposed Bank Recovery and Resolution Directive as an essential part of the future regulatory structure. This proposal is a significant step forward in ensuring that a bank, regardless of its size and systemic importance, can be transformed and recovered, or be wound down in a way that limits taxpayer liability for its losses.

The Group then had to assess, whether additional structural reforms are needed. As the work progressed, the Group considered two possible avenues in more detail. The first avenue was based on the important role of recovery and resolutions plans and left the decision on the possible separation of banks' activities conditional on the assessment of these plans; it also included proposals to tighten capital requirements. The second avenue was based on the mandatory separation of banks' proprietary trading and other risky activities.

Both avenues are presented in the report. The Group assessed pros and cons of both avenues at length. Also, well-known events in the banking sector that happened during the work of the Group had an impact.

The Group´s conclusion is that it is necessary to require legal separation of certain particularly risky financial activities from deposit-taking banks within a banking group.

The central objectives of the separation are to make banking groups, especially their socially most vital parts (mainly deposit-taking and providing financial services to the non-financial sectors in the economy), safer and less connected to high-risk trading activities and to limit the implicit or explicit stake of taxpayer in the trading parts of banking groups. The Group's recommendations regarding separation concern businesses which are considered to represent the riskiest parts of trading activities and where risk positions can change most rapidly.

Separation of these activities into separate legal entities within a group is the most direct way of tackling banks' complexity and interconnectedness. As the separation would make banking groups simpler and more transparent, it would also facilitate market discipline and supervision and, ultimately, recovery and resolution.

In the discussions within the Group, some members expressed a preference for a combination of measures: imposing a non-risk-weighted capital buffer for trading activities and leaving the separation of activities conditional on supervisory approval of a recovery and resolution plan, rather than a mandatory separation of banking activities.

In the spirit of transparency both basic alternatives and their motivation are presented in the report. However, the choice was made to recommend mandatory separation of certain trading activities. The report also makes other recommendations, for example concerning the use of designated bail-in instruments, the capital requirements on real estate lending, consistency of internal models and sound corporate governance.

The Group presents its report to Commissioner Michel Barnier. We are fully aware that this gives a great responsibility to the Commission. It is now the task of the Commission to assess the report, organise the appropriate consultation of stakeholders and, finally, make the decision on whether to present proposals on the basis of our Group´s recommendations. The proposals would also require an impact assessment according to Commission practices.

The Group was assisted by a competent secretariat from the Commission Services. We are grateful for their contribution.

Erkki Liikanen

The Chairman of the High-level Expert Group

SUMMARY OF THE PROPOSAL

The High-level Expert Group was requested to consider whether there is a need for structural reforms of the EU banking sector or not and to make any relevant proposals as appropriate, with the objective of establishing a stable and efficient banking system serving the needs of citizens, the economy and the internal market.

The Group recommends a set of five measures that augment and complement the set of regulatory reforms already enacted or proposed by the EU, the Basel Committee and national governments.

First, proprietary trading and other significant trading activities should be assigned to a separate legal entity if the activities to be separated amount to a significant share of a bank's business. This would ensure that trading activities beyond the threshold are carried out on a stand-alone basis and separate from the deposit bank. As a consequence, deposits, and the explicit and implicit guarantee they carry, would no longer directly support risky trading activities. The long-standing universal banking model in Europe would remain, however, untouched, since the separated activities would be carried out in the same banking group. Hence, banks' ability to provide a wide range of financial services to their customers would be maintained.

Second, the Group emphasises the need for banks to draw up and maintain effective and realistic recovery and resolution plans, as proposed in the Commission's Bank Recovery and Resolution Directive (BRR). The resolution authority should request wider separation than considered mandatory above if this is deemed necessary to ensure resolvability and operational continuity of critical functions.

Third, the Group strongly supports the use of designated bail-in instruments. Banks should build up a sufficiently large layer of bail-inable debt that should be clearly defined, so that its position within the hierarchy of debt commitments in a bank's balance sheet is clear and investors understand the eventual treatment in case of resolution. Such debt should be held outside the banking system. The debt (or an equivalent amount of equity) would increase overall loss absorptive capacity, decrease risk-taking incentives, and improve transparency and pricing of risk.

Fourth, the Group proposes to apply more robust risk weights in the determination of minimum capital standards and more consistent treatment of risk in internal models. Following the conclusion of the Basel Committee's review of the trading book, the Commission should review whether the results would be sufficient to cover the risks of all types of European banks. Also, the treatment of real estate lending within the capital requirements framework should be reconsidered, and maximum loan-to-value (and/or loan-to-income) ratios included in the instruments available for micro- and macro-prudential supervision.

Finally, the Group considers that it is necessary to augment existing corporate governance reforms by specific measures to 1) strengthen boards and management; 2) promote the risk management function; 3) rein in compensation for bank management and staff; 4) improve risk disclosure and 5) strengthen sanctioning powers.

EXECUTIVE SUMMARY

The High-level Expert Group was *requested to consider in depth whether there is a need for structural reforms of the EU banking sector or not and to make any relevant proposals as appropriate, with the objective of establishing a safe, stable and efficient banking system serving the needs of citizens, the EU economy and the internal market.*

In evaluating the European banking sector, the Group has found that no particular business model fared particularly well, or particularly poorly, in the financial crisis. Rather, the analysis conducted revealed excessive risk-taking – often in trading highly-complex instruments or real estate-related lending – and excessive reliance on short-term funding in the run-up to the financial crisis. The risk-taking was not matched with adequate capital protection and high level of systemic risk was caused by strong linkages between financial institutions.

A number of regulatory reforms have been initiated to address these and other weaknesses that endanger financial system stability. The Group has reviewed these ongoing regulatory reforms, paying particular attention to capital and liquidity requirements and to the recovery and resolution reforms.

Stronger capital requirements, in general, will enhance the resilience of banks; correct, to some extent, the incentives of owners and managers; and, will also help reduce the expected liability of taxpayers in the event of adverse shocks to bank solvency. The implementation of the new Capital Requirement Regulation and Directive (CRR/CRDIV) will constitute a major improvement in all these respects. Connected to its mandate, the Group also expects the on-going fundamental review of the trading book by the Basel Committee to improve the control of market risk within the banking system.

The Group sees the Commission's proposed Bank Recovery and Resolution Directive (BRR) as an essential part of the future regulatory structure. This proposal is a significant step forward in ensuring that a bank, regardless of its size and systemic importance, can be transformed and recovered, or be wound down in a way that limits taxpayer liability for its losses. The preparation and approval of recovery and resolution plans (RRPs) is likely to induce some structural changes within banking groups, reducing complexity and the risk of contagion, thus improving resolvability.

However, despite these important initiatives and reforms, the Group has concluded that it is necessary to require legal separation of certain particularly risky financial activities from deposit-taking banks within the banking group. The activities to be separated would include proprietary trading of securities and derivatives, and certain other activities closely linked with securities and derivatives markets, as will be specified below. The Group also makes suggestions for further measures regarding the bank recovery and resolution framework, capital requirements and the corporate governance of banks. The objective is further to reduce systemic risk in deposit-banking and investment-banking activities, even when they are separated.

The central objectives of the separation are to make banking groups, especially their socially most vital parts (mainly deposit-taking and providing financial services to the non-financial sectors in the economy) safer and less connected to trading activities; and, to limit the implicit or explicit stake taxpayer has in the trading parts of banking groups. The Group's recommendations regarding separation concerns businesses which are considered to represent the riskiest parts of investment banking activities and where risk positions can change most rapidly.

Separation of these activities into separate legal entities is the most direct way of tackling banks' complexity and interconnectedness. As the separation would make banking groups simpler and more transparent, it would also facilitate market discipline and supervision and, ultimately, recovery and resolution. The proposal is outlined in more detail below.

In the discussion within the Group, some members expressed a preference for a combination of measures: imposing a non-risk-weighted capital buffer for trading activities and a separation of activities conditional on supervisory approval of a RRP, as outlined in Avenue 1 in Section 5.4.1, rather than a mandatory separation of banking activities. In the discussions, it was highlighted that the ongoing regulatory reform programme will already subject banks to sufficient structural changes and that Avenue 1 is designed to complement these developments and could thus be implemented without interfering with the basic principles and objectives of those reforms. It was also argued that this approach specifically addresses problems of excessive risk-taking incentives and high leverage in trading activities; the risks in complex business models combining retail and investment banking activities; and, systemic risk linked to excessive interconnectedness between banks. Moreover, it was argued that Avenue 1 avoids the problems of having to define ex ante the scope of activity to be separated or prohibited. Against the backdrop of the ongoing financial crisis and the fragility of the financial system, it was also seen that an evolutionary approach that limits the risk of discontinuities to the provision of financial services could be warranted.

Mandatory separation of proprietary trading activities and other significant trading activities

The Group proposes that proprietary trading and all assets or derivative positions incurred in the process of market-making, other than the activities exempted below, must be assigned to a separate legal entity, which can be an investment firm or a bank (henceforth the "trading entity") within the banking group.[1] Any loans, loan commitments or unsecured credit exposures to hedge funds (including prime brokerage for hedge funds), SIVs and other such entities of comparable nature, as well as private equity investments, should also be assigned to the trading entity. The requirements apply on the consolidated level and the level of subsidiaries.

The Group suggests that the separation would only be mandatory if the activities to be separated amount to a significant share of a bank's business, or if the volume of these activities can be considered significant from the viewpoint of financial stability. The Group suggests that the decision to require mandatory separation should proceed in two stages:

- In the first stage, if a bank's assets held for trading and available for sale, as currently defined, exceed (1) a relative examination threshold of 15-25% of the bank's total assets or (2) an absolute examination threshold of EUR100bn, the banks would advance to the second stage examination.
- In the second stage, supervisors would determine the need for separation based on the share of assets to which the separation requirement would apply. This threshold, as share of a bank's total assets, is to be calibrated by the Commission. The aim of the calibration is to ensure that mandatory separation applies to all banks for which the activities to be separated are significant, as compared to the total balance sheet. In calibrating the threshold, the Commission is advised to consider different bases for measuring trading activity, including, for example, revenue data.

Once a bank exceeds the final threshold, all the activity concerned should be transferred to the legally-separate trading entity. The proposal should require a sufficient transition period to be assessed by the Commission. Finally, the smallest banks would be considered to be fully excluded from the separation requirement.

All other banking business except that named above, would be permitted to remain in the entity which uses insured deposits as a source of funding (henceforth "deposit bank"), unless firm-specific

[1] The legal form by which the recommendation is to be applied needs to apply to all banks regardless of business model, including the mutual and cooperative banks, to respect the diversity of the European banking system.

recovery and resolution plans require otherwise. These permitted activities include, but need not be limited to, lending to large as well as small and medium-sized companies; trade finance; consumer lending; mortgage lending; interbank lending; participation in loan syndications; plain vanilla securitisation for funding purposes; private wealth management and asset management; and, exposures to regulated money market (UCITS) funds. The use of derivatives for own asset and liability management purposes, as well as sales and purchases of assets to manage the assets in the liquidity portfolio, would also be permitted for deposit banks. Only the deposit bank is allowed to supply retail payment services.

Provision of hedging services to non-banking clients (e.g. using forex and interest rate options and swaps) which fall within narrow position risk limits in relation to own funds, to be defined in regulation, and securities underwriting do not have to be separated. These can thus be carried out by the deposit bank. The Group acknowledges the potential risks inherent in these activities and suggests that the authorities need to be alert to the risks arising from both of them.

The trading entity can engage in all other banking activities, apart from the ones mandated to the deposit bank; i.e. it cannot fund itself with insured deposits and is not allowed to supply retail payment services.

The legally-separate deposit bank and trading entity can operate within a bank holding company structure.[2] However, the deposit bank must be sufficiently insulated from the risks of the trading entity.

Transfer of risks or funds between the deposit bank and trading entity within the same group would be on market-based terms and restricted according to the normal large exposure rules on interbank exposures. Transfers of risks or funds from the deposit bank to the trading entity either directly or indirectly would not be allowed to the extent that capital adequacy, including additional capital buffer requirements on top of the minimum capital requirements, would be endangered. The possibility of either entity having access to central bank liquidity depends on the rules of the counterparty status in different jurisdictions. The deposit bank and trading entity are allowed to pay dividends only if they satisfy the minimum capital and capital buffer requirements.

To ensure the resilience of the two types of entities, both the deposit bank and the trading entity would each individually be subject to all the regulatory requirements, such as the CRR/CRDIV and consolidated supervision, which pertain to EU financial institutions. Hence they must, for example, be separately capitalized according to the respective capital adequacy rules, including the maintenance of the required capital buffers and possible additional Pillar 2 capital requirements.

The specific objectives of separation are to 1) limit a banking group's incentives and ability to take excessive risks with insured deposits; 2) prevent the coverage of losses incurred in the trading entity by the funds of the deposit bank, and hence limit the liability of taxpayer and the deposit insurance system; 3) avoid the excessive allocation of lending from the deposit bank to other financial activities, thereby to the detriment of the non-financial sectors of the economy; 4) reduce the interconnectedness between banks and the shadow banking system, which has been a source of contagion in a system-wide banking crisis; and 5) level the playing field in investment banking activities between banking groups and stand-alone investment banks, as it would improve the risk-sensitivity of the funding cost of trading operations by limiting the market expectations of public protection of such activities.

[2] As already mentioned, the legal form by which the recommendation is to be applied needs to apply to all banks regardless of business model, including the mutual and cooperative banks, to respect the diversity of the European banking system.

While pursuing these key objectives related to financial stability, separation also aims to maintain banks' ability efficiently to provide a wide range of financial services to their customers. For this reason, the separation is allowed within the banking group, so that the same marketing organisation can be used to meet the various customer needs. Benefits to the customer from a diversity of business lines can therefore be maintained. Moreover, as the proposal allows hedged trading and securities underwriting to continue, it also leaves sufficient room and flexibility for deposit banks to service corporate customers and thus fulfil their role in financing the real economy. Similarly, the trading entity can engage in a broad range of activities. The proposal addresses the core weaknesses in the banking sector, while retaining the key benefits of the universal banking model and allowing for business model diversity.

Finally, it is important that the proposal is sufficiently simple so as to ensure harmonised implementation across Member States. The Group suggests that banking activities which naturally belong together can be conducted within the same legal entity. In particular, the proposed separation concerns both proprietary trading and market-making, thus avoiding the ambiguity of defining separately the two activities. Similarly, the assets which are part of the separation do not include any loans to non-financial firms, because differentiating among these (for example, according to loan size) would be equally challenging at the EU level and important scale economies in corporate lending might be lost.

Additional separation of activities conditional on the recovery and resolution plan

The BRR proposal of the Commission in June 2012 grants powers to resolution authorities to address or remove obstacles to resolvability. The Group emphasises the importance of two elements of the proposal in particular, namely the recovery and resolution plan and the bail-in requirements for debt instruments issued by banks (see the next section).

In the Group's view, producing an effective and credible RRP may require the scope of the separable activities to be wider than under the mandatory separation outlined above. The proposed BRR gives the resolution authority the powers to require a bank to change its legal or operational structure to ensure that it can be resolved in a way that does not compromise critical functions, threaten financial stability or involve costs to the taxpayer are given to the resolution authority in the proposed BRR.

The Group emphasises the need to draw up and maintain effective and realistic RRPs. Particular attention needs to be given to a bank's ability to segregate retail banking activities from trading activities, and to wind down trading risk positions, particularly in derivatives, in a distress situation, in a manner that does not jeopardize the bank's financial condition and/or significantly contribute to systemic risk. Moreover, it is essential to ensure the operational continuity of a bank's IT/payment system infrastructures in a crisis situation. Given the potential funding and liquidity implications, transaction service continuity should be subject to particular attention in the RRP process.

The Group supports the BRR provision that the EBA plays an important role in ensuring that RRPs and the integral resolvability assessments are applied uniformly across Member States. The EBA would, accordingly, be responsible for setting harmonised standards for the assessment of the systemic impact of RRPs; as well as the issues to be examined in order to assess the resolvability of a bank and trigger elements that would cause a rejection of the plans. The triggers should be related to the complexity of the trading instruments and organisation (governance and legal structure) of the trading activities, as these features materially affect the resolvability of trading operations. The trigger elements should also be related to the size of the risk positions and their relation to market size in particular instruments, as large positions are particularly difficult to unwind in a market stress situation.

Possible amendments to the use of bail-in instruments as a resolution tool

In addition to the use of RRPs, the Group also strongly supports the use of designated bail-in instruments within the scope of the BRR, as it improves the loss-absorbency ability of a bank. The power to write down claims of unsecured creditors or convert debt claims to equity in a bank resolution process is crucial to ensure investor involvement in covering the cost of recapitalisation and/or compensation of depositors. It also reduces the implicit subsidy inherent in debt financing. This additionally improves the incentives of creditors to monitor the bank.

A number of features of bail-in instruments have been outlined in the proposed BRR. For instance, the bail-in tool would only be used in conjunction with other reorganisation measures, and the ex-ante creditor hierarchy is to be respected. However, the Group has come to the conclusion that there is a need to further develop the framework, so as to improve the predictability of the use of the bail-in instrument. Specifically, the Group is of the opinion that the bail-in requirement ought to be applied explicitly to a certain category of debt instruments, the requirement for which should be phased in over an extended period of time. This avoids congestion in the new issues market and allows the primary and the secondary market to grow smoothly. However, banks should be allowed to satisfy any requirement to issue bail-inable debt instruments with common equity if they prefer to do so. This could be especially useful for smaller institutions, whose bail-in instruments could face particularly narrow markets.

The Group is also of the opinion that a clear definition would clarify the position of bail-in instruments within the hierarchy of debt commitments in a bank's balance sheet, and allow investors to know the eventual treatment of the respective instruments in case of resolution. Detailing the characteristics of the bail-in instruments in this way would greatly increase marketability of both new bail-inable securities and other debt instruments and facilitate the valuation and pricing of these instruments.

In order to limit interconnectedness within the banking system and increase the likelihood that the authorities are eventually able to apply the bail-in requirements in the event of a systemic crisis, it is preferable that the bail-in instruments should not be held within the banking sector. This would be best accomplished by restricting holdings of such instruments to non-bank institutional investors (e.g. investment funds and life insurance companies). Bail-in instruments should also be used in remuneration schemes for top management so as best to align decision-making with longer-term performance in banks. The Group suggests that this issue should be studied further.

A review of capital requirements on trading assets and real estate related loans

Model-based capital requirements related to risks in trading-book assets may suffer from modelling risks and measurement errors. In particular, tail-risks and systemic risks (including the impact on market liquidity of failures of major players) are not well-accounted for. Significant operational risks are related to all trading activities as demonstrated by several incidents of substantial loss events. The current operational risk capital charges are derived from income-based measures and do not reflect the volume of trading book assets. Moreover, significant counterparty and concentration risks can be related to all trading activities.

The mandatory separation proposed by the Group leaves substantial room for customer-driven and hedged trading and risk management activities in deposit banks so as to ensure the ability of these entities to service the real economy. On the other hand, the significant risks of the separated or stand-alone trading entities warrant robust capital rules to control the risk posed to the parent group and financial system as a whole. Thus, the weaknesses in the capital requirements presented above have implications for both the deposit bank and trading entity.

The Basel Committee has launched an extensive review of trading-book capital requirements[3]. The Group welcomes this review. In its work, the Group has identified two approaches to improve the robustness of the trading book capital requirements:

- setting an extra, non-risk based capital buffer requirement for all trading-book assets on top of the risk-based requirements as detailed under Avenue 1 in Section 5.4.1; and/or
- introducing a robust floor for risk-based requirements (i.e. risk weighted assets (RWA)).

The benefit of the first approach (an extra capital buffer) is that it would improve protection against operational risks and reduce leverage, and it would not interfere with banks' incentives to use and further develop internal models – as it would come on top of the risk-based requirements. The benefit of the second approach (a robust floor for RWAs) is that it would more directly address the possibility of model errors in modelling market risks. The Group suggests that the Basel Committee takes into account in its work the shortcomings of the present capital requirements as identified by the Group and that an evaluation be carried out by the Commission, after the outcome of the Basel Committee's review, as to whether the proposed amendments to the trading-book capital requirements would be sufficient to cover the risks of both deposit banks and trading entities.

The Group also acknowledges that the RWAs calculated by individual banks' internal models (IRB) can be significantly different for similar risks. Supervisors are currently working on this issue. The Group encourages them to take strong and coordinated action to improve the consistency of internal models across banks. The treatment of risks should be more harmonised in order to produce greater confidence in the adequacy and consistency of the IRB-based capital requirements. This work should be one key step towards a common European supervisory approach.

The Group suggests that the Commission should consider further measures regarding the treatment of real estate-related lending within the capital requirement framework. History has shown that many systemic banking crises resulting in large commitments of public support have originated from excessive lending in real estate markets. This has often been coupled with funding mismatches and over-reliance on wholesale funding. The current levels of RWAs based on banks' internal models and historical loss data tend to be quite low compared to the losses incurred in past real estate-driven crises. The EBA and the new single euro area supervisory authority should make sure that capital adequacy framework includes sufficient safeguards against substantial property market stress (e.g. via robust floors on the RWAs calculated by internal models).

Moreover, insufficient attention was given to macro-prudential issues preceding the financial crisis. In the current European System of Financial Supervision, the European Systemic Risk Board (ESRB) has been given the responsibility for macro-prudential supervision at the EU level, whereas the institutional structures at a national level are still to be defined in most European countries. Effective macro-prudential policy needs appropriate tools. As a direct measure to limit the risks stemming from real estate markets, the ESRB recommends that loan-to-value (LTV) and/or loan-to-income (LTI) caps are included in the macro-prudential toolbox. The Group fully supports this recommendation and further recommends that strict caps to the value of these ratios should be provided in all Member States and implemented by national supervisors.

The Group welcomes the implementation of the minimum leverage ratio requirement as a backstop to the risk-weighted capital requirement. The monitoring of the leverage ratio as defined in the CRR/CRDIV will provide vital information to be used in the calibration. In due course, consideration

[3] Amongst the issues under consideration is a move from value-at-risk to expected shortfall measures which are less prone to tail risks. The Basel Committee is also considering a more granular approach to model approvals, limiting the capital benefits of assumed diversification. Furthermore, the Basel Committee is considering a floor or surcharge to the models-based approach.

should be given as to whether the requirement currently planned for the leverage ratio is sufficient. The Group also considers that the adequacy of the current large exposure limits should be assessed regarding inter-institution and intra-group exposures. In particular, the adequacy of the current maximum limit on inter-institution exposures effectively to limit excessive interconnectedness between financial institutions and systemic risks should be assessed. It should also be considered whether the same tightened limit should be applied to intra-group exposures (in section 5.5.1 it is suggested that the same exposure limits ought to apply to intra-group exposures). The latter could be important to limit the extent of exposure of the deposit bank to the trading entities within the same banking group.

Strengthening the governance and control of banks

Governance and control is more important for banks than for non-banks, given the former's systemic importance, ability quickly to expand and collapse; higher leverage; dispersed ownership; a predominantly institutional investor base with no strategic/long-term involvement; and, the presence of (underpriced) safety nets.

A bank's board and management are responsible for controlling the level of risk taken. However, the financial crisis has clearly highlighted that the governance and control mechanisms of banks failed to rein in excessive risk-taking.

The difficulties of governance and control have been exacerbated by the shift of bank activity towards more trading and market-related activities. This has made banks more complex and opaque and, by extension, more difficult to manage.

It has also made them more difficult for external parties to monitor, be they market participants or supervisors. As regards the former, the increase in size and the advent of banks that are too-big-to-fail have further reduced market participants' incentives to monitor banks effectively. As regards the latter, supervisors' ability to monitor banks has proven inadequate, in particular when it came to understanding, monitoring and controlling the complexity and interconnectedness of banks that expanded increasingly in trading activities.

Accordingly, strengthening governance and control is essential. Building on the corporate governance reforms currently under consideration and in addition to the reform proposals outlined above, it is necessary further to: (i) strengthen boards and management; (ii) promote the risk management function; (iii) rein in compensation; (iv) facilitate market monitoring; and, (v) strengthen enforcement by competent authorities. More specifically:

- **Governance and control mechanisms**: Attention should be paid to the governance and control mechanisms of all banks. More attention needs to be given to the ability of management and boards to run and monitor large and complex banks. Specifically, fit-and-proper tests should be applied when evaluating the suitability of management and board candidates;

- **Risk management**: In order to improve the standing and authority of the risk management function within all banks, so as to strengthen the control mechanism within the group and to establish a risk culture at all levels of financial institutions, legislators and supervisors should fully implement the CRD III and CRD IV proposals. In addition, while the CRD often remains principles-based, level 2 rules must spell out the requirements on individual banks in much greater detail in order to avoid circumventions. For example, there should be a clear requirement for Risk and Control Management to report to Risk and Audit Committees in parallel to the Chief Executive Officer (CEO);

- **Incentive schemes**: One essential step to rebuild trust between the public and bankers is to reform banks' remuneration schemes, so that they are proportionate to long-term sustainable performance. Building on existing CRD III requirement that 50% of variable remuneration must be in the form of the banks' shares or other instruments and subject to appropriate retention policies, a share of variable remuneration should be in the form of bail-in bonds. Moreover, the impact of further restrictions (for example to 50%) on the level of variable income to fixed income ought to be assessed. Furthermore, a regulatory approach to remuneration should be considered that could stipulate more absolute levels to overall compensation (e.g. that the overall amount paid out in bonuses cannot exceed paid-out dividends). Board and shareholder approvals of remuneration schemes should be appropriately framed by a regulatory approach;
- **Risk disclosure**: In order to enhance market discipline and win back investor confidence, public disclosure requirements for banks should be enhanced and made more effective so as to improve the quality, comparability and transparency of risk disclosures. Risk disclosure should include all relevant information, and notably detailed financial reporting for each legal entity and main business lines. Indications should be provided of which activities are profitable and which are loss-making, and be presented in easily-understandable, accessible, meaningful and fully comparable formats, taking into account ongoing international work on these matters; and
- **Sanctioning**: In order to ensure effective enforcement, supervisors must have effective sanctioning powers to enforce risk management responsibilities, including sanctions against the executives concerned, such as lifetime professional ban and claw-back on deferred compensation.

1 INTRODUCTION

The financial crisis, which started as the US sub-prime crisis in 2007, escalated into a full-blown economic crisis and raised significant political challenges in Europe. Although not the only source of problems, the banking sector has been at the heart of this crisis. Significant steps have been taken to improve the resilience of banks, but they remain highly vulnerable to shocks and are still being perceived as too big or too systemic to fail. Moreover, the single market for banking is fragmenting as banks have started to retreat to their home markets and competent authorities have taken measures aimed at safeguarding domestic financial stability.

Against this background, Commissioner Michel Barnier established in February 2012 a High-level Expert Group on structural bank reforms, chaired by Erkki Liikanen.[4] The Group's task has been to assess whether additional reforms directly targeted at the structure of individual banks would further reduce the probability and impact of failure, better ensure the continuation of vital economic functions and better protect vulnerable retail clients.

The Group was invited to make any relevant proposals as appropriate, with the objective of establishing a safe, stable and efficient banking system serving the needs of citizens, the EU economy and the single market.

During the course of its work, the Group has organised hearings with a large number of stakeholders, be they providers of banking services, consumers of such services, investors in banks, policymakers and academics. The Group has furthermore held a public consultation of stakeholders, the responses to which are published together with this report.

This report contains the Group's assessment and recommendations, and is structured as follows.

Chapter 2 provides the broad context and presents aggregate bank sector developments in the years leading up to and since the financial and economic crisis. It starts with a brief crisis narrative outlining the different "waves" of the crisis since it started in 2007. It documents the significant expansion of the financial system and, in particular, the banking system in the run-up to the financial crisis. It assesses the impact of the financial crisis on the EU banking sector and the wider economy and closes by assessing EU bank restructuring (de-risking, deleveraging) going forward, as well as the broader consequences in terms of bank disintermediation and risks of financial disintegration.

Chapter 3 documents the diversity of bank business models in the EU and highlights their relative performance. It reviews the literature on the general performance of different bank business models, including their crisis resilience, and assesses potential differences between small and large banks in that respect. It contains a more detailed assessment of large banks in terms of e.g. size, activities, capital and funding structure, ownership and governance, corporate and legal structure, and geographic scope (including how cross-border operations are legally and operationally structured). It also assesses banks with specific ownership models and business objectives (e.g. banks under public ownership, cooperative banks and savings banks), as these business models are important on an aggregate level in several Member States. Finally, it presents a number of case studies of business models that failed during the crisis.

Chapter 4 reviews and assesses the regulatory responses agreed so far so as to determine whether structural reforms are necessary. It assesses in particular whether the reforms agreed to date or currently on the table are sufficient to make banks resilient to withstand crisis situations, minimise the impact of a bank failure and avoid taxpayers' support when a crisis happens, ensuring the

[4] Further information about the Group, including the mandate and composition can be found on the Commission's website: http://ec.europa.eu/internal_market/bank/group_of_experts/index_en.htm

continuation of vital economic functions and protecting vulnerable clients, while maintaining the integrity of the single market.

Finally, Chapter 5 draws together the analysis of the previous chapters. It reiterates the importance of banks in the EU economy, summarises the key problems of the EU banking sector, and recalls the extent to which the current regulatory reform agenda is sufficient to address the problems. It then outlines the Group's recommendations for further reform, namely 1) mandatory separation of proprietary and significant other trading activities, 2) possible additional separation of other activities conditional on the recovery and resolution plan, 3) possible amendments to the use of bail-in instruments as a resolution tool, 4) a review of capital requirements on trading assets and real estate related loans, and 5) strengthening the governance and control of banks.

2 AGGREGATE EU BANK SECTOR DEVELOPMENTS

Summary of Chapter 2

- **A "crisis narrative"** allows analysing different phases of the crisis that flow into each other: from a specific *subprime crisis* to a full-blown *systemic crisis*, from a systemic crisis to an *economic crisis* and then a *sovereign debt crisis*, which has escalated into a set of unprecedented political and economic challenges in Europe.
- **Increased banking sector size:** The EU banking sector has grown significantly in the years prior to the crisis with the total balance sheet of EU monetary financial institutions (MFIs) reaching a total value of €43 trillion by 2008 or more than 350% of EU GDP. The crisis has put a halt to this growth, but so far has not led to a noticeable decline in aggregate balance sheet size.
- **Large by international comparison:** The EU banking sector is large by international comparison, also reflecting the European economy's greater dependency on bank intermediation than that of many other economies.
- **Consolidation and emergence of large institutions**: More than 8000 MFIs operate in the EU, although consolidation has reduced the number over time. Some very large financial institutions have emerged (with assets of each of the largest nine EU banks exceeding €1 trillion by end 2011).
- **Changed nature of banking activities:** In particular for the large institutions, the relative weight of banking activities has shifted from deposit taking, lending, securities underwriting, and trust services towards dealer and market-making activities, brokerage services, and own account trading. The corresponding banking sector expansion has been financed through short-term wholesale markets and off-balance sheet vehicles. The activity shift was accompanied by a sharp growth in "shadow banking", a rise in complex derivatives, increased interconnectedness, lengthened intermediation chains, and increased leverage. In March 2012, loans to non-financial corporations and households only make up 28%, and deposits of non-MFIs make up 30% of the aggregate balance sheet of EU MFIs. There are however significant differences between Member States.
- **Reversal of cross-border integration trend:** The large European banks had significantly increased their EU and global operations in the years prior to the crisis. Also, integration in the European banking market had significantly progressed, albeit mainly in the wholesale market. However, the trend of increased European cross-border banking has reversed since the crisis, and there is a risk of further disintegration of banking markets along national lines.
- **Explicit and implicit support:** Total state aid used to support the EU banking sector since the start of the financial crisis in 2007/08 amounted to €1.6 trillion (including guarantees) up to end 2010, more than 13% of EU GDP. The direct fiscal costs of this aid and liquidity support are still uncertain, but will add to the wider output and job losses related to the crisis. Moreover, systemically important EU banks benefit from an implicit guarantee of their debt, raising concerns about the level-playing field, distortions of competition, risk-taking incentives and costs to tax-payers.
- **Limited restructuring:** Sector restructuring has been relatively limited to date. A pan-EU resolution framework was not in place at the onset of the crisis in the banking sector, and correspondingly few EU banks have been liquidated. Further bank restructuring and deleveraging is necessary and expected going forward.

2.1 Introduction

The aim of Chapter 2 is to provide the broader context and to set out aggregate bank sector developments in the years leading up to and since the financial and economic crisis. Section 2.2 begins with a brief crisis narrative in which five interlinked "phases" or "waves" are identified:

- Wave 1: "Subprime crisis phase" (mid-2007 to September 2008): investment portfolios collapse.
- Wave 2: "Systemic crisis phase" (as of September 2008): unprecedented state aid to the banking sector is required as liquidity evaporates.
- Wave 3: "Economic crisis phase" (as of 2009): automatic stabilisers kick in following the recession, and fiscal sustainability is imperilled through fiscal stimulus and state aid.
- Wave 4: "Sovereign crisis phase" (as of 2010): bank-sovereign feedback loops raise significant challenges given the existing institutional EU framework.
- Wave 5: "Crisis of confidence in Europe phase" (current): EU at a crossroads.

Section 2.3 identifies the main banking sector developments in the run-up to the financial crisis. In the decades prior to the crisis, the financial system, and the banking sector in particular, expanded substantially. Concerns have been raised that the process was excessive[5], as manifested in the sharp rise in the assets of the banking system (compared to GDP); increased interconnectedness and lengthened intermediation chains; complex securitisation and off-balance sheet activity; high leverage and high overall debt-to-GDP levels in the economy; the significant rise in trading activity of banks; and so on. Moreover, the level of competition and contestability of the sector to the benefit of consumers can be deemed suboptimal, given the barriers to entry (and exit), lack of transparency, and switching costs. Some of these developments are described in more detail below.

Section 2.4 focuses on the impact of the financial crisis, not only on the EU banking sector, but also on the wider economy. The large losses and subsequent state aid are reviewed, as well as the financial crisis impact on the wider economy (unemployment, cumulative output loss, etc.).

Section 2.5 assesses EU bank restructuring (de-risking, deleveraging) going forward and the broader consequences in terms of bank disintermediation and risks of financial disintegration.

2.2 Crisis narrative

2.2.1 Wave One: "Subprime crisis phase" (mid-2007 to September 2008): investment portfolios collapse

The financial crisis started with the bursting of the housing bubble in the overheated US residential real estate market. Declining underwriting standards of mortgage originators and banks, incomplete regulatory oversight of financial markets and its participants, an over-levered financial system and a low interest rate environment had all fuelled the real estate bubble. Prices of American homes had increased by 124% between 1996 and 2007. At the peak of the bubble from 2004 to 2006, around 20% of all issued residential mortgage backed securities (RMBS) were sub-prime. Some of the subprime mortgages were pooled, packaged and sold on further down the chain to investors buying into highly-rated RMBS tranches. As a result, concerns about the inability of the underlying borrowers to repay their mortgages did not arise to the same extent as they would have if the originating banks had held on to the underlying mortgages until maturity. The "originate-to-distribute" model contributed to the decline in underwriting standards.

[5] See in particular the following recent BIS and IMF research: Cecchetti and Kharroubi (2012), Arcand et al. (2012), and Cecchetti et al. (2011).

On 30 July 2007, Deutsche Industriebank IKB became one of the first European banks hit by the crisis. IKB, a traditional lender to German small and medium-sized enterprises (SMEs), had built a large portfolio of asset backed commercial paper (ABCP) funds, which were mostly invested in RMBS, commercial real estate and collateralised loan obligations (CLOs). IKB's ABCP structured vehicles were refinanced short-term in the commercial paper market and carried the guarantee of their parent. This strategy came under severe stress, when Bear Stearns revealed on 16 July 2007 that two of its sub-prime hedge funds had recorded huge losses. Within days, the market for ABCPs closed, and IKB was unable to roll over its funds' short-term debt. On 30 July, a rescue package was announced, arranged by the German central bank, the regulator and KfW, IKB's owner.

Within days, the situation in European financial markets deteriorated. As trust eroded, the interbank market went into gridlock. The European Central Bank (ECB) had to intervene on 9 August 2007 with a massive liquidity injection of €95 billion. In December 2007, another round of €300 billion was to follow.

Investors started to liquidate their RMBS portfolios causing a significant drop of RMBS prices. By December 2007, the equity tranches of certain vintages of RMBS had lost up to 80% of their value. Similarly, certain vintages of AAA-rated tranches lost up to 60%. Prices did not start to recover until 2009. In addition, the opportunity to hedge these portfolios began to evaporate, as US monoline insurers, which had provided loss protection, began to close to new business. The RMBS indices became illiquid, as there were no more sellers of price protection.

The European financial industry was affected in four ways during this period:

1) Several banks held large RMBS positions in their fixed income trading book, which they described as market-making inventory. These positions were in effect carry trades designed to boost the performance of their fixed income divisions.
2) Many banks with a structural deposit surplus opted to use this surplus to build investment portfolios. These portfolios contained European sovereign debt but also structured credits, i.e. MBS. Almost all banks kept their investments in the banking book. Under the IFRS rules, banks were allowed to delay the recording of impairments for up to 12 months. But market participants were aware of the accounting treatment of the investment portfolio and trust quickly eroded. The banks ran into funding difficulties and the problems in their investment portfolios surfaced a year later when postponing the recording of impairments was no longer possible.
3) Due to the gridlock in the interbank market and the loss of trust between financial institutions, banks with a short-term and capital-market-oriented funding profile lost access to liquidity. The ECB kept the euro area banks afloat with continued liquidity injections. Northern Rock had to apply for emergency liquidity aid from the Bank of England in September 2007; eventually, it was nationalised in February 2008 (see Chapter 3).
4) The events of summer 2007 sharply reversed the expanding trend of the shadow banking system (e.g. ABCP, CLO Funds and Structured Investment Vehicles (SIV)). Banks which had sponsored and placed ABCPs, CLOs and SIV debt with investors were impacted by the demise of parts of the shadow banking industry. Sponsoring banks were pressured to put these structures back onto their balance sheet.

Overall, in this first wave, investment portfolios were the root cause for the staggering losses experienced by the financial industry. When the price of MBS collapsed, significant write-downs became necessary. The uncertainty of what banks held on their balance sheet, combined with investors' fears that off-balance sheet transactions might have to be put back on the balance sheet, seriously undermined trust in banks and harmed the functioning of the interbank market.

2.2.2 Wave two: "Systemic crisis phase" (as of September 2008): liquidity evaporates

The financial stress intensified dramatically when Lehman Brothers collapsed over the weekend of 12/13 September 2008 (see chapter 3). The crisis truly became "systemic". As investors realised that large, complex financial institutions would not always be sold or bailed out, prices of bank stock and hybrid capital fell sharply. It was unclear to what degree the collapse of Lehman had damaged the derivative markets. Speculation about the size of Lehman's global portfolio and how much banks could lose dominated the headlines. Within days, volatility in global capital markets reached unknown peaks, credit spreads increased further and investors moved their holdings into the safety of US treasury bonds. Accordingly, US dollar (USD) interest rates dropped and the USD appreciated.

Under these circumstances of evaporating market trust, liquidity for banks disappeared, and it became impossible for even the biggest and strongest banks to access either short or long-term funding. Banks which were excessively funded in the short-term money market or reliant on securitisation ran out of cash in the fourth quarter of 2008. The massive liquidity injections by central banks around the globe could not stem the tide. Many of the banks with liquidity problems had run out of eligible collateral for central bank operations. Unprecedented state aid was the direct consequence (see Boxes 2.1 and 2.2).

The liquidity stress also revealed deep flaws in the global interbank market. A review of the interbank creditor list of failed institutions demonstrates that many smaller banks or savings institutions were creditors to larger banks, often across borders. Since there were no large exposure rules for interbank lending at the time, the amounts lent exceeded in many cases the capital of the lending institutions. The government-led bailout of larger banks thus became imperative. Without it, many smaller banks would also not have survived the fourth quarter of 2008 unaided.

Moreover, deposit guarantee schemes in Europe generally were inadequate given the systemic nature of the crisis. The available funds were insufficient and quickly depleted, requiring additional intervention of governments to guarantee deposits. In addition, a number of measures were taken to protect consumers and restore their confidence, including an increase in and a harmonisation of the insured deposits across the EU. Cross-border arrangements in the existing schemes proved particularly inadequate. The case of the Icelandic banks with substantial depositors in the UK and the Netherlands, among other countries, is the most prominent example. In both cases, the respective governments had to step in to protect their depositors.

Whilst the disappearance of liquidity in the funding markets was the most visible effect of the collapse of Lehman, liquidity in other capital market instruments disappeared as well. Banks attempted large-scale asset sales in order to raise cash but there were no buyers. This led to wide discrepancies between cash and index markets. The spread between corporate bond interest rates and their respective credit default swaps (CDSs) widened sharply. In the equity option markets, liquidity for long-term options dried up whilst short-term options remained available. Thus, investment banks, which hedged their trading books with index products or engaged in dynamic hedging strategies, were suddenly exposed to large basis risk. This, in combination with the sheer size of the trading books, was the key driver for the multi-billion losses in investment banks at the time. In addition, proprietary-trading strategies added significantly to trading losses.

Modern risk management tools turned out to be strongly pro-cyclical. Whilst the collateralisation of derivatives trading between two institutions makes inherent sense, it also exposes both sides to price volatility and deterioration of their own credit quality. When volatility increased and ratings were downgraded (post-Lehman), the collateral which banks had to post to each other increased exactly at the time as liquidity was impossible to access. Many banks had not anticipated such demands and had insufficient buffers, which amplified their problems.

Money market funds, which had invested in subordinated bank debt to improve their yield, were close to "breaking the buck" or had already done so. A "run" on US money market funds took place,

and the US government felt it had no other choice than to guarantee these funds. The money market funds industry in Europe, which is smaller, encountered similar problems.

In sum, the key feature of the Lehman bankruptcy was the drying up of liquidity for banks, as a materialisation of systemic risk. Any institution which significantly relied on short-term wholesale funding had to resort to state aid. Large injections of liquidity by central banks were necessary to keep the financial system afloat, and governments had to take equity stakes in failing institutions and guarantee newly issued debt to prevent their collapse (see Boxes 2.1 and 2.2). The weaknesses of the international payment systems became visible, as well as the structural shortcomings of deposit guarantee schemes in dealing with systemic crisis. It also turned out that the hedging strategy of many investment banks fell apart when basis risk increased dramatically.

Box 2.1: **Post-Lehman: The State to the rescue**

When the crisis intensified in September 2008 with the bankruptcy of Lehman Brothers, governments in advanced economies stepped in to provide support to banks and financial institutions, through both standalone actions directed at individual institutions and system-wide programmes. Measures included reinforced deposit insurance to help prevent bank runs, capital injections to strengthen banks' capital base, explicit guarantees on liabilities to help banks retain access to wholesale funding, and purchases or guarantees of impaired "legacy" assets to help reduce the exposure of banks to large losses in their asset portfolios. Taxpayers' money was implicitly or explicitly put at risk (see also Box 2.2). The overall objective of such massive intervention was to avoid widespread bankruptcies of financial intermediaries and to contribute to restoring a normal functioning of financial intermediation. The magnitude of the actions taken to support the banking system has been unprecedented.

The fact that no major credit event took place after Lehman's demise is due, at least in part, to the swift implementation of the rescue measures. Pannetta et al. (2009) provide a comprehensive timeline and description of the main state actions in the period September 2008-June 2009.

Although the unprecedented scale of the state aid intervention comes at the price of distortions and inefficiencies, overall it is fair to say that the rescue measures have contributed to an avoidance of "worst case scenarios", in particular by reducing the default risk of major banks and systemic crisis.

Source: Pannetta et al. (2009).

2.2.3 Wave three: "Economic crisis phase" (as of 2009): fiscal stimulus and automatic stabilisers

After the dramatic events of 2008, with massive bailouts on both sides of the Atlantic, 2009 was relatively calm in the financial markets. The price recovery in 2009 helped banks to repair their balance sheet and income statements. In terms of financial performance, 2009 turned out to be a rebound year, with many banks boosting profits and also returning to some of the old practices, such as large bonus payments.

The debate about necessary reforms of the financial system accelerated during 2009. The newly created Financial Stability Board (FSB) took a leading role, together with the Basel Committee on Banking Supervision (Basel Committee). Their work eventually led to the drafting of new rules for trading book, capital and liquidity (Basel 3), which were announced in September 2010.

However, matters looked much worse in relation to the real economy and public finances. The serious malfunctioning of financial intermediation after the Lehman collapse negatively affected world trade, with adverse consequences for growth globally. All major countries around the world had approved large stimulus packages to prevent the world economy from sliding into a global depression. Whilst these fiscal efforts had a considerable positive short-term impact in preventing a worst case "Great Depression" scenario, their long-term impact was uncertain. Moreover, automatic stabilisers were activated following the significant rise in unemployment and the decline in tax

receipts that accompanied the sharp drop in real GDP and the outlook of a protracted recession. The stimulus spending, together with the increasingly important automatic stabilisers and the cost of state aid measures, jointly had a significant impact on the level of sovereign debt (see section 2.4.3). The downward adjustment in long-term growth across the globe worsened the outlook for economic recovery and debt sustainability.

2.2.4 Wave four: "Sovereign crisis phase" (as of 2010)

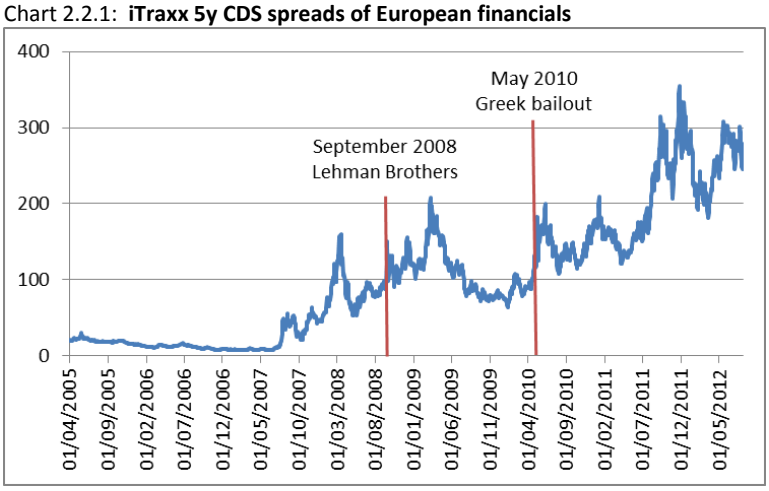
The euro area's sovereign debt amounts to €8.3 trillion or around 87% of 2011 GDP. This number is comparable to the sovereign debt level of the United States and significantly lower than that of Japan. Thus, in these comparative terms, the sovereign debt problem seemed manageable. However, the euro area is not a fiscal union such as the USA, and some Member States are much more indebted than suggested by the above average. When the new Greek government revealed the true size of the country's deficit and debt in November 2009, sovereign risk moved to the headline.

As the discussion on Greece's financial crisis and how it was to be solved remained undetermined, speculation about who owned Greek debt intensified. Many investors feared that most of Greece's sovereign debt was owned by European banks. In May 2010, after lengthy negotiations, the Greek government eventually accepted a €110 billion EU/IMF led rescue package, scaled to allow the refinancing of its debt out to 2014. Simultaneously, a €750 billion emergency fund was created jointly by EU Member States and the IMF to support other weaker EU economies. In November 2010, Ireland asked for financial assistance from that emergency fund. In April 2011, Portugal followed.

The long political process to put together sufficient firewalls at European level and to find a solution for Greece, Ireland and Portugal, combined with the attempts to restore market confidence, imposed significant costs on the European banking sector. By 2010, many institutional investors had completely liquidated their holdings of financial stocks and were reluctant to invest in European bank shares. They considered banks as too complex, insufficiently transparent and with uncertain future cash flows.

Access to debt capital markets also started to close again for all but the strongest European banks. As shown in the developments of five-year CDS spreads (chart 2.2.1), senior unsecured debt investors began to require higher risk premia. By May 2010, CDS spreads were already higher than after the collapse of Lehman (rising to even higher levels in 2011 and 2012).

Chart 2.2.1: **iTraxx 5y CDS spreads of European financials**



Source: Bloomberg.

The most affected institutions were smaller and medium sized banks, not only in Portugal, Spain and Italy, but also in other European Member States. In Greece, all banks lost their access to capital markets.

For an individual financial institution, the temporary inaccessibility of the unsecured bond market is as such not alarming, as long as the central bank can step in to provide liquidity. However, if debt capital markets remain closed for a long period, a dangerous dynamic can start to emerge. Without being able to issue senior unsecured debt, European banks had to rely on covered bonds or secured short-term funding from the ECB. Thus, the maturity profile of their liabilities shortened and the level of encumbered assets increased. Both trends made banks even less attractive for unsecured bondholders.

As a direct consequence, the banks' lack of refinancing capacity forced them to address the asset and liability mismatch by reducing the asset side. Slowly but steadily, European banks began to withdraw from foreign markets in order to maintain their domestic presence. The commercial real estate market in London was one of the first to experience the departure of foreign banks and experienced a drop in credit supply; the Member States in Eastern Europe were next.

Regulatory efforts to restore trust in European banks proved insufficient in 2010 and 2011. Whilst many banks passed the first EU-wide stress test, conducted in early 2010 by the Committee of European Banking Supervisors (CEBS), capital markets, financial analysts and the public at large were not convinced that the result reflected the true risks contained in the European banking system. In addition, as the regulatory debate on Basel 3 progressed and higher capital requirements became a corner stone of the reforms, weary investors fearing a further dilution of their investments shed bank stocks.

In sum, whilst the real economy started to recover in 2010 from the demand shock the year before, the burden of high sovereign debt levels became a pressing issue for Europe. Since most institutional investors assumed that European banks held large portfolios of government debt on their balance sheets, trust in the European banking system eroded, equity prices decoupled from banks in the rest of the world and debt capital markets slowly but steadily closed for most European financial institutions.

During the first half of 2011, it became apparent that Greece would not be able to meet the budgetary targets set by the Troika,[6] nor would it be able to return to capital markets as expected. Standard & Poor's decided to downgrade Greece's sovereign debt to CCC in June 2011. It became apparent that a second rescue package was necessary for Greece. After lengthy negotiations, a second €109 billion official support package was approved in July 2011. It included a swap for private debt holders, who would exchange their existing securities for partially collateralised papers with longer maturities and lower coupons, similar to Brady bonds which had been used to resolve the Latin American debt crisis. Under IFRS accounting rules, institutions holding Greek debt would have to write it down by between 20%-25%. The partial debt restructuring was construed in markets as a precedent with profound implications for sovereign debt markets. Despite a de facto write-down of Greek sovereign debt, no sovereign CDS were triggered at that point in time, as the proposal was deemed voluntary for bond holders.[7] The non-triggering of sovereign CDS seemed to demonstrate their ineffectiveness as a hedging tool, which gave rise to further investor uncertainty on losses going forward.

A second, improved European-wide stress test, organised by the new European Banking Authority (EBA), tried to address the sovereign debt exposures of European banks. In its press release of 15 July 2011, the EBA published the total exposure of European banks to Greek sovereign debt and Greek banks, which amounted to €31 billion. A buffer of €39 billion was held against this sovereign exposure.

[6] The Troika refers to the European Commission, the European Central Bank and the International Monetary Fund.

[7] Later, in March 2012, a credit event was declared and sovereign CDS were triggered (see below).

However, US money market managers reached different conclusions. Amid fears that the European banks would have to write down a much bigger portion of their Greek debt, money market funds began to cut their euro area exposures. The withdrawal of large amounts of funding caused significant tensions in both the swap and the foreign exchange market. Most European banks, which were structurally short in USD because their clients paid in Euros but needed products quoted or cross-referenced in USD, lost their access to USD funding. The ECB's swap line with the Federal Reserve in the USA provided emergency assistance. In August 2011, the share prices of banks came under pressure, especially for those dependent on US dollar funding. Then the wider banking sector followed. In September the debt capital markets both in Europe and the United States were closed to even the strongest banks and would not open for the rest of 2011. Most European banks started to liquidate their USD-denominated assets. Loans and trade finance transactions, which were originated at spreads of around 100bp, were sold at 600bp in secondary markets by November 2011.

The summer of 2011 brought additional financial pressures on the sovereign markets of Spain and Italy. As Spain and Italy's credit spreads increased, so did the conviction of many fund managers that the European banking system faced creditworthiness challenges. The change in the respective governments in the autumn of 2011 alleviated some of the fears. Nevertheless, the financial system of both Member States experienced an outflow of around €50 billion of external funding in the fourth quarter of 2011. With refinancing requirements for Spain and Italy amounting to €72 billion and €200 billion that year, respectively, both countries represented a very substantial part of sovereign debt markets in the euro area.

The EU and its Member States enhanced the existing crisis mechanism available to Member States in need of financial assistance (the European Financial Stability Fund, EFSF) and made progress to establish a permanent mechanism as a backstop against future crises (the European Stability Mechanism, ESM). In addition, coordinated by the EBA, the core Tier 1 capital requirements for Europe's largest banks were temporarily increased to 9% of risk weighted assets (by 30 June 2012) in order to break the feedback loop between sovereigns and domestic banks and increase the confidence in EU banks.

As the year 2011 progressed, it became clear that Greece could not meet the terms of the second rescue package agreed in July. Based on IMF calculations, the EU asked the private sector for better terms. Discounts of 50% or more were proposed. These negotiations continued for the rest of 2011 and were eventually concluded in February 2012. In March 2012, private holders of Greek debt took a 78% net present value haircut on their positions, at which point sovereign CDS were triggered.

In December 2011, the ECB decided to offer banks a three-year "Long-Term Refinancing Operations" (LTRO) at 1.0% interest. 523 banks signed up to €489 billion LTRO money in the first round. A second round of LTROs followed in February 2012, with 800 banks signing up for €529 billion. Both operations eased the stress in the European banking sector significantly and allowed a tentative reopening of the debt capital markets. On the other hand, using the drawn liquidity to increase government debt investments may have strengthened the bank-sovereign link, as banks headquartered in less creditworthy Member States may have been incentivised to perform carry-trades with or without moral suasion of the respective sovereign. Moreover, it is unclear to what extent the low funding cost has been passed on in lower funding costs for SMEs, other corporates, and other borrowers.

In sum, trust in the European banking system eroded further after Summer 2011, also in light of the sovereign debt crisis and weak economic growth prospects. Despite the large demand in both LTRO interventions, only 17 European banks were able to sell senior unsecured debt in March 2012. For the large majority of European banks, capital markets remained closed. US money market funds withdrew funds from Europe, triggering the closure of capital markets for all banks. Banks responded by deleveraging their balance sheet and by restricting the supply of credit. The EBA recapitalisation initiative and in particular the ECB's LTRO operations helped to ease the situation. However, these

policies did little to diminish the link between sovereign debt and bank solvency which is at the core of the on-going problems in Europe.

2.2.5 Wave five: "Crisis of Confidence in Europe": EU at the cross-roads

Financial integration in Europe had progressed significantly in the years prior to the crisis, albeit mainly in the wholesale markets. The adoption of the euro and, shortly afterwards, the Financial Services Action Plan were major milestones in this integration process.

However, the crisis has put a sharp halt to the financial integration process, and there is a risk of further fragmentation. This is discussed in section 2.5.3. For example, there has been a decline or reversal of some cross-border credit flows; banks have increasingly focused on their home markets and on meeting their domestic lending commitments; and there are increased differences in wholesale financing costs and retail interest rates between Member States (see European Commission (2012a)). Supervisors' focus on domestic financial stability exacerbated this process.

In June 2012, the Presidents of the European Council, European Commission, Eurogroup and ECB, issued a joint report "Towards a Genuine Economic and Monetary Union" that sets out the four essential building blocks for the future EMU: an integrated financial framework, an integrated budgetary framework, an integrated economic policy framework and strengthened democratic legitimacy and accountability. In order to address the negative feedback loops between the sovereign crisis and banking sector, EU financial fragmentation, and macroeconomic imbalances, the European Council of June 2012 asked for a road map for the achievement of such a genuine Economic and Monetary Union. As a first step, following a specific call from the Euro Area Summit, the European Commission presented on 12 September 2012 legislative proposals for the establishment of a single supervisory mechanism in Europe, with a view of achieving a Banking Union going forward. Separately, on 6 September, the ECB decided on a number of technical features regarding the Eurosystem's Outright Monetary Transactions (OMTs) in secondary sovereign bond markets. The stated aim of the OMTs is to preserve the singleness of ECB monetary policy and the proper transmission of the ECB policy stance to the real economy throughout the euro area. OMTs enable the ECB to address potential distortions in government bond markets and aim to act as an effective back stop to remove tail risks from the euro area. Combined with a number of other developments, these led to an improvement of financial market sentiment compared to the beginning of summer 2012. However, a number of key risks to EU financial system stability remain at the time of finalising this report.

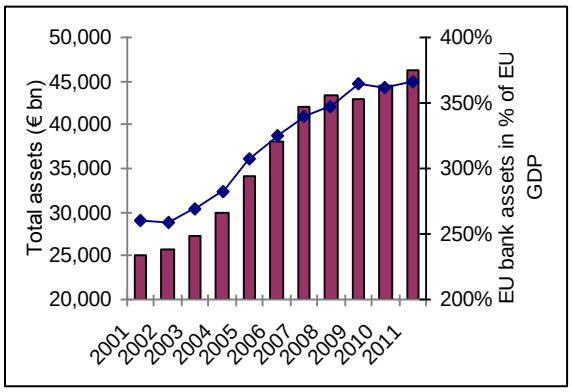
2.3 Looking backward: EU bank sector developments leading up to the crisis

2.3.1 Growth and size of EU banking sector

The increased role of financial intermediation is evident from the growth in the (relative) size of the European banking sector in the years leading up to the financial crisis. Total asset growth significantly outpaced EU GDP growth, with total assets of MFIs[8] in the EU reaching €43 trillion by 2008 (€32 trillion in the euro area), or about 350% of EU GDP (chart 2.3.1). With the onset of the crisis, there has been a slowdown in the relative growth of the sector to the EU economy, as evidenced by the stable ratio of GDP to total assets.

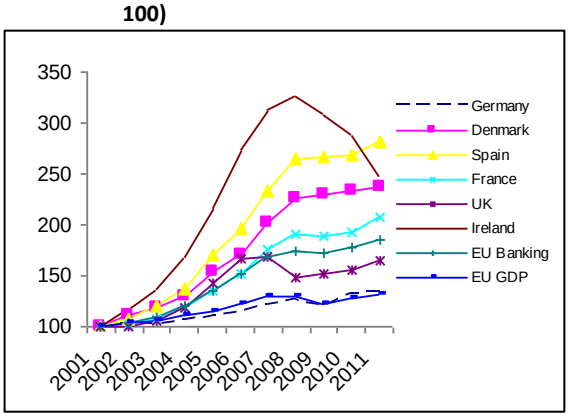
[8] "Monetary financial institutions" (MFIs) is the term used by the ECB. MFIs include credit institutions as defined in Community law, and other financial institutions whose business is to receive deposits and/or close substitutes for deposits from entities other than MFIs and, for their own account (at least in economic terms), to grant credits and/or make investments in securities. Note that money market funds are also classified as MFIs.

Chart 2.3.1: **Total assets of MFIs in EU 2001-2011**



Note: Bar charts show total assets, dotted line shows assets in % of GDP.
Source: ECB data.

Chart 2.3.2: **Total MFI assets 2001-2011 (index, 2001 = 100)**



Source: ECB data.

The EU aggregates mask the significant differences in sector size and growth rates between Member States (chart 2.3.2). For example, in the euro area, Ireland and Spain experienced the highest growth in bank assets, with double-digit annual growth during 2001 and 2008. High growth rates were also observed in the EU12 Member States (not shown in the chart, see Appendix 1), given the more limited bank sector development and resulting catch-up growth. Other Member States by comparison grew less in the years preceding the crisis. Correspondingly, there were also significant differences in the impact of the financial crisis, as discussed further below.

The European banking sector is large by international comparison (see Table 2.3.1). For example, US banking sector assets make up only 80% of US GDP, given that the US economy is much more market intermediated, and that mortgages are largely held on the balance sheets of government-sponsored entities Fannie Mae and Freddie Mac. Moreover, there are significant accounting differences between IFRS (largely applicable to EU banks) and US GAAP applicable to US banks, such that simple comparisons are inappropriate. IFRS-compliant EU bank balance sheet totals may give a significantly (upward) biased picture when compared to US GAAP compliant US bank balance sheets. Nonetheless, the differences in the size of the banking sector in Europe partly reflect the greater dependence on bank intermediation of the European economy, with bank credit being the main source of finance for the EU private sector.

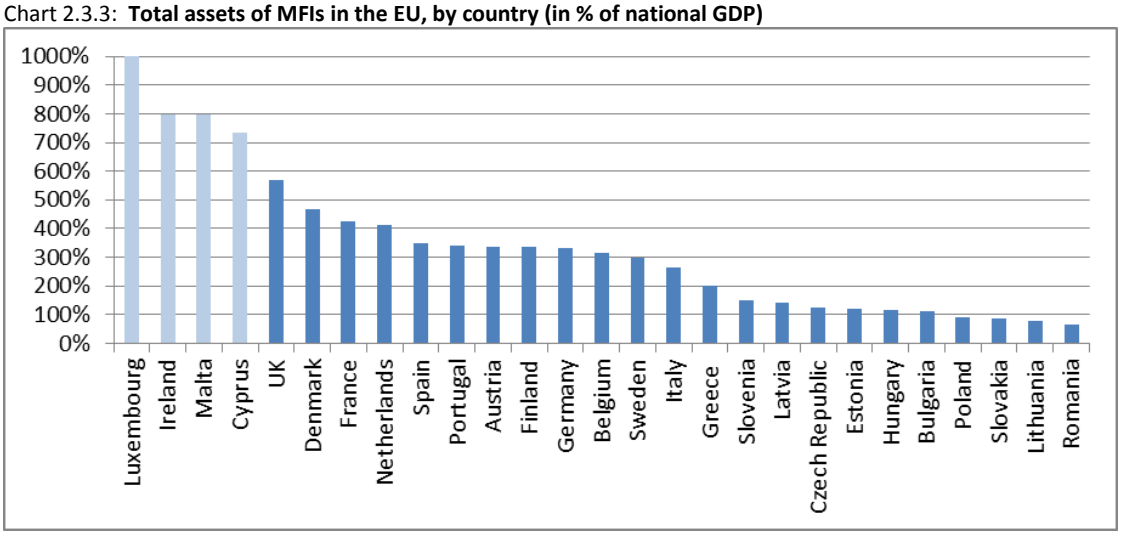
Table 2.3.1: **Size of EU, US and Japanese banking sectors (2010)**

	EU	USA	Japan
Total bank sector assets (€ trillion)	42.9	8.6	7.1
Total bank sector assets/GDP	349%	78%	174%
Top 10 bank assets (€ trillion)	15.0	4.8	3.7
Top 10 bank assets/GDP	122%	44%	91%

Notes: Top 6 banks for Japan.
Source: European Banking Federation (2011).

There is however significant variation in the size of the industry between European countries. The largest banking sectors in absolute terms are in UK, Germany and France, with total assets of MFIs amounting to €9.93 trillion, €8.52 trillion and €8.45 trillion, respectively. Relative to GDP, MFI assets in Luxembourg, Ireland, Malta and Cyprus appear largest, being offshore financial centres (chart 2.3.3).

Chart 2.3.3: **Total assets of MFIs in the EU, by country (in % of national GDP)**



Notes: Assets as of March 2012, GDP data for end 2011. Based on aggregate balance sheet of monetary financial institutions (MFIs). Vertical axis cut at 1000% (ratio for Luxembourg is 2400%). Data on MFI includes money market funds.
Source: ECB data. Eurostat for GDP data.

The rapid growth of the banking sector balance sheet intensified in a low interest rate environment and a surge in innovative, but often highly complex financial products that allowed banks (and other financial institutions) to expand their activities on- and off-balance sheet, without being constrained by the absence of equally strong growing deposits and helped by the general underpricing of risk by capital markets. Adrian and Shin (2008) provide evidence, that "Short term interest rates are determinants of the cost of leverage and are found to be important in influencing the size of financial intermediary balance sheets". The introduction of the Euro, as well as the build-up of macro-economic imbalances, also played an important role in explaining bank sector growth.

Banks have significantly expanded their activities over time.[9] Traditionally, banks predominantly took deposits and made loans to individuals and corporates (commercial banking). Some also underwrote stocks and bonds and provided advisory services (investment banking), and managed assets for individuals and institutions (asset and wealth management services). Over time, however, other activities became increasingly important, such as dealer and market making activities, broker activities for professional investors and hedge funds, and proprietary trading. The latter activities are more opaque, difficult to monitor and supervise, and more remote from core banking services. Such extension of bank activities gives rise to a substantial lengthening of intermediation chains between ultimate lenders and ultimate borrowers, in turn giving rise to increased interconnectivity and counterparty risk within the banking sector. The growth in banks' new activities was accompanied by rapid growth of institutional money and banks serving these new institutional clients.

From the early 2000s securitisation markets had grown in importance to such an extent that they created a "shadow" banking system built up by SPVs and SIVs, largely outside the scope of bank regulation. A variety of instruments contributed to the intermediation of credit outside the regulated banking system, ranging from ABCP to CDOs and many other types of ABS. The issuance of ABS mainly took place in the USA and dwarfs the issuance in the euro area and UK (see chart 2.3.4). But many banks in Europe had built up sizable positions in these markets either directly or indirectly, both for trading and for investment purposes.[10] The key drivers in the growing importance of these ABS positions were a general "search for yield", which led many investors to diversify away from

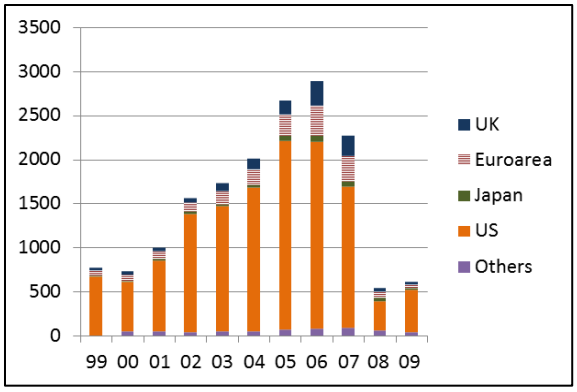
[9] See Richardson et al. (2010).

[10] See for example Table 1.3 of the April 2010 Global Financial Stability Report of the IMF.

equity markets after the bursting of the "dot com" bubble in the early 2000s, as well as the widespread reliance on -supposedly- risk free triple-A ratings, which many ABS tranches originally had. Overall, banks had significantly stretched their balance sheet against a backdrop of easy credit conditions, an environment of low interest rates and perceived low risk. In particular, many banks' large ABS positions were financed by historically high leverage and an over-reliance on short-term wholesale funding through repo markets.

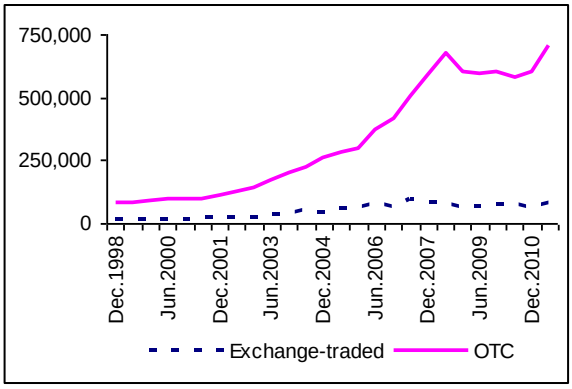
Over the same period, there was also a significant growth in derivatives. While in principle useful for hedging various kinds of risk, derivatives were also associated with speculation and excessive risk-taking and exacerbated the severity of the crisis by increasing counterparty risk and interconnectedness in the system. The growth in derivatives was particularly pronounced in the over-the-counter (OTC) market rather than in the regulated exchange-traded market (chart 2.3.5).

Chart 2.3.4: **Issuance of asset-backed securities 1999-2009 (€ billion)**



Source: Dealogic data.

Chart 2.3.5: **International derivatives markets, notional value of amounts outstanding 1998-2010 ($ billion)**



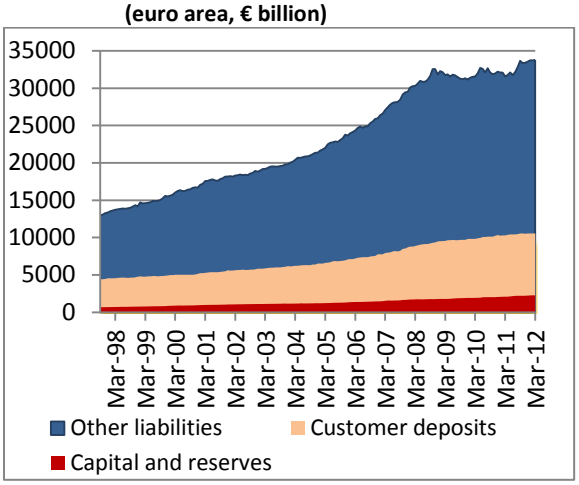
Source: BIS data.

2.3.2 Changes in the structure of EU aggregate banks' balance sheets

The total capital held by EU banks has become an increasingly thin slice of the aggregate EU balance sheet (chart 2.3.6). The increases in leverage meant that banks could expand faster and to a higher level than would have been possible had they maintained the same capital ratios as they held historically. The risk weighting and internal models introduced in Basel 2 supported this. It allowed banks to record relatively high rates of return on equity, but the increased leverage led to a lower resilience and reduced ability to absorb shocks and losses.

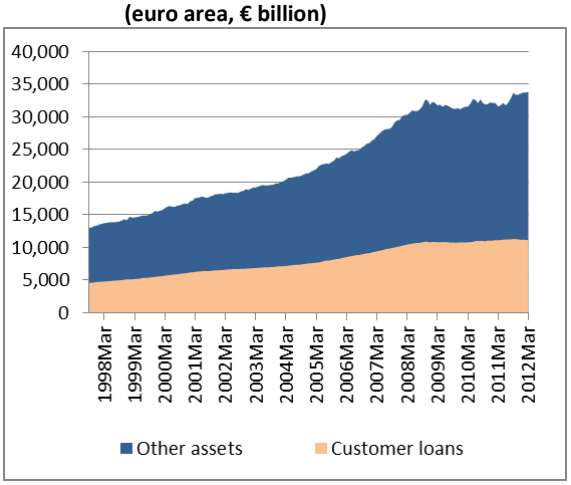
As regards non-equity funding, important developments occurred. Retail deposits grew roughly in line with EU GDP and did not allow bank balance sheet growth to outpace GDP growth. EU banks funded their rapid growth with funding in the interbank markets (unsecured) and wholesale repo markets (secured) instead.

Chart 2.3.6: **Evolution of liabilities of MFIs 1998-2012 (euro area, € billion)**



Notes: Customer deposits are deposits of non-monetary financial institutions excluding general government.
Source: ECB data.

Chart 2.3.7: **Evolution of assets of MFIs 1998-2012 (euro area, € billion)**

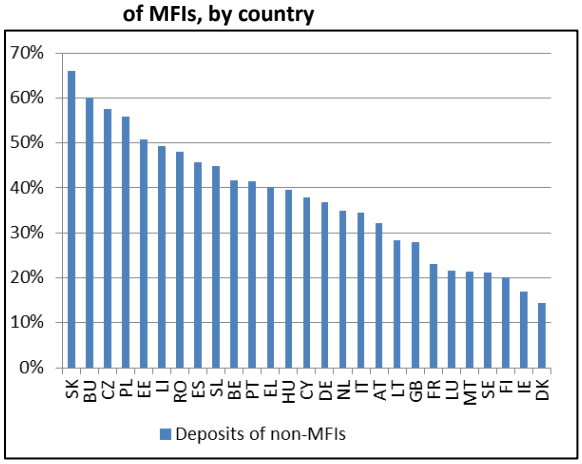


Notes: Customer loans are loans to non-monetary financial institutions excluding general government.
Source: ECB data.

Similarly, on the asset side of bank balance sheets, the relative importance of customer loans has fallen over time (chart 2.3.7). This applies in particular to loans to households and non-financial corporates. The proportion of interbank lending in total lending increased over time, reflecting greater interbank activity and interconnectedness between banks. Also, trading assets and other assets increased substantially, relative to banks' total assets.

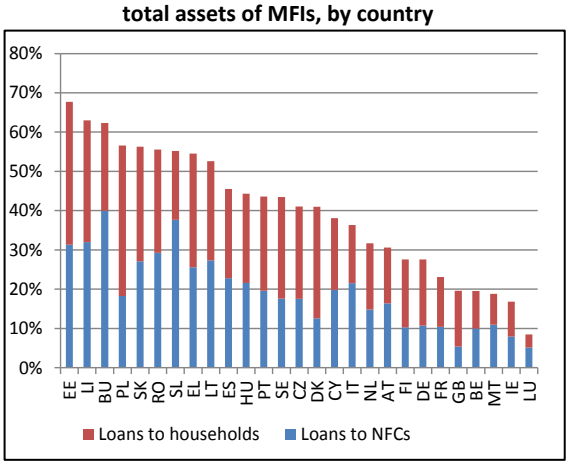
There is, again, significant variation between EU Member States, also reflecting the difference in bank business models, as discussed in more detail in Chapter 3. In addition, different Member States display different savings patterns (e.g. with households in some Member States saving less in the form of deposits and more, say, in pension and insurance products, for tax and other reasons) and financing patterns (e.g. with corporates more reliant on bank finance in some Member States, due to the size and liquidity of the local capital market, the structure of the corporate sector and other reasons). Charts 2.3.8 and 2.3.9 contain more statistics on the total balance sheet and the level of bank loans and deposits by country (as a percentage of total assets).

Chart 2.3.8: **Ratio of deposits of non-MFIs to total assets of MFIs, by country**



Notes: Shows deposits of non-monetary financial institutions (non-MFI) relative to total assets, as reported in aggregate balance sheet of MFIs per country. Deposits are those of domestic counterparties only, with domestic referring to euro

Chart 2.3.9: **Ratio of loans to NFCs and households to total assets of MFIs, by country**



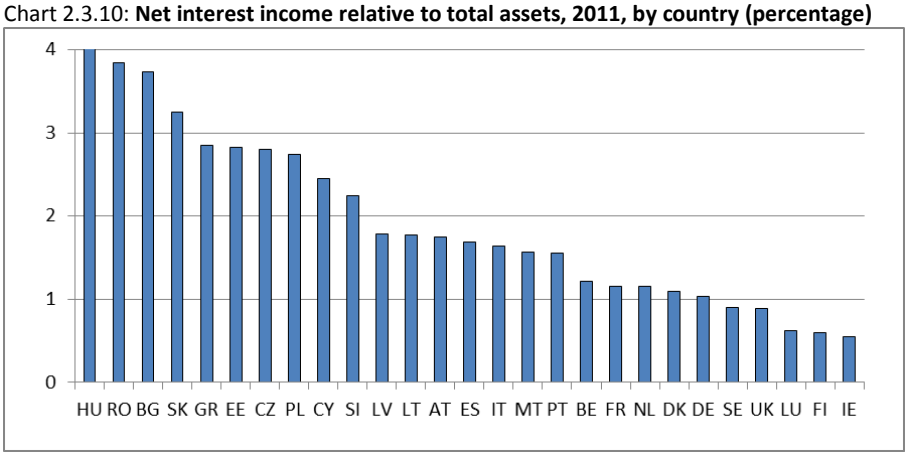
Notes: Shows loans to non-financial corporations (NFCs) and households relative to total assets, as reported in aggregate balance sheet of MFIs per country.

area for the EA17 members.
Source: ECB data (March 2012).

Source: ECB data (March 2012).

The shift in activities is not only evident when looking at the asset side of banks' balance sheets, but also from the evolution of the different income sources of banks. The share of net interest income which is typically associated with the basic lending and deposit-taking activities of banks has fallen, whereas the share of other income sources, including fees and commissions and other non-interest income, has risen. Once more, there are significant differences between Member States (and between banks). Banks in several Member States in Central and Eastern Europe (CEE) for example earn a high proportion of net interest income relative to total assets than banks in countries such as Sweden, UK, Finland, Ireland and Luxembourg, as measured by the share of net interest income relative to total assets (chart 2.3.10).

Chart 2.3.10: **Net interest income relative to total assets, 2011, by country (percentage)**

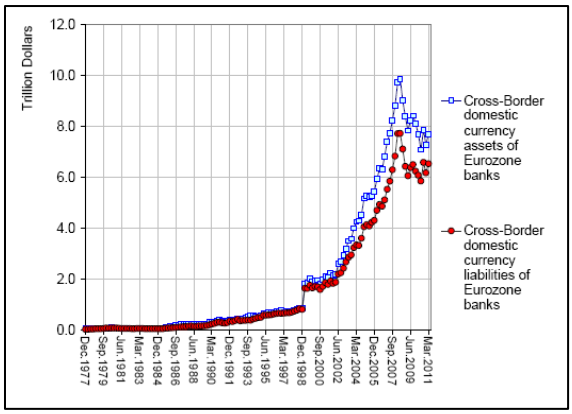


Source: ECB consolidated banking data.

2.3.3 Expansion of international business activity

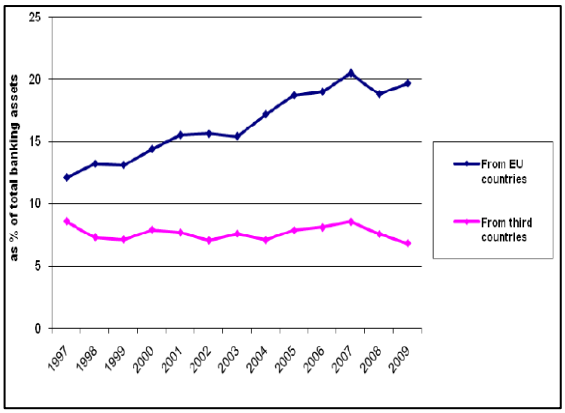
The growth in the banking sector was accompanied by an increased internationalisation of activities, both within the EU and globally. Financial integration occurred at a very rapid pace, spurring large credit and other capital flows between countries. European banks grew their international business particularly quickly (chart 2.3.11), aided by the single market in the EU and, within the euro area, the common currency.

Chart 2.3.11: **Cross-border assets and liabilities of euro area banks 1977-2011**



Source: Shin (2012).

Chart 2.3.12: **Share of cross-border banking assets in EU 1997-2009**



Note: Shows share of assets of non-domestic subsidiaries and branches relative to total banking assets. Measured for EU 27.

Source: Schoenmaker (2011), based on ECB data.

Cross-border penetration of EU banking markets also grew prior to the crisis (chart 2.3.12), in particular in the wholesale markets; but the degree of cross-border bank penetration differs significantly between EU Member States (see table 2.3.2). In some EU Member States, in particular the larger economies of the EU15, the share of assets of non-domestic banks is more limited—these Member States tend to export banking services to other Member States and are home to large banking groups. By comparison, in other Member States, including in particular several EU12 Member States, the banking sector is dominated by non-domestic banks which in some cases have a share of more than 80% or 90% of total bank sector assets.

Table 2.3.2: **Number and total assets of domestic credit institutions versus foreign subsidiaries and branches, 2011**

	No. of credit institutions	% domestic	% foreign	Total assets (€ billion)	% domestic	% foreign
AT	707	90.9	9.1	1,166	74.9	25.1
BE	17	58.8	41.2	1,147	48.5	51.5
BG	31	25.8	74.2	39	23.5	76.5
CZ	38	13.2	86.8	168	5.1	94.9
CY	39	15.4	84.6	125	68.4	31.6
DE	1,737	95.3	4.7	7,996	94.8	5.2
DK	113	95.6	4.4	920	87.7	12.3
EE	18	22.2	77.8	20	5.7	94.3
ES	230	44.3	55.7	3,915	92.1	7.9
FI	111	73.0	27.0	634	22.1	77.9
FR	17	82.4	17.6	6,674	96.7	3.3
GR	40	27.5	72.5	425	80.8	19.2
HU	172	82.6	17.4	110	39.1	60.9
IE	31	12.9	87.1	1,193	32.0	68.0
IT	67	86.6	13.4	2,794	91.5	8.5
LT	19	21.1	78.9	24	9.9	90.1
LU	141	7.1	92.9	795	7.9	92.1
LV	28	42.9	57.1	26	37.7	62.3
MT	26	38.5	61.5	52	20.2	79.8
NL	92	31.5	68.5	2,832	88.8	11.2
PL	640	91.9	8.1	297	36.2	63.8
PT	109	50.5	49.5	513	77.8	22.2
RO	39	17.9	82.1	84	16.7	83.3
SE	23	87.0	13.0	1,618	99.6	0.4
SI	21	47.6	52.4	53	72.6	27.4
SK	30	13.3	86.7	55	11.0	89.0
UK	177	51.4	48.6	11,143	69.0	31.0
Total EU	4,713	78.3	21.7	44,818	80.1	19.9

Source: ECB consolidated banking data. Note that the definition and scope of this data is different compared to the MFI data set of Chart 2.3.1, e.g. capturing credit institutions and is measured at consolidated level.

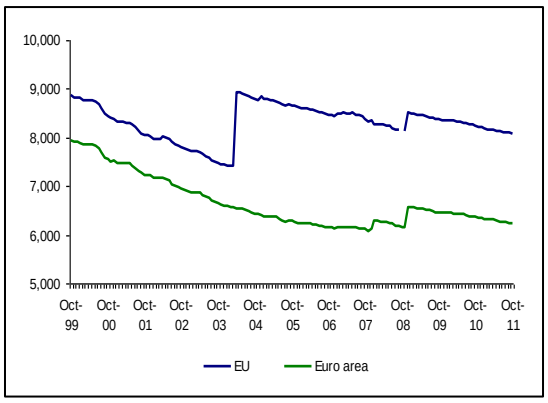
2.3.4 Sector consolidation and the emergence of very large institutions

The EU banking sector has undergone continuous consolidation (chart 2.3.13). The largest institutions have generally grown bigger over time (chart 2.3.14). Further consolidation can be

expected, spurred by the impact of the crisis (see also section 2.5.1). As a result, market concentration is likely further to increase over time (although the banking sectors in many EU Member States remain less concentrated than some other industry sectors).

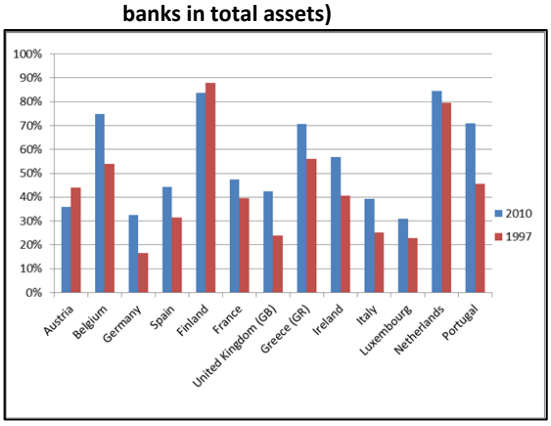
In general, measures of market concentration cannot be mapped one-to-one onto the alleged degree of competition, or the lack thereof, of the sector. The latter will also, and importantly, depend on the contestability of the sector, i.e. the ability of new entrants to enter and credibly challenge incumbents.[11] In the banking sector, entry can be considered suboptimal from a competition point of view, due to formal and informal barriers to entry for domestic and foreign banks, activity restrictions, other regulatory requirements, lack of transparency and switching costs.[12]

Chart 2.3.13: **Number of MFIs 1999-2011**



Notes: The jumps in the series are due to enlargement or entry into the euro area.
Source: ECB data.

Chart 2.3.14: **Concentration ratio (market share of top 5 banks in total assets)**



Source: ECB data.

Over time, some very large financial institutions have emerged that focus on a broad mix of activities and coexist in the market with a large number of smaller, more specialised institutions with different ownership structures, including public banks, cooperatives and savings banks, as further discussed in Chapter 3.

The nine largest European banks have total assets exceeding €1 trillion at end 2011 and are headquartered in the UK, Germany, France and Spain. For some, total assets are well in excess of the national GDP of the county in which they are headquartered. Even in comparison to total EU GDP, those banks appear large also in global terms. Half of the world's largest 30 banks by total assets as reported in 2011 are EU banks.

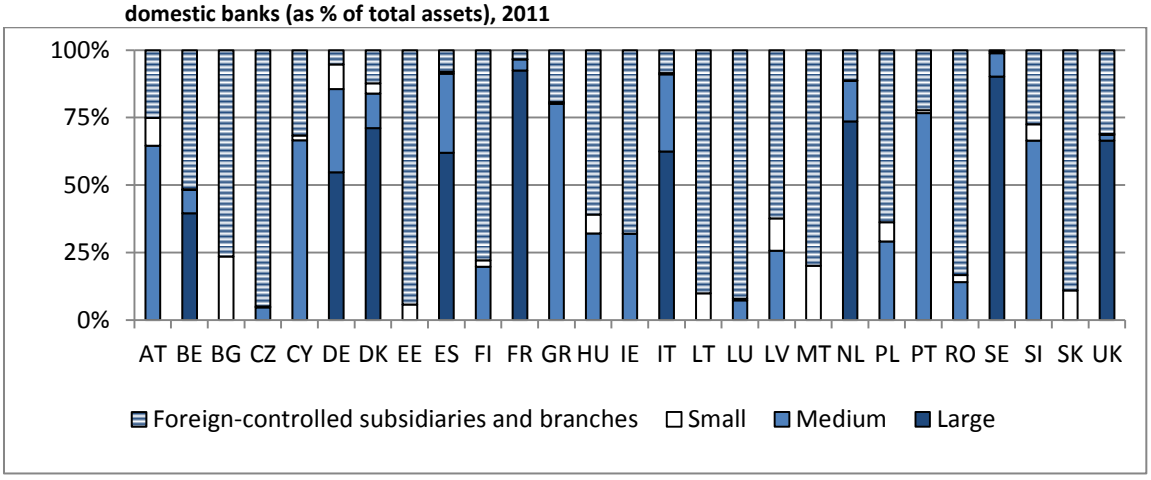
While some banking markets are dominated by large domestic banks (e.g. France, Sweden and UK), others are characterised by a more diverse banking market that also has smaller banks (e.g. Austria, Germany and Spain) or, in the case of the EU12 and a few other Member States, the markets are

[11] No full-fledged competition analysis of the EU banking sector has been carried out given the short time frame available and the complexity and broad ranging nature of the topic, but the general statements made here can be backed up by findings in relevant studies and reports, such as European Commission (2007), UK House of Commons (2011), and others.

[12] Formal barriers to entry refer to legal entry requirements and supervisory approval, as banking is a licensed industry. Informal barriers may include economies of scale and scope (at least up to a minimum size and complexity and depending on the activity mix, see Appendix 4 of Chapter 3 for a literature review), reputation, privileged access to inputs or technology, established sales and distribution networks, risks and costs of failure, and the behaviour of dominant incumbents.

dominated by foreign players (chart 2.3.15). Thus, when it comes to size, banking sectors differ not only in their aggregate size, but also in the size of the individual banks.

Chart 2.3.15: **Total assets held by foreign-controlled subsidiaries and branches and small, medium, and large domestic banks (as % of total assets), 2011**



Source: ECB consolidated banking data.

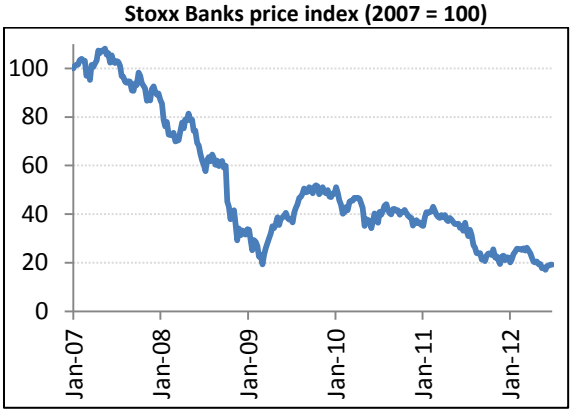
2.4 Impact of the financial crisis

2.4.1 Impact of the financial crisis on banks

The banking sector in the EU and elsewhere experienced significant losses during the different waves of the crisis, which for some banks were particularly severe.[13] The losses are also reflected in banks' share price performance (chart 2.4.1) and return on equity (chart 2.4.3). The average cumulative total returns of euro area, UK, and US financials were extraordinary high in the period 2000-2007, but were subsequently wiped away entirely as the crisis struck (chart 2.4.2). As regards the book return on equity, following sharp losses for many banks in 2008 and 2009, profitability recovered somewhat in 2010, but deteriorated again in 2011 (chart 2.4.3). While in the first half of 2011 profitability indicators remained on a level comparable to 2010 on average, the dispersion in profits increased and some banks experienced sharp declines in profitability.

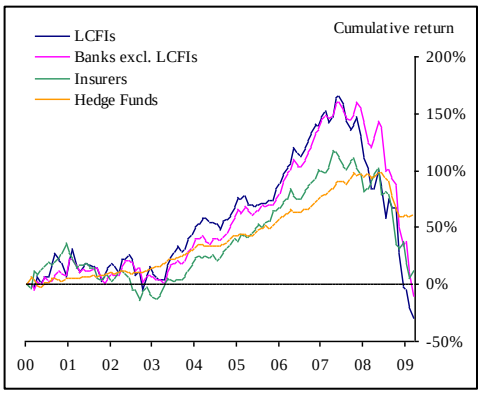
[13] A number of case studies are presented in chapter 3.

Chart 2.4.1: **Stock market performance: Dow Jones Euro Stoxx Banks price index (2007 = 100)**



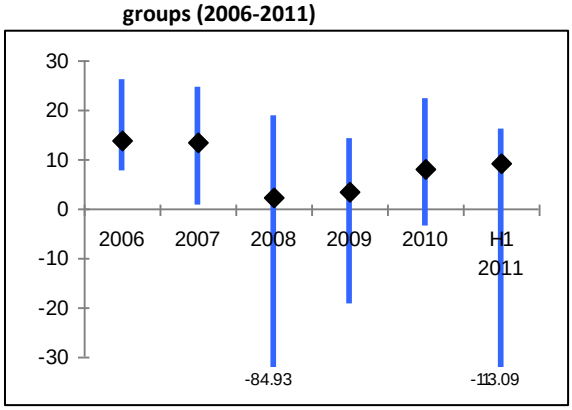
Source: Bloomberg data.

Chart 2.4.2: **Cumulative returns 2000-2009 for different financial institutions**



Notes: Shows weighted average market capitalisation cumulative returns for a sample of banks and insurers in S&P 500, FTSE, All Share and DJ EuroSTOXX indices as of March 2009. Excludes firms for which returns not quoted over entire sample period. Source: As reported in Haldane et al. (2010).

Chart 2.4.3: **Return on equity for large euro area banking groups (2006-2011)**



Notes: Based on sample of 20 euro area banking groups. Shows minimum, maximum and median.
Source: ECB data.

2.4.2 State aid to the benefit of banks

During October 2008 to end 2010, European governments used a total of €1.6 trillion of state aid to support the banking sector, in the form of guarantees and liquidity support, recapitalisation and asset relief measures (see Box 2.2). It was perceived that, without government intervention, a systemic crisis with serious consequences for the economy would have materialised (see Box 2.2).

Box 2.2: **State aid measures in the context of the financial and economic crisis**

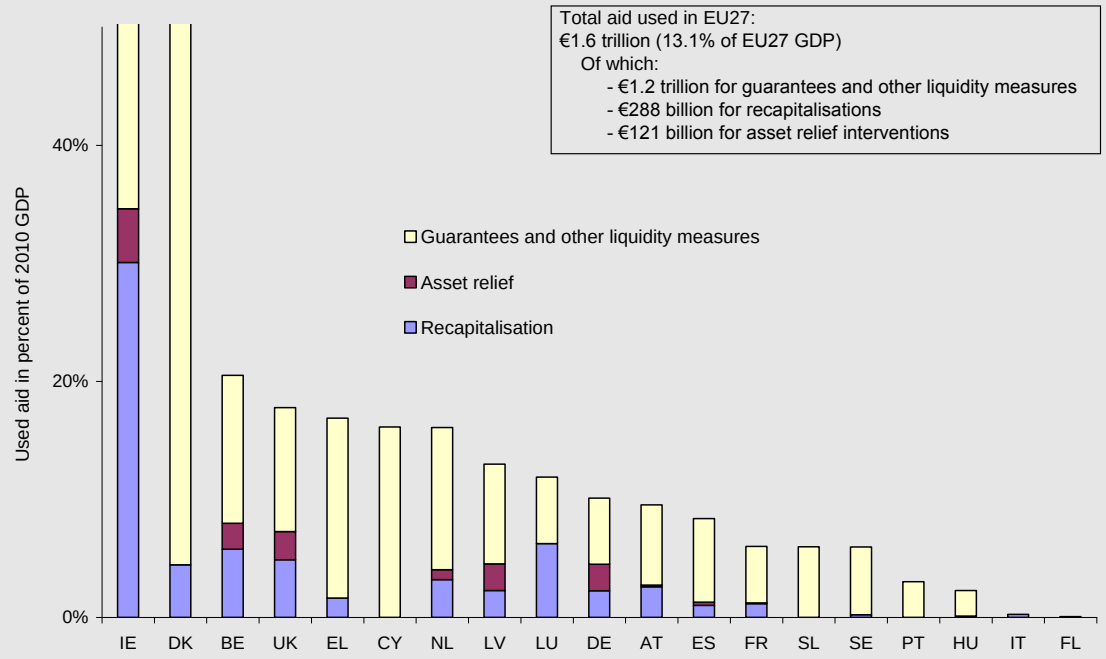
Between 2008 and October 2011, the national parliaments of the Member States committed in total to €4.5trillion (36.7% of EU GDP) of state aid measures, the majority of which in the form of guarantees on bank liabilities with maturities up to 5 years.

Parliamentary approved amounts of state aid in the period 10/2008-10/2011 in the EU:

	Guarantees	Liquidity measures	Recapitalisation	Impaired assets	Total	
Years	€ billion	€ billion	€billion	€billion	€ billion	% of GDP
2008	3097	85	270	5	3457	27.7
2009	88	5	110	339	542	4.6
2010	55	67	184	78	384	3.1
2011	49	40	34	0	123	1
2008-11	**3290**	**198**	**598**	**421**	**4506**	**36.7**

In terms of actually used state aid (as opposed to approved by the respective parliaments), the overall amount during October 2008 and end 2010 amounts to €409 billion for recapitalisations and asset relief measures, plus €1.2 trillion for guarantees and other liquidity measures. The amounts of state aid actually granted during the crisis have been concentrated in a few Member States and a limited number of institutions, even though the effects of direct aid have indirectly benefited the banking sector at large.

Amounts of state aid actually used by the financial sector



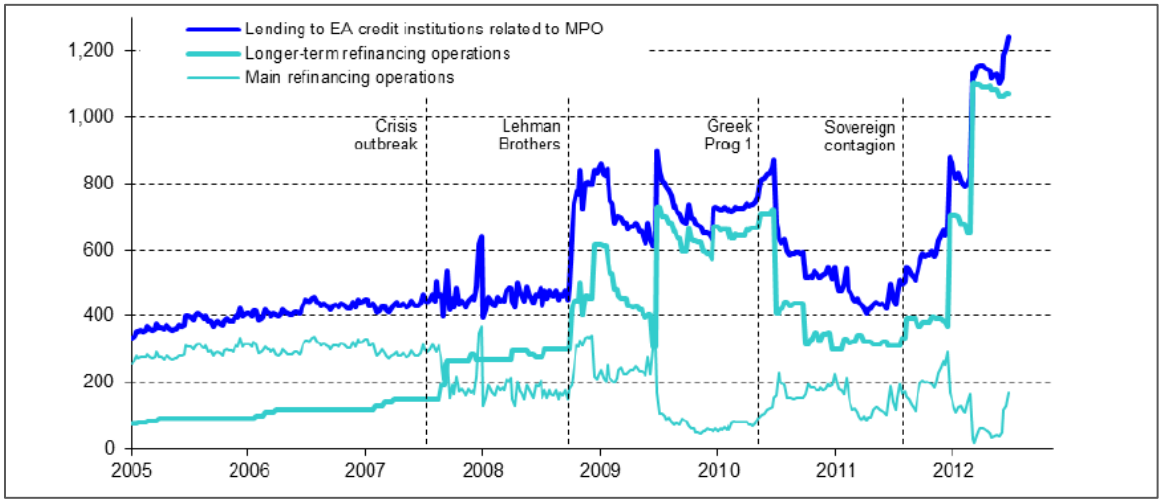
Notes: Shows total amounts of used aid during October 2008 and December 2010, in percent of 2010 GDP. Vertical axis cut at 50%, such that high values for Ireland (269%) and Denmark (67%) are not shown. Eight Member States with zero amounts of used aid are omitted.
Source: European Commission (2011a).

It is noteworthy that a number of European banks that did not receive explicit state aid from their own national governments still benefited from other state support. For example, US authorities paid out significant amounts to settle exposures of its financial institutions, including most prominently AIG. AIG had insured obligations of various financial institutions (including European banks) through the usage of credit default swaps (CDS). However, AIG did not have the financial strength to support

its many CDS commitments (calls for collateral) as the crisis progressed and was effectively taken over by the government in September 2008.[14] Had the US allowed AIG to fail, it is not all clear how any of the banks exposed to AIG counterparty risk would have fared faced with the additional losses (EU banks included), the drain on their capital, and the indirect effects of the turmoil that would have followed in the markets to which they were exposed. More generally, many banks that were not direct recipients of state aid benefited indirectly from bail-outs as creditors of the bailed-out institutions.

In addition to the state aid granted by governments, the ECB and other European central banks provided significant amounts of liquidity support to banks. By the end of 2010, conditions had improved and banks' positions with the ECB returned to pre-crisis levels (see chart 2.4.4). However, with the increased sovereign debt problems from summer 2011 onwards, euro-area banks again started to increasingly rely on Eurosystem liquidity. The two long-term-refinancing operations (in December 2011 and February 2012) pushed total Eurosystem (gross) lending to euro-area banks related to monetary policy operations (MPOs) to some €1.1 trillion. The net liquidity added by the LTROs was about €520 billion, as there were many reallocations from shorter-term loans to the new three-year facilities and the maturing six-month facility was not renewed.

Chart 2.4.4: **Liquidity providing operations of the Eurosystem (€ billion)**



Source: ECB data.

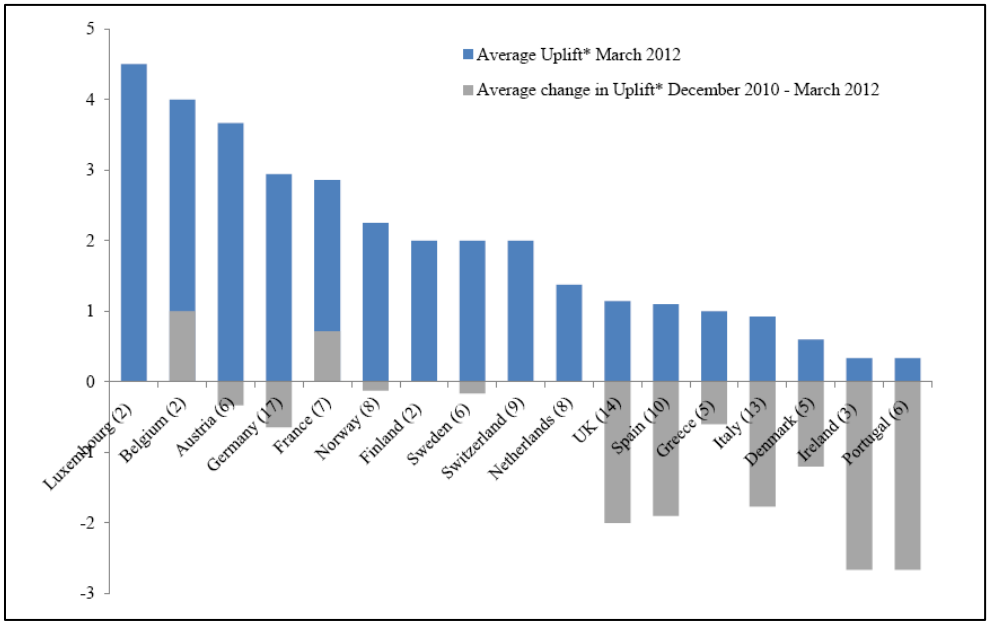
Even where banks did not receive any explicit state aid or liquidity support, they (or their creditors) may have benefited from significant implicit subsidies. While bank equity holdings have been severely diluted, bank debt holders of many failed (and non-failed) banks did not face any losses. To the extent that banks and creditors did not pay for this guarantee, it can be considered an implicit subsidy for banks that are "too systemic to fail". The implicit support is, amongst others, evident from the credit ratings of banks, which typically involve a "stand-alone rating" and a (higher) "support rating". Whereas the former assesses the bank's creditworthiness by looking at the net cash flow generation of the business activities as such, the latter takes into account the extent to which the bank implicitly enjoys backing from the state. Chart 2.4.5 shows the assessment by Moody's of the systemic support uplift for a sample of banks in different EU Member States in March 2012 and how it has changed since December 2010. Notably, the uplift has decreased markedly for two groups of Member States. The first group are EU Member States under a Troika programme obligation, reflecting their aggravating sovereign creditworthiness problems and reduced ability to of the

[14] Office of the Special Inspector General for the Troubled Asset Relief Program (2009).

sovereign to stand behind domestic banks. A second group (mainly UK and DK) is perceived by the market as being less likely to support their banks in view of recent regulatory reforms aimed at improving resolvability.

It is inherently difficult to quantify the value of the implicit subsidy, which varies over time and becomes larger in times of crisis and also depends on the strength of the sovereign standing behind the banks, the resolution arrangements in the country, the size and perceived systemic importance of the banks, etc. However, the available evidence suggests that the transfer of resources from the government to the banking system via the implicit subsidy is significant. The available evidence also indicates that 90% of all implicit subsidies are channelled to the largest institutions, and much less so to medium-sized and small institutions (see Noss and Sowerbutts, 2012).

Chart 2.4.5: **Systemic support uplift of credit ratings of large international EU banks and changes during 2010-2012**



Notes: Uplift measured in terms of notches between all-in credit rating and stand-alone credit rating without systemic support. Number of headquartered banks in sample shown in parenthesis. Based on Moody's ratings in December 2010 and March 2012.
Source: Schich and Lindh (2012).

The implicit subsidy causes different types of distortion:[15]

- Competitive distortions—banks that benefit from the implicit subsidy have a competitive advantage over those that do not. Guaranteed banks can benefit from cheaper funding to expand their business at the expense of non-guaranteed banks;

- Excessive risk-taking—given the implicit guarantee, investors do not fully price in bank risk-taking and banks are incentivised to take more risk than they would if their cost of funding reflected their activities; and

- Misallocation of resources to banking sector—guaranteed funding allows banks to grow more cheaply, diverting resources from other sectors of the economy, such as talented human capital, than would be the case in the absence of the subsidy.

Reducing the implicit subsidy is therefore a key concern for policy makers (see also below).

[15] For a more detailed review, see Noss and Sowerbutts (2012) and Schich and Lindh (2012).

2.4.3 Impact of the financial crisis on the wider economy

Importantly, the costs of banking crises go beyond the costs of explicit or implicit fiscal support and the central bank liquidity provision. While not all of the adverse economic consequences since the onset of the crisis can be attributed to failures in the banking sector, the banking sector had a key role to play, not only in terms of the costs of bailing out the banks, but also the costs related to the misallocation of resources and boom-bust cycles experienced in a number of Member States.

The financial crisis has triggered a recession and significant job losses in the EU. The unemployment rate increased from a pre-crisis low of 7.3% to 11.1% in May 2012 at euro area level (10.4% at EU level). This average conceals sharp differences across Member States with the lowest rate in Austria (4.1%) and the highest rate in Spain (24.6%). 24.7 million people are unemployed in the EU, of which 10.3 million are long-term unemployed. The number of unemployed has increased by more than 8 million compared to March 2008. Average youth unemployment reaches 22.4%, with unemployment rates exceeding 45% in Greece and Spain, and exceeding 30% in several other Member States.

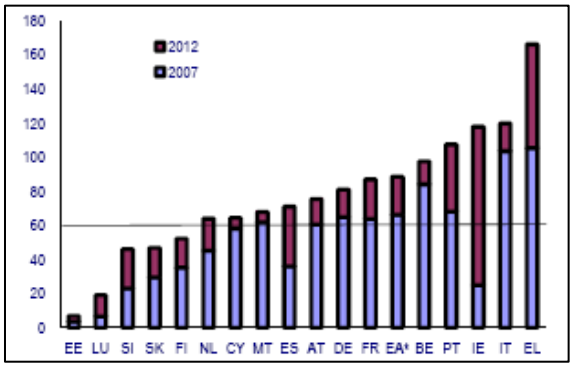
There has been a significant increase in public debt levels (chart 2.4.6), which will imply higher debt servicing costs for future generations and which can at least partly be attributed to the direct and indirect costs of bailing out the banks. Laeven and Valencia (2012) estimate that on average for the period 1970-2011 the increase in public debt due to banking crises in advanced economies amounts to 21% of GDP. The euro area currently stands at 20%, whereas the US does worse with 24% of GDP, but the crisis is not yet over.

Output has fallen particularly sharply in 2008/09 (chart 2.4.7), and the weak growth is expected to persist in 2012 and possibly beyond. The final costs associated with output losses are yet to be determined. But experience from previous systemic banking crises suggests that these are significant. Laeven and Valencia (2012) estimate that the cumulative output loss of banking crises in advanced economies in the period 1970-2011 on average amounts to 33% of GDP (measured cumulatively in net present value terms and as the deviation from trend GDP). For the euro area the current output loss stands at 23%, whereas the US again does worse with 31%; but the final outcome is hard to predict given the ongoing bank-sovereign feedback loop that puts a further burden on several EU Member States. BIS (2010d) provides a median estimate of the cumulative (net present value) cost of a financial crisis of 63% of GDP. They estimate that a major financial crisis occurs in 4.5% of years, i.e. every two decades or so.

Regardless of whether crisis-country output returns to its pre-crisis level slowly or quickly, it is still likely to have lasting costs. First, there are the missed years of growth that would presumably have happened in the absence of the crisis. Second, the real estate boom in a number of Member States has led to a misallocation of economic resources that now require a very costly redeployment into other sectors of economic activity. Third, there is the very real possibility that output growth will be permanently slower as a consequence of the crisis.

The financial crisis also had a significant impact on the financial position of European households, reflecting a combination of a rise in unemployment, low or stagnant wage growth, higher inflation, rises in indirect taxes, and authority measures restricting governments' room for manoeuvre. The number of people running into debt problems has risen, and there are signs of rising poverty in many Member States. The crisis affected households' capacity to service existing loans and their ability to continue or increase such borrowing. There has been a sharp rise in mortgage arrears in some Member States, such as Spain and the UK, as well as house repossessions in several EU markets. While the actual detriment to households was greater in some Member States than in others, there has been a general erosion of consumer confidence and trust in the financial sector.

Chart 2.4.6: **Public debt in euro area (% of GDP)**



Source: European Commission (2011c).

Chart 2.4.7: **Real GDP growth rate (% change per annum)**

Source: Eurostat data.

2.5 Developments since the financial crisis

2.5.1 Banking sector restructuring, deleveraging and derisking

Given the severity of the crisis, one may have expected a rapid restructuring of the banking sector, including a reduction in capacity and the exit from the market of the weakest firms. However, the restructuring of the EU banking sector on aggregate has been relatively limited to date.[16] Some countries have introduced or are introducing reforms to restructure their domestic banking sector, but at EU aggregate level there has not yet been a notable post-crisis decline in the size of the banking sector, as measured by the level of total assets. While there has been a halt in the growth of banks' balance sheet compared to the pre-crisis years, total EU bank assets have not declined (see Chart 2.3.1 above). The crisis has also not yet triggered any measurable acceleration in the consolidation trend in the EU banking sector, and M&A activity remains subdued. The picture is however more mixed in a country-level analysis, as some Member States have seen significant declines in bank balance sheets, whereas others have seen increases in bank assets; and consolidation has been more prominent in some banking markets than in others.

The limited impact of the crisis on wider sector restructuring can be partly attributed to the significant liquidity support provided by central banks and the state aid granted to banks by national governments in order to stabilise the banking sector and wider financial markets, as set out above. Member States did not have an adequate crisis management mechanism for the resolution of banks and, even where such arrangements were in place, they were not consistently implemented. Most banks were therefore deemed as too systemic to fail, even when relatively small. As a consequence, the EU only dealt with a few liquidations of small banks[17], unlike the US banking sector which witnessed more than 400 small- and medium-sized orderly bank failures since Lehman Brothers bankruptcy on 15 September 2008 (Washington Mutual being one of the biggest). Thus, the significant amounts of state support to banks have in many cases prevented (or at least delayed) the reorganisation of the banking sector to limit financial instability and adverse negative consequences on the economy.

[16] For a more detailed account of the evolution of bank sector structure since the crisis, see European Commission (2012a).

[17] Formal liquidation cases have included Fiona Bank (DK), Roskilde Bank (DK), EIK (DK), Amagerbanken (DK), Kaupthing Bank (FI, LU), Anglo Irish (IE), and Bradford & Bingley (UK).

However, the return to normal market conditions will require a phasing out of existing support schemes and state exit, as well as a restructuring of the supported banks to ensure their long-term viability and avoid market distortions.

Wider sector restructuring can be expected to continue and increase, irrespective of structural reforms at EU level. This is for a number of reasons:

- **Market induced restructuring, derisking and deleveraging**—financial markets are changing fast. Whereas (unsecured) interbank markets were among the most liquid and deepest markets that existed prior to the crisis, they have proven dysfunctional for prolonged periods during the crisis. While covered bond issuance has been resilient throughout the crisis and is likely to remain so, the most complex types of securitisation such as CDO and CDO-squared seem impaired beyond repair. Markets are already forcing business model changes that will come about when Basel 3 is fully implemented. As discussed in more detail below, in response to the crisis and continued financial pressures, banks have started to de-risk their businesses and to exit from non-strategic markets. This includes putting up for sale their capital-dilutive businesses that fail to meet rate of return targets.
- **State aid restructuring obligations**—As part of its state aid control, the Commission imposed strict conditions on aided banks, including divestment of businesses and activities.[18] Although significant for the banks under restructuring obligations, state aid control restructuring plans have not been the dominant cause of divestment within the EU to date.[19] Many of the EU top sellers since 2008 were banks free of state aid obligations, and many of the top acquirers were either banks which did not receive state support or were considered sound by the Commission. Thus, much of the (overall limited) restructuring to date was instead driven by banks' restructuring on their own initiative, which was also a means to avoid government support. State aid requirements are also unlikely to be the dominant cause for restructuring going forward. State aid has been concentrated in a comparatively small number of banks. Moreover, divestments in the context of restructuring requirements amount to a small percentage of total bank sector assets and are spread over a relatively long five-year time horizon.
- **Ongoing regulatory reforms**—Ongoing regulatory reforms, which are set out in more detail in Chapter 4, are likely to spur further sector restructuring. For example, the new capital and liquidity requirements that come into force will increase financial pressures and make it more difficult for banks to sustain return on equity targets and will require important funding model revisions. This may further encourage banks to concentrate resources on best-performing areas and divest businesses which are sub-scale and non-core. Also, effective arrangements for bank resolution, once implemented, can also be expected to spur further restructuring, allowing the orderly winding-up and market exit of the weaker banks in the market. In addition, various national structural reform proposals (including the Volcker Rule in the US and the Independent Commission on Banking (ICB) proposals in the UK) will, once implemented, have an impact on some EU banks' structures depending on their functional and geographic operations.
- **Wider economic, societal and technological changes**—there are a number of wider changes that are likely to affect the future of EU banking and that may result in a restructuring of banks. This includes, for example, the consequences of deleveraging on the parts of

[18] This includes, for example, ING, which is divesting its insurance operations, KBC, which will run down its non-core activities in particular in the CEE, and RBS, which is required to carve-out and sell parts of its UK SME and mid-corporate banking business and engage in further domestic and international divestment.

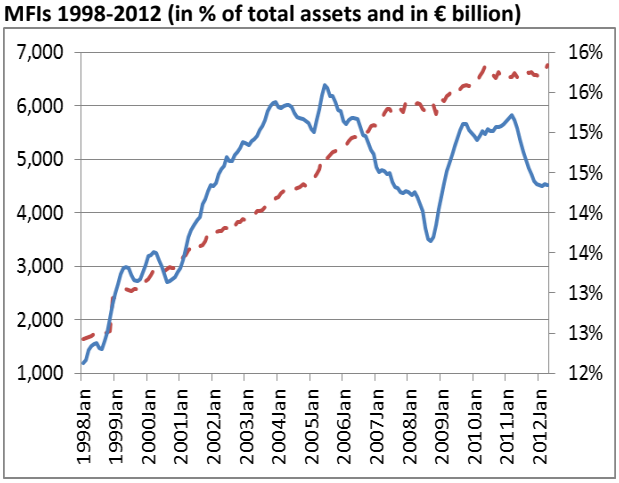
[19] See European Commission (2011b).

customers (in particular in those Member States where indebtedness levels have risen sharply before the crisis) or other economic and societal changes that may affect customer demands (e.g. population ageing). Furthermore, the role of European banks is changing internationally, for example given the growth of banks from China or other BRIC countries which are increasingly competing in some of the international markets served by European banks.

In response to the crisis, many banks have started to derisk their business. This includes the deleveraging of banks' balance sheets—by increasing equity capital and/or disposing of assets—as well as changes in funding structures and other derisking, including, for example, changes in bank risk management.

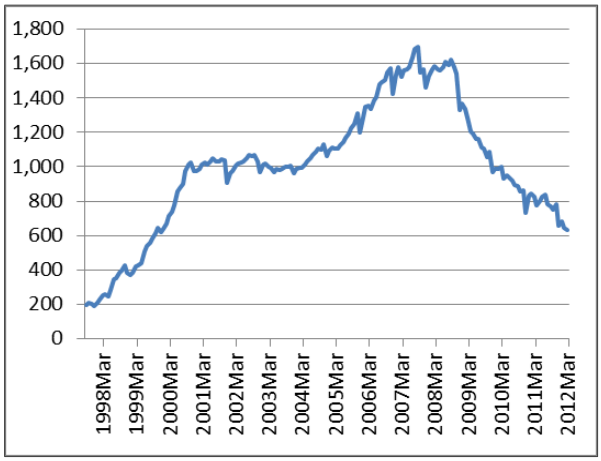
As regards changes in funding structures, prior to the crisis, many banks increasingly relied on short-term wholesale funding (chart 2.5.1). Since the crisis, banks have had to re-adapt their funding structures towards more stable funding sources, such as customer deposits and equity while reducing their exposures on short-term wholesale and interbank funding. For example, the share of customer deposits in total funding increased and correspondingly the funding gap, as measured by the difference between customer loans and deposits, significantly decreased since the start of the crisis, after having increased in the years leading up it (chart 2.5.2). Nevertheless, many banks continue to rely to a significant degree on interbank and other wholesale funding markets.

Chart 2.5.1: **Short-term wholesale funding of euro area, UK, SE, and DK MFIs 1998-2012 (in % of total assets and in € billion)**



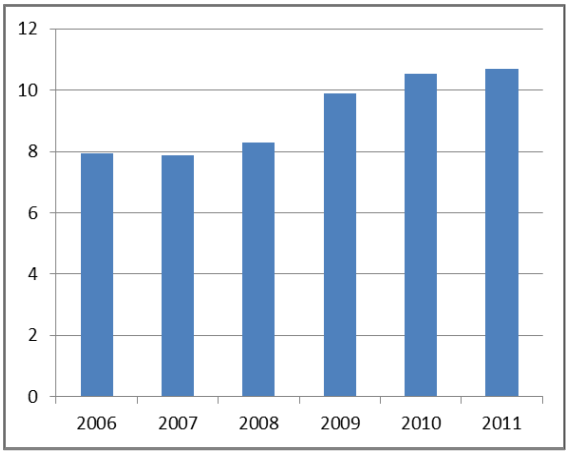
Notes: Short-term wholesale funding is defined here as overnight deposits, repo funding, and money market fund shares. The full line (right-hand scale) expresses it in % of total assets. The dotted line (left-hand scale) expresses it in € billion.
Source: ECB data.

Chart 2.5.2: **Deposit funding gap of euro area banks**



Notes: Shows difference between loans to and deposits from non-monetary financial institutions, based on aggregate balance sheet of MFIs in euro area.
Source: ECB data.

Chart 2.5.3: **Tier 1 capital ratio of EU banks (%)**



Source: ECB consolidated banking data.

As regards equity funding, banks' regulatory capital ratios also improved since the onset of the crisis (see chart 2.5.3). A number of banks tried to raise equity by tapping capital markets, also in preparation for the new stricter capital requirements (see discussion on current regulatory reforms in Chapter 4) and to meet the requirements of the bank recapitalisation exercise coordinated by the EBA, namely for banks to achieve a temporary 9% core tier 1 capital ratio by end June 2012. However, equity capital markets have largely been closed due to greater reluctance of investors to invest in banking stocks.

Banks have also tried to achieve higher capital targets by downsizing regulatory capital intensive activities and selling assets, in particular those that are non-core or those that do not meet profit targets and rely on cross-subsidisation from other parts of the business.

Based on EBA's assessment of bank's capital plans in mid-2012 (EBA, 2012), the vast majority of the banks covered met the target 9% core tier 1 capital ratio, and for the few banks that did not, backstop measures are being implemented. More specifically, the recapitalisation exercise led to an aggregate €94.4 billion recapitalisation for 27 banks – largely exceeding the €76 billion shortfall identified in December 2011 - and to a significant restructuring of the remaining four banks. This has been mainly via measures which have a direct impact on capital (retained earnings, new equity, and liability management). The EBA's assessment also concludes that the exercise did not lead to reduced lending to households and corporate or to fire sales of assets. Overall, the recapitalisation is seen as a necessary step in repairing banks' balance sheets across the EU, but significant challenges remain also to comply with the new regulatory capital standards going forward (see Chapter 4).

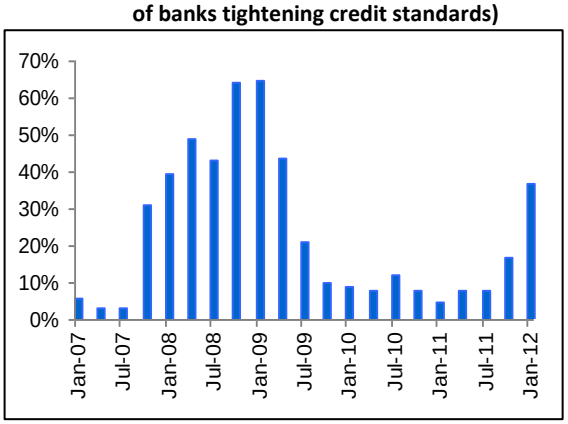
2.5.2 Consequences for bank intermediation

Given concerns about bank balance sheet expansion and excessive leverage before the crisis, there is clearly a structural need for further balance sheet deleveraging. Deleveraging is also required for the public sector and households in many Member States, where debt levels have increased to high levels. Deleveraging is a normal process that occurs after any credit crisis. As regards bank deleveraging, this can be achieved in different ways (see above). Also, to the extent that excessive intermediation is being reduced and intermediation chains are being shortened again, deleverage can reduce the interdependence of banks.

However, there is a risk of bank deleveraging being excessive or disorderly, and that this will result in reduced lending to the real economy. Banks have tightened their credit conditions at the end of 2011 and the first months of 2012 (chart 2.5.4). Bank deleveraging may also push down the prices of securities and give rise to additional losses. These losses may in turn lead to higher leverage which causes even more pressure to sell securities to compensate for this effect.

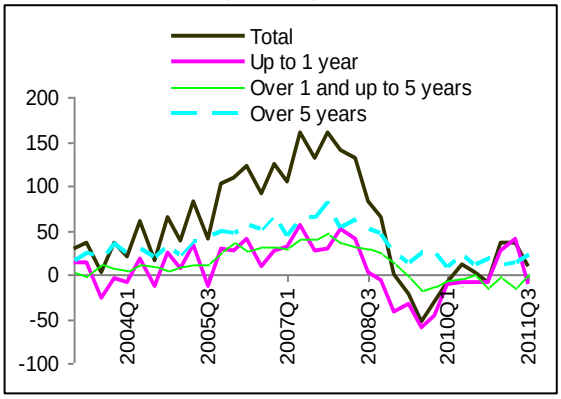
Actual flows of credit have also fallen in the euro area, although this is partly reversing pre-crisis excesses (chart 2.5.5). Also, it reflects not just changes in the supply of credit, but also a reduction in credit demand given the weaker economic climate and outlook.

Chart 2.5.4: **Credit standards in loans to corporates (% of banks tightening credit standards)**



Notes: Shows percent of surveyed banks that tightened the credit standards on loans to corporates in the previous quarter.
Source: ECB bank lending survey.

Chart 2.5.5: **Quarterly flows of MFI loans to NFCs in euro area (€ billion)**



Source: ECB data.

With bank lending more difficult to obtain, European corporates have relied more on bond markets since the onset of the crisis. Bond investors have also shifted their holdings from bank bonds to other corporates. This has helped the funding of large non-financial corporates, and more bank disintermediation in this regard can be expected. However, Europe's corporate sector continues to be more dependent on bank finance than, for example, US corporates. SMEs in particular tend to find it difficult to tap capital markets. Bank lending is also a key source of consumer finance, even if non-bank providers have entered the market.

Policy efforts are being undertaken to avoid disorderly and excessive deleveraging to maintain adequate bank lending to the real economy. This includes, for example, the EBA's requirement as part of the EU bank recapitalisation exercise that national supervisors must ensure that banks' plans to strengthen capital lead to an appropriate increase of own funds rather than higher capital ratios being achieved through excessive deleveraging and lending disruptions to the real economy. As another example, the Vienna 2.0 initiative, as agreed among stakeholders active in Central and South Eastern Europe (CESEE), seeks to limit such disruptions in the CESEE region in particular.

More generally, a number of studies reassess the optimum size of the financial sector and degree of financial intermediation and – related to that - the optimum level of economy indebtedness.[20] The emerging consensus seems to be that financial development and indebtedness are good only up to a point, after which they become a drag on growth. These studies conclude that a fast-growing

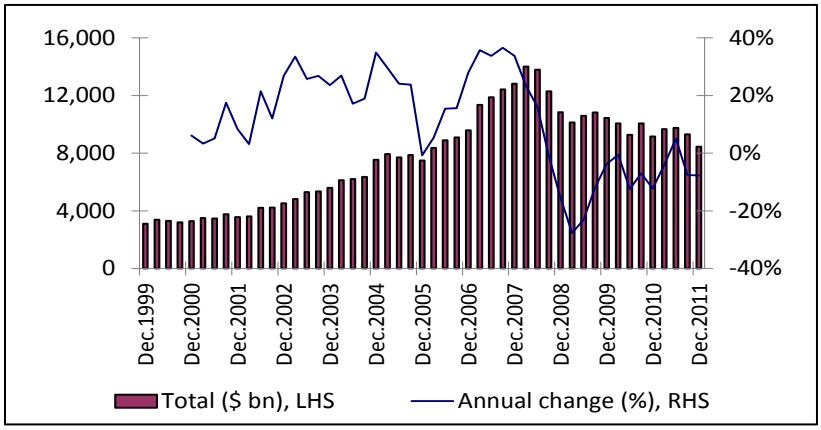
[20] See Cecchetti and Kharroubi (2012), Arcand et al. (2012), and Cecchetti et al. (2011).

financial sector can be detrimental to aggregate productivity growth, and for several countries, a smaller financial sector may be desirable.

2.5.3 Consequences for financial integration

The crisis has put a halt on the integration process in the EU banking market. Although banks have so far largely maintained their cross-border presence, there are signs of declining cross-border provision of banking services. This applies in particular to wholesale activities. This is evident, for example, from the decline in the total foreign exposures of European banks to other parts of the EU (chart 2.5.6). Retail banking integration seems less affected, but integration in the retail market had in any case been limited, as retail customers typically bank domestically and banks often do not offer their services to non-residents.

Chart 2.5.6: **Total EU bank exposures to EU Member States (in billion $ and annual change in %)**



Source: BIS consolidated banking statistics.

The share of cross-border loans by banks has fallen relative to domestic business. This applies in particular to credit flows to the CESEE, which grew rapidly prior to the crisis. While it facilitated financial integration and economic development, cheap credit (partly denominated in foreign currency) significantly contributed to boom-bust cycles, in particular in the Baltics, Hungary and Romania. The crisis triggered a sharp reduction or reversal of some of these credit flows, as EU banks from outside CESEE reduced their foreign exposures. With such banks' funding problems worsening since 2011, concerns regarding the impact of subsequent deleveraging on CESEE mounted.

There are other examples of increased disintegration. For example, secured and unsecured money markets have become increasingly impaired, especially across borders, due inter alia to the intensification of the sovereign debt crisis in the euro area. The pricing of risk in the repo market has become more dependent on the geographic origin of both the counterparty and the collateral, in particular when these are from the same country. Some disintegration is also evident when looking at the greater cross-country dispersion in other wholesale funding costs as well as in retail interest rates.[21]

Although banks have so far largely preserved their cross-border presence in the form of branches and subsidiaries in other Member States, they have increasingly divested non-core assets, which often include foreign assets. The overall pattern of banks' divestments to date has however not been clear cut. The majority of divestments has been domestic, which is contrary to the hypothesis that, in general, European banks have refocused on their domestic market and divested activities outside their own domestic market. For the acquirers, the cross-border element of M&A is more sizeable,

[21] For further evidence, see ECB (2012) and European Commission (2012a).

indicating that the most active banks have actually expanded, at least throughout the euro area. Also, the sale of foreign operations by some banks (potentially forced sales and at low valuations) may present opportunities for market entry or expansion for other, potentially less capital-constrained foreign banks.[22]

Nonetheless, there is a risk of increased home bias and retrenchment of banks behind national borders going forward. A number of specific examples have emerged where, partly because of the absence of any meaningful ability to resolve cross-border institutions to date, national supervisors have increased firewalls and capital and liquidity is partially trapped at national level. Another example is that banks are being encouraged to invest their liquidity pools in domestic debt.

The crisis has shown that, while there are clear benefits of financial integration, it also carries financial stability risks in the absence of strong governance and institutional frameworks. Cheap credit and free capital flows contributed to the build-up of imbalances in the euro area and helped fuel the boom-and-bust cycles observed in several Member States. Many cross-border capital flows turned out to be excessive and ultimately unsustainable. However, while there were clear excesses, it does not follow that there is a necessarily a trade-off between financial stability and integration. Rather, as noted above, what it does show is that there were shortcomings in the institutional frameworks to support the Single Market — that is, financial integration was not matched by adequate regulatory and supervisory institutions and the required economic governance frameworks.

[22] An example is Spanish banking group Santander, which in March 2011 completed its acquisition of one of Poland's largest banks (Bank Zachodni WBK) from the Irish bank AIB. Other banks are also emerging as new potential cross-border acquirers.

3 DIVERSITY OF BANK BUSINESS MODELS IN EUROPE

Summary of Chapter 3

- **Business models are not one-dimensional**. Simple labels, such as "retail bank" or "investment bank", do not adequately describe the business model of a bank and its performance and riskiness. Business models are diverse along different key dimensions, such as size, activities, income model, capital and funding structure, ownership, corporate structure, and geographic scope, and have evolved substantially over time.
- **Mixed performance**: While all types of bank business model have been affected in the crisis, some characteristics have proven less resilient than others. The main bank failures have been attributed to overreliance on short-term wholesale funding, excessive leverage, excessive trading/derivative/market activity, poor lending decisions due to aggressive credit growth, and weak corporate governance.
- **Large banks in the EU**: In 2011, the nine largest banks each have total assets of more than €1 trillion (four British, three French, one German and one Spanish). The largest bank has total assets amounting to 17% of total EU GDP, but eight banks in the sample have total assets exceeding 100% of domestic GDP. Large banks differ significantly in terms of business model and performance in the crisis.
- **Too many to fail**: Size per se is not the sole issue. Smaller and less-diversified banks also faced problems in specific markets or because of an unsustainable funding, risk management or corporate governance model. Problems may arise when many small banks operate similar businesses and are exposed to common shocks ("systemic as a herd").
- **Efficiency**: Some economies of scale and scope may exist, but only up to a given level, as diseconomies become increasingly important beyond a given size and scope. Fast growth and uncontrolled expansion is difficult to square with business model sustainability. Diversification at the bank level can make banks more similar to each other and the system as a whole less diversified and vulnerable to shocks. In addition, excessive complexity and conflicts of interest may result as banks expand their activity range.
- **The EU banking sector is diverse, which is valuable**. Banking sectors differ substantially across Member States, in terms of size, market concentration, foreign ownership, asset and liability structure, supervision, credit cycle, and public involvement. Diversity strengthens the resilience of the banking system as it mitigates vulnerability to systemic interconnections and promotes effective competition. Diversity is explicitly protected by the EU treaty.

3.1 Introduction

There is significant diversity in bank business models across the EU and across EU Member States, and numerous labels exist to classify banks and their business models. These labels typically focus only on one or two of the numerous dimensions along which different bank business models may differ. The labels may conceal that, for example, some of today's universal banks operate quite differently from how they operated 30 years ago. In general, bank business models can be characterised in terms of several key dimensions or attributes:

(i) size;
(ii) activities, as evident from a bank's customer base, asset structure and income model;
(ii) capital and funding structure;
(iii) ownership and governance;
(iv) corporate and legal structure; and
(v) geographic scope, including how cross-border operations are legally and operationally structured.

The objective of this chapter is to document the diversity of bank business models in the EU along the above main dimensions, and to report on their relative performance.

This chapter starts by reviewing the literature on the general performance of different bank business models, including their crisis resilience and performance (section 3.2). The performance and resilience of large versus small banks is then discussed (section 3.3). Next, large banks are described in more detail in terms of their key characteristics, including their income model, funding structure, ownership and corporate structure, and their geographic scope and organisational structure of their cross-border operations (section 3.4). Separately, banks with specific ownership models and business objectives, including banks under public ownership, cooperative banks and savings banks, are being analysed as they demonstrate EU bank diversity and as these business models are important on an aggregate level in several Member States (section 3.5). Finally, a number of case studies are presented of business models that failed during the crisis (section 3.6).

3.2 General findings on the performance and risks of different bank business models

Several studies consider bank performance, with several more recent studies looking at the characteristics that have rendered some banks more (or less) resilient during the crisis. Although geography, macroeconomic developments and structural aspects of lending markets have been important, features specific to banks, including their activities and funding sources, have been key determinants of their resilience.

For example, a recent study by the ECB (2011) concludes that "institutions with higher risk exposure had less capital, larger size, greater reliance on short-term market funding, and aggressive credit growth". Less risky business models were characterised by a strong deposit base and greater income diversification.

Fitch (2011) concludes that global trading and universal banks as a group typically have a much greater reliance on short-term wholesale funding, a higher average size, a greater volatility of earnings and, inevitably, higher levels of market risk (especially when volume of trading activity is considered as well as market risk), as compared to other banking models. The report also argues that size and scope, although not risk factors on their own, have not produced their claimed benefits. More specifically, the Fitch review concludes that the benefits of diversification turn out more limited than expected and offset by additional complexity and, in some cases, a perceived need to maintain positions in a wide variety of markets, regardless of competitive advantage, scale and product attractiveness.

The IMF (2011a) also highlights trading risks as an indicator for the risk of financial distress. Based on a sample of 79 systemically important banks, the study reports that most of the US and EU banks with substantially greater than average trading activities (as measured by the ratio of trading income to revenues) were more likely to require explicit state support than other banks. It also suggests that proprietary trading may be only part of the problem, and that "risk could emanate from losses attributed to non-proprietary trading activities such as market-making, investment banking and hedging".

As regards performance, CEPS (2012) finds that "retail-oriented banks have generally outperformed their peers in terms of cost efficiency and performance measures. Wholesale banks and to a lesser extent investment banks have suffered substantial trading losses amidst the crisis, which has contributed to their less stable performances". As regards risks, the study suggests that the "retail oriented models appear to be safer than others, as measured by the distance to default (Z-score) and the long-term liquidity risks (net stable funding ratio)".

There is evidence that banks' reliance on short-term wholesale funding resulted in increased financial fragility (Demirgüç-Kunt and Huizinga, 2009 and 2010; Ratnovski and Huang, 2009). Banks with more

stable funding structures continued to lend more relative to other banks during the global financial crisis (Cornett et al., 2010), and were less likely to fail (Bologna, 2011). The evidence also indicates that banks with larger capital cushions fared better during the global financial crisis in terms of stock returns (Demirgüç-Kunt and Huizinga, 2010).

Different business models may be associated with different relative advantages and disadvantages, as separately discussed in section 3.4 below (regarding economies of scale and scope, risk diversification, funding structures, etc.). In addition, there are important systemic benefits of having diversity of business models (Box 3.1).

Box 3.1: Literature on the benefits of business model diversity

Similar institutions are likely to encounter problems at the same time, and when many institutions are facing difficulties at the same time, this complicates the policy response. This "too-many-to-fail" problem has been examined in the literature (e.g. Acharya and Yorulmazer, 2007). It results from the correlation and interconnectedness of institutions that are similar and become systemic as a group (e.g. Brunnermeier et al., 2009).

Lack of diversity can also apply to large banks and the current financial system as a whole. As discussed in more detail in Goodhart and Wagner (2012), over the last decades, financial institutions – especially the large ones - have become more similar to each other. They operate in the same global markets and undertake similar activities. Risk management systems used by these institutions have converged, resulting in near-identical assessments of risks which in turn cause homogeneous behaviour (including similar trading strategies) and amplifying the impact of shocks. The banks have also become increasingly reliant on the same funding sources, which makes them all vulnerable to the same shocks in funding markets. Homogeneity also arises indirectly though interlinkages among institutions (e.g. lending relationships, securitisation activities, etc.). Thus, although there are advantages of banks engaging in providing similar services to customers, for example through enhanced competition, a lack of diversity also presents risks.

Real diversity implies that different institutional forms, different business models and different earnings models co-exist and they are sufficiently strong so that they can compete effectively with each other (Llewellyn, 2009).

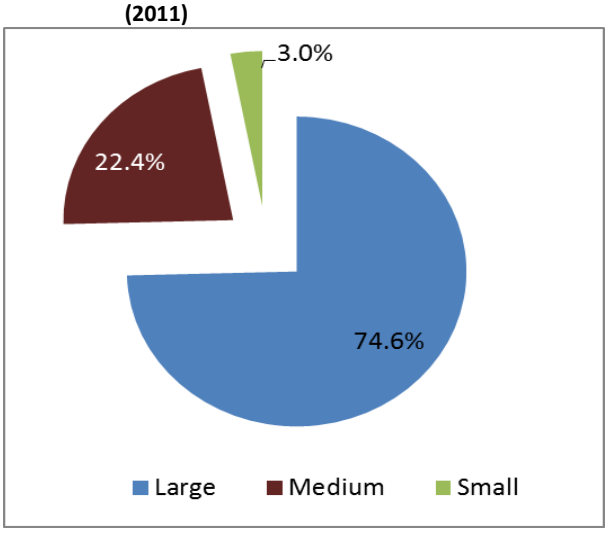
Overall, the decline in diversity has made the system more intertwined and hence more prone to contagion effects. The policy implications of this strand of analysis is that diversity may be a good thing, and that policies should consider fostering diversity in banking.

3.3 Large versus small banks

As noted in Chapter 2, over time the market evolved to produce some very large financial institutions that offer a diversified set of services and often operate on an international basis. Schoenmaker (2011) suggests that the more than 8000 banks in Europe can be split according to their size into three groups. A first very large group consists of small banks operating in a region of a country. In particular Germany, Austria and some other Member States have many small savings and co-operative banks most of which have assets of less than €1 billion. In total, there are nearly 4000 small cooperative banks in the EU (see also section 3.5). A second group consists of medium-sized banks with assets ranging from €1 billion to €100 billion. These banks often operate on a country-wide scale. A third group consists of the large banks having assets that exceed €100 billion (up to €2 trillion). They usually do a significant part of their business abroad.

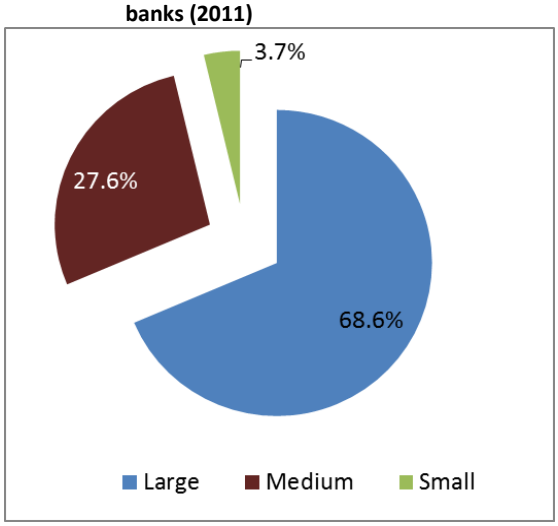
According to ECB data, "large banks"[23] make up about three-quarters of total domestic bank assets in the EU (chart 3.3.1). They also provide the majority of lending (69% of total loans of domestic banks – chart 3.3.2).

Chart 3.3.1: **Assets held by large, medium and small EU banks (2011)**



Source: ECB consolidated banking data.

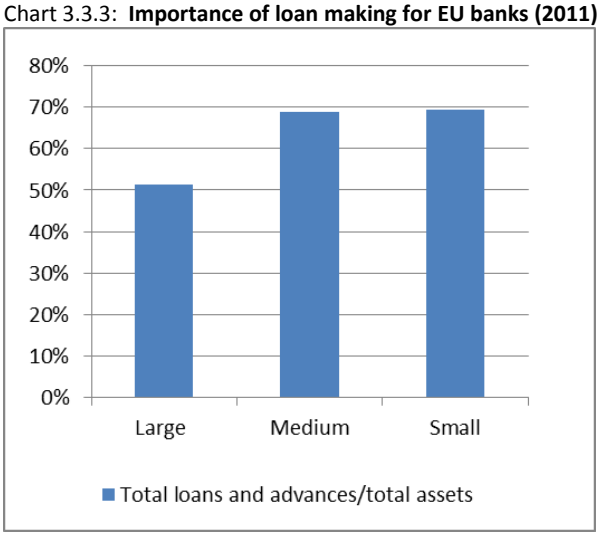
Chart 3.3.2: **Total loans made by large, medium and small EU banks (2011)**



Source: ECB consolidated banking data.

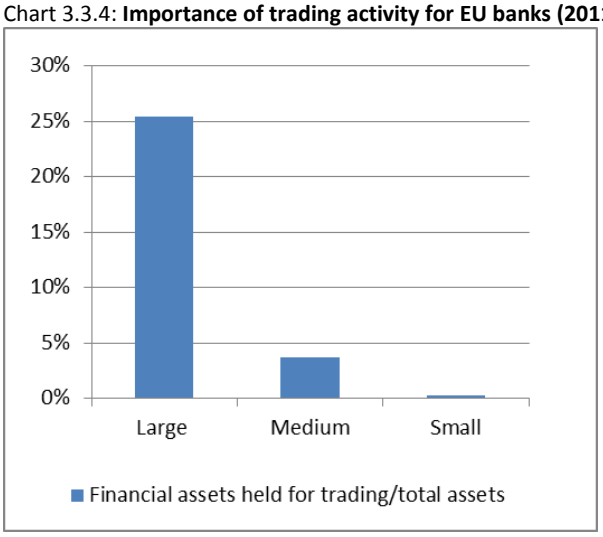
There is a clear difference in the activities of small and large banks. For example, smaller banks tend to engage more in traditional commercial banking business, resulting in a balance sheet that has more loans (chart 3.3.3) and fewer assets held for trading (chart 3.3.4) compared to larger banks and as a percentage of total assets. Consequently, net interest income makes up a larger proportion of smaller banks' revenue base (chart 3.3.5).

Chart 3.3.3: **Importance of loan making for EU banks (2011)**



Source: ECB consolidated banking data.

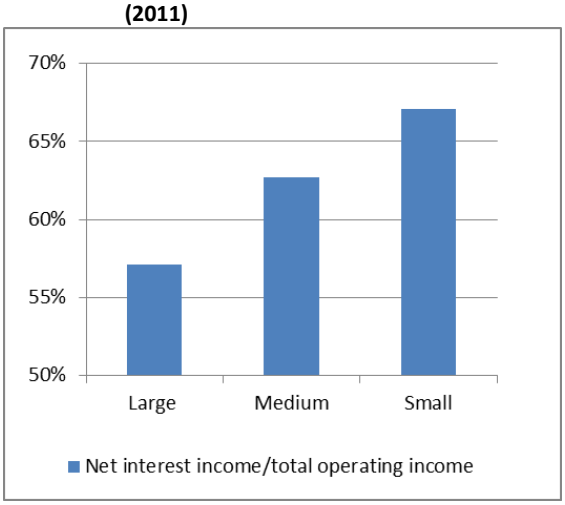
Chart 3.3.4: **Importance of trading activity for EU banks (2011)**



Source: ECB consolidated banking data.

[23] Based on ECB consolidated banking data as of end-2011. In this data, "large" EU banks are defined as having a share of more than 0.5% of total EU bank assets (i.e. more than approximately €200 billion based on 2011 data). As such, this classification is different from the one used by Schoenmaker (2011).

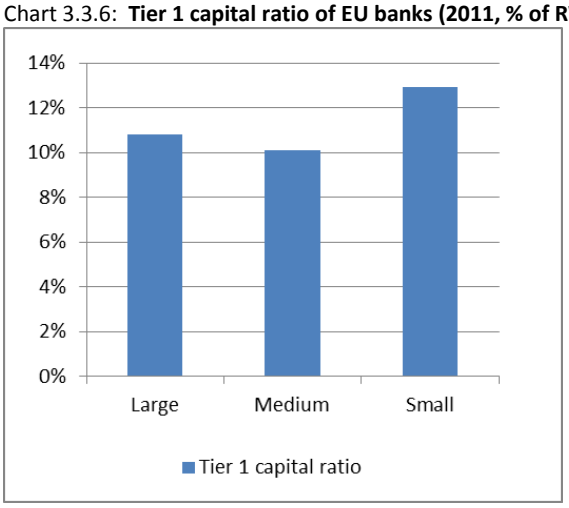
Chart 3.3.5: **Importance of net interest income for EU banks (2011)**



Source: ECB consolidated banking data.

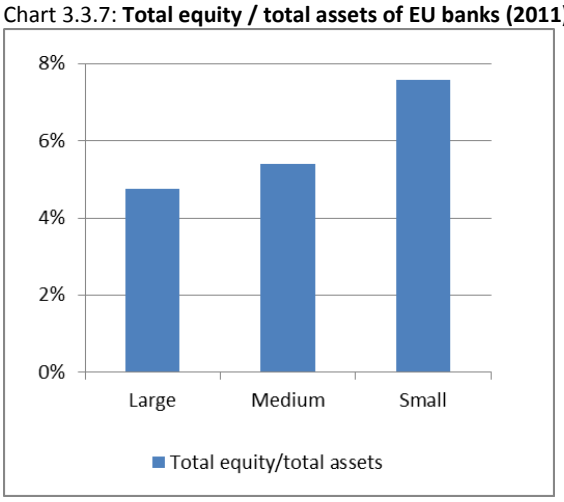
Similarly, on the liability side of the balance sheet, small banks tend to have a higher tier 1 capital ratio (chart 3.3.6) and a lower (unweighted) leverage ratio (chart 3.3.7) than larger banks. Smaller banks also tend to have a more stable funding base given the higher proportion of total customer deposits (chart 3.3.8).

Chart 3.3.6: **Tier 1 capital ratio of EU banks (2011, % of RWA)**



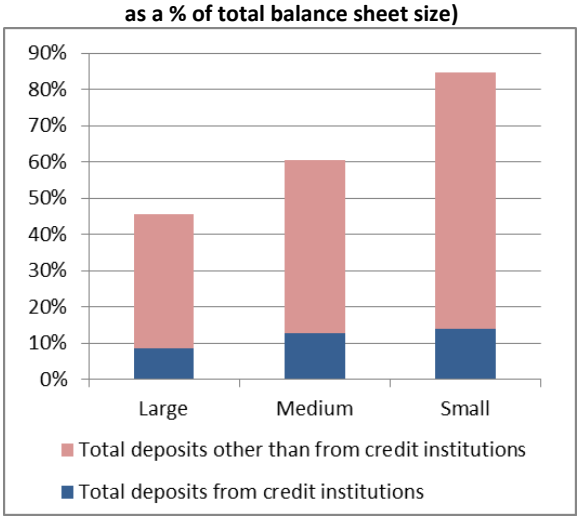
Source: ECB consolidated banking data.

Chart 3.3.7: **Total equity / total assets of EU banks (2011)**



Source: ECB consolidated banking data.

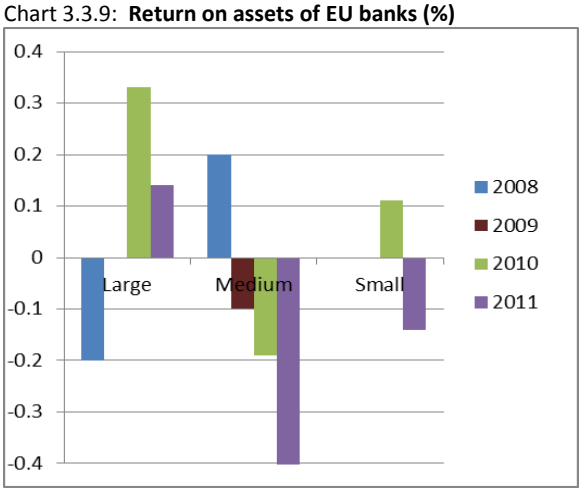
Chart 3.3.8: **Importance of deposit funding for EU banks (2011, as a % of total balance sheet size)**



Source: ECB consolidated banking data.

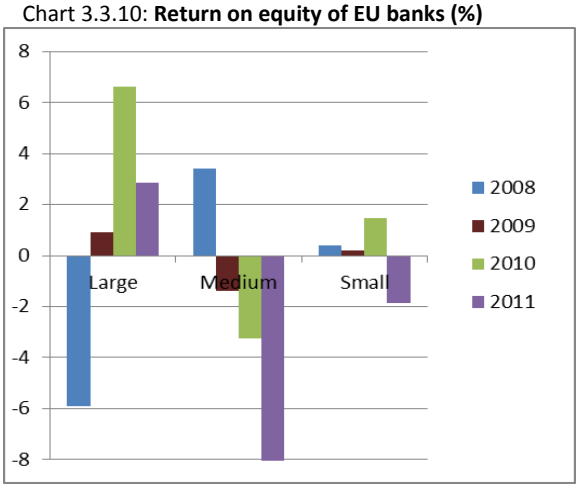
Thus, along some of the dimensions that have been shown to increase risk and adversely affect bank performance during this crisis (including exposure to trading and funding base stability), smaller banks on aggregate tend to fare better. Charts 3.3.9 and 3.3.10 show that, whereas large banks on aggregate incurred significant losses in 2008, this was not the case for smaller banks on aggregate. However, large banks seemed to recover more quickly and showed higher profitability rates in 2010 and 2011, which was also partly driven by the revival in trading revenues.

Chart 3.3.9: **Return on assets of EU banks (%)**



Note: Return on assets for large banks in 2009 and small banks in 2008 and 2009 is reported as zero or close to zero and hence not visible.
Source: ECB consolidated banking data.

Chart 3.3.10: **Return on equity of EU banks (%)**



Source: ECB consolidated banking data.

This is of course not to say that smaller banks do not present risks, or that large banks are necessarily more risky. Some large diversified banks survived the crisis relatively well, especially those that were mainly focused on commercial banking (as opposed to those built on investment banking, the structuring of complex derivatives and proprietary trading as the main drivers of growth) and geographically diversified. By contrast, some of the smaller and less diversified banks, particularly those focused on mortgages and headquartered in Member States that suffered real estate bubbles, suffered significant losses. As discussed further below, funding structure is an important determinant of bank resilience, and some (large and small) commercial banks failed because of their over-reliance

on short-term wholesale markets (e.g. Northern Rock and Dexia, see sections 3.6.1 and 3.6.3 respectively).

The main difference between large and small banks relates to the impact rather than the probability of failure. The failure of a small bank is less likely to have systemic implications, unless there are many similar small institutions that encounter problems at the same time—i.e. small institutions may become systemic because of correlation and interconnectedness ("too-many-to fail"), as is for example illustrated by the US savings and loans crisis in the 1980s (Appendix 2), as well as the experience with the Spanish *cajas* in this crisis (see section 3.6.6) and to some extent also the Swedish experience of the 1990s (Appendix 2). These case studies also illustrate that traditional (retail) banking activities can be the source of crisis, in particular if insufficiently regulated banks with weak internal controls engage in excessive lending.

3.4 Large and systemically important EU banks

This section describes the main characteristics of a sample of large EU banks, using data gathered from SNL Financial (and other data sources). It covers:

- Size;
- Customer base, asset structure and income model;
- Capital and funding structure;
- Ownership and corporate governance;
- Corporate and legal structure; and
- Geographic scope and structure of cross-border activity.

Appendix 3 presents additional characteristics of different individual banks, including their performance.

3.4.1 Bank size

"Systemically important banks" (SIBs) are those institutions whose distress or disorderly failure would cause significant disruption to the wider financial system and economic activity, due to their size, complexity, systemic interconnectedness or lack of good substitutes that can readily take over their activities.

While there is no agreed list yet of European SIBs, the Financial Stability Board (FSB) and the Basel Committee on Banking Supervision (Basel Committee) have identified an initial group of 29 global SIBs (G-SIBs).[24] 15 EU banks are considered G-SIBs, by virtue of their size, complexity, substitutability and degree of cross-country activity. These banks are listed in Table 3.4.1 (indicated with *), as part of a wider sample of 30 banks selected for the subsequent analysis.[25]

[24] See list of all global SIFIs on http://www.financialstabilityboard.org/publications/r_111104bb.pdf
[25] Dexia is excluded from the sample here, although it is listed in the FSB report of 2011 as a G-SIB.

Table 3.4.1: **Large EU banks (2011)**

Bank	Country	Total assets (€ million)	Total assets/ national GDP (%)	Total assets/ EU GDP (%)	FTE employees 2011	No. of European branches	Δ in total assets (% change 2007-11)
Deutsche Bank*	DE	2,164,103	84.8	17.4	100,996	2,735	12.4
HSBC*	UK	1,967,796	119.8	15.8	288,316	1,984	22.2
BNP Paribas*	FR	1,965,283	99.8	15.8	198,423	6,816	16.0
Barclays*	UK	1,871,469	113.9	15.0	141,100	2,602	12.0
RBS*	UK	1,803,649	109.8	14.5	146,800	2,477	-28.0
Crédit Agricole SA*	FR	1,723,608	87.5	13.8	90,235	3,773	21.9
Santander*	ES	1,251,525	118.2	10.1	193,349	7,467	37.1
Société Générale*	FR	1,181,372	60.0	9.5	159,616	6,456	10.2
Lloyds Banking Group*	UK	1,161,698	70.7	9.3	98,538	2,956	141.5
ING*	NL	961,165	161.5	7.7	71,175	1,938	-3.3
Unicredit*	IT	926,769	59.4	7.4	160,360	8,068	-9.3
BPCE SA*	FR	795,728	40.4	6.4	-	332	-
Rabobank Group	NL	731,665	122.9	5.9	59,670	906	28.3
Nordea*	SE	716,204	197.4	5.8	33,068	1,097	84.1
Commerzbank*	DE	661,763	25.9	5.3	58,160	1,598	7.3
Intesa	IT	639,221	41.0	5.1	100,118	6,603	11.6
BBVA	ES	597,688	56.5	4.8	110,645	2,965	19.1
Standard Chartered	UK	461,284	28.1	3.7	86,865	3	104.5
Danske Bank	DK	460,832	193.7	3.7	21,320	620	2.6
DZ Bank AG	DE	405,926	15.9	3.3	25,491	25	-5.9
Landesbank Baden-W.	DE	373,059	14.6	3.0	12,231	217	-15.9
KBC	BE	285,382	80.5	2.3	47,530	2,058	-19.7
Handelsbanken	SE	275,514	75.9	2.2	11,184	747	40.0
SEB	SE	265,219	73.1	2.1	17,571	362	6.9
Banca Monte dei P.S.	IT	240,702	15.4	1.9	31,170	2,965	48.5
Erste Bank	AT	210,006	71.2	1.7	50,452	2,150	4.7
Swedbank	SE	208,464	57.4	1.7	16,287	554	22.5
RZB AG	AT	150,087	50.9	1.2	60,599	2,977	9.2
Raiffeisen	AT	146,985	49.8	1.2	59,261	2,976	102.1
UBI	IT	129,804	8.3	1.0	19,407	1,919	6.8

Note: * indicates that this is a G-SIB according to Basel Committee/FSB methodology. The sample has been chosen on the basis of two criteria: 1) the bank is one of the top four banks in the country in terms of total assets and 2) the bank has total assets of at least €100 billion. Banks from Portugal, Ireland and Greece were excluded. Bankia (formed by the merger of Spanish savings banks), Dexia and Belfius are also excluded. More data on the banks, including the size of their loan book or deposits, is listed in Appendix 3. All data refers to the consolidated accounts, including more than the banks' business in the EU.
Source: All banking data from SNL Financial. GDP data from Eurostat.

Table 3.4.1 reports the basic statistics on the size of different banks in 2011, as measured by total assets (see Appendix 3 for market capitalisation data):

- nine banks each had total assets exceeding €1 trillion, with the largest bank (Deutsche Bank) having assets in excess of €2 trillion.
- In relation to domestic GDP, eight banks had total assets exceeding 100% of domestic GDP, the biggest being Nordea (197%) and Danske Bank (194%).[26]
- In relation to EU GDP, the largest bank had total assets equal to 17% of EU GDP.
- While the balance sheets of some banks declined between 2007 and 2011 (several of them submitted bank restructuring plans to the European Commission under its state aid control

[26] A large share of these banks' assets is in subsidiaries in other EU countries. For example, for Nordea, about half of the balance sheet is in the Finnish subsidiary.

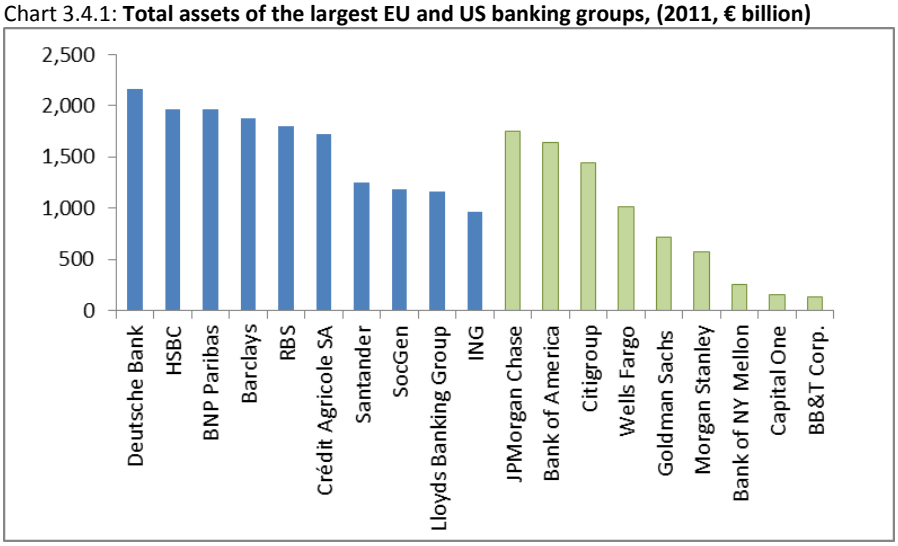
procedures), many banks have further increased their balance sheets, in some cases owing to mergers (e.g. Lloyds Bank – HBOS, Commerzbank – Dresdner, etc.).

- The largest number of full-time employees is reported for HSBC (over 288 000), and the largest number of bank branches in the EU for Unicredit (over 8 000).

European bank balance sheets appear large when compared to US banks, at least when measured in terms of total assets in relation to domestic GDP (chart 3.4.2). In absolute size, the reported total assets of the largest European banking groups are not too dissimilar from those of their US counterparts (chart 3.4.1). Nevertheless, total assets of five EU banking groups exceed those of the largest US bank (JP Morgan Chase).

Any simple comparison of balance sheet size between EU and US banking groups is however unreliable. One key reason is the accounting differences that exist between GAAP rules in the USA and IFRS rules in the EU. For example, under US GAAP, companies with derivatives under a single master netting agreement with the same counterparty are allowed the possibility to report assets and liabilities (including cash collateral) on a net basis, even if they do not intend to settle the cash flows on a net basis. The same treatment is also allowed for repurchase agreements and reverse repurchase agreements. Unlike the current U.S. standards, there are no such provisions under IFRS that apply to EU banks. Analysis shows that, without this netting, total assets of many US banking groups would be significantly higher.[27] Other accounting differences arise due to differences in consolidation rules of off-balance-sheet vehicles.

Chart 3.4.1: **Total assets of the largest EU and US banking groups, (2011, € billion)**

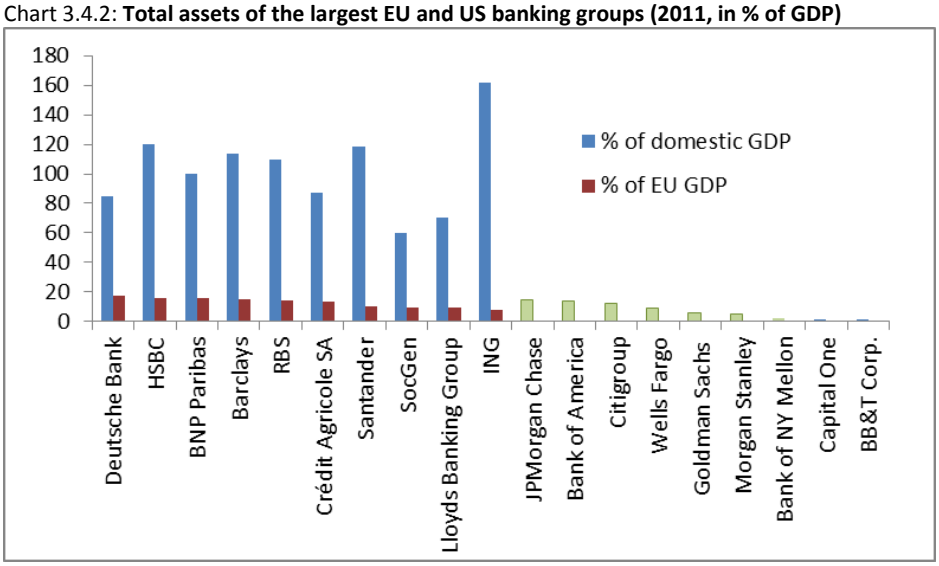


Source: Data from SNL Financial.

Asset-to-GDP ratios look again much more similar between the largest EU and US banks when total assets are measured in relation to total EU GDP (as opposed to national GDP) (chart 3.4.2). For example, Deutsche Bank has total assets amounting to 17% of EU GDP, which is more in line with the largest US banking group (JP Morgan has total assets amounting to 15% of US GDP) or indeed lower if the stated accounting differences are taken into account. In sum, in relation to a single EU banking market, European banks do not appear larger than their US counterparts.

[27] For example, analysis by S&P Global Credit Portal (2011) suggests that total assets for a sample of US banks would increase by about 70%, and even more if repurchase and reverse repurchase agreements were included. The latter were excluded from the S&P analysis as no data was available on these from published accounts.

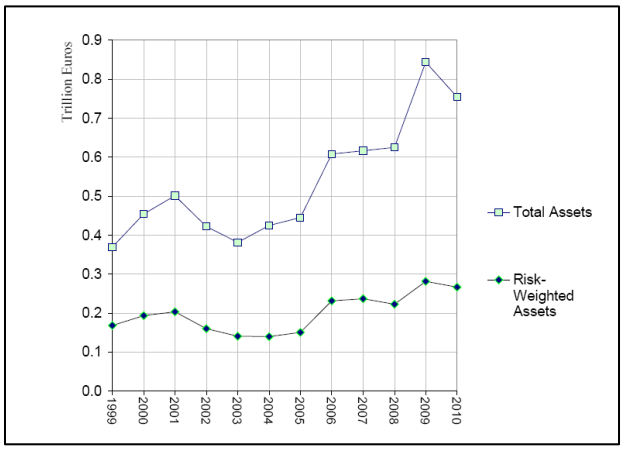
Chart 3.4.2: **Total assets of the largest EU and US banking groups (2011, in % of GDP)**



Source: Data from SNL Financial. Eurostat for GDP data.

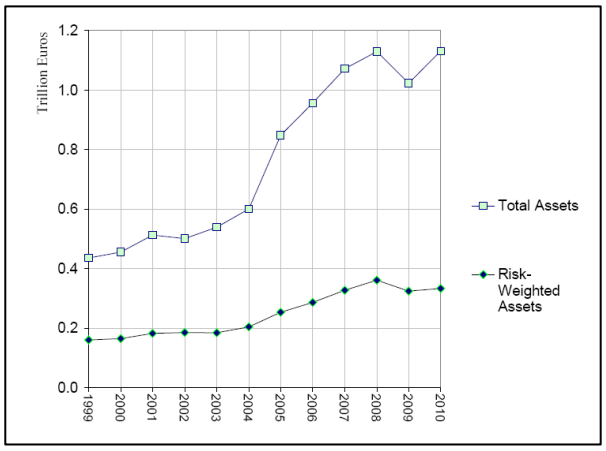
Charts 3.4.3 and 3.4.4 illustrate that total assets for two of the large banks (others are reported in charts 3.4.11 and 3.4.12) grew significantly. Asset growth markedly outpaced risk-weighted asset growth for these banks in the run-up to the crisis, which reflects regulatory arbitrage and the increasing importance of trading and market making activity that benefited from inappropriately low capital requirements under Basel II.

Chart 3.4.3: **Commerzbank - Evolution of balance sheet**



Source: Shin (2012), based on Bankscope data.

Chart 3.4.4: **Société Générale – Evolution of balance sheet**



Source: Shin (2012), based on Bankscope data.

Box 3.2: Literature on (dis)economies of scale

Appendix 4.1 contains a more detailed review of the literature on economies of scale. Overall, the findings in the literature are somewhat mixed. Whereas some economies of scale are estimated to exist for some banking operations up to a certain size, these economies are generally found to phase out after a certain bank size (see Wheelock and Wilson, 2009, and other papers reviewed in Appendix 4.1).

Although there is no agreement in the literature on the maximum efficient scale of banking, the available estimates tend to suggest levels that are relatively low compared to the current size of the largest EU banks.

The potential costs of large banks relate to the banks' potential abuse of market power and their risk-taking incentives, due to their "too-big-to-fail" status (Brewer and Jagtiani, 2009 or Boyd and Heitz, 2012). Also, large banks tend to lend less to small businesses in relative terms (Berger et al., 2004).

Some banks have grown big as a result of managerial or empire building aspirations rather than driven by shareholder value maximisation (Berger et al., 1999, and Demirgüç-Kunt and Huizinga, 2011).

Notes: See appendix 4.1 for the more detailed review of the literature, including references for the above findings.

3.4.2 Customer base, asset structure and income model

The largest banking groups in the EU are typically "universal banks" in that they offer the full array of banking services, ranging from the traditional banking services of deposit taking and real-estate, as well as other forms of lending to investment banking activities that include sales and trading, market-making, underwriting, risk management, etc. Some groups also have legal entities that offer insurance services and that in the EU therefore fall under "financial conglomerate" regulation and supervision.

Some of the large universal EU banks have, over time, evolved into groups with significant global capital market and trading operations. Moody's (2012) denotes them as "firms with global capital markets operations", while Fitch (2011) similarly defines a peer group of "global trading banks".

Not all banks choose to provide the full range of services or offer the services to the same degree, and even among the larger banks, there is significant variety in what different banks do. Customer bases differ between banks. The more retail-focused banks have a customer base which requires mainly traditional banking services, including current account, saving and lending services (e.g. households, SMEs). The larger and more investment-focused banks have customers that may require the full set of banking and capital market services (e.g. larger corporates) or that may have demands for specific capital market services (e.g. a government placing a bond issue or a smaller corporate seeking to tap capital markets or buying a risk hedging product).

Derivatives for risk management purposes are an example of an investment banking service used by corporate customers. According to a survey by the International Swaps and Derivatives Association (2009), 94% of the world's largest 500 companies use derivatives to hedge their business and financial risks. Foreign exchange derivatives are the most widely used instruments (88%), followed by interest rate derivatives (83%) and commodity derivatives. Thus, derivatives are an integral risk management tool, especially for the larger corporates, but even some SMEs may choose to use plain vanilla derivatives to hedge their foreign exchange and interest risk exposures. Notwithstanding this, more than 80% of derivative instruments are traded among financial institutions, thus being a predominantly interbank business.

With a universal bank, customers can access the full range of services from one bank. This possibility of "one-stop shopping" is valuable to customers (in this context mainly to corporate customers that may demand commercial and investment banking services), although these demand-side economies of scope are likely to vary between customers and depend on the combination of banking services

sought (see also Appendix 4.2 on further evidence on economies of scope). However, larger customers tend to maintain relationships with more than one bank anyway, as do some smaller customers. However, lack of customer switching, partly due to customer inertia and a lack or perceived opaqueness of information, is one of the known barriers to competition in the retail banking market (see also Chapter 2).[28] Banks can also offer derivatives and other products to their customers without "producing" the products themselves; they can act on an agency basis and sell the products provided by other banks.

While the public accounts of banks do not provide information about the customer base of different banks and their needs, the differences in banks' activities are evident from their asset structure and income model.

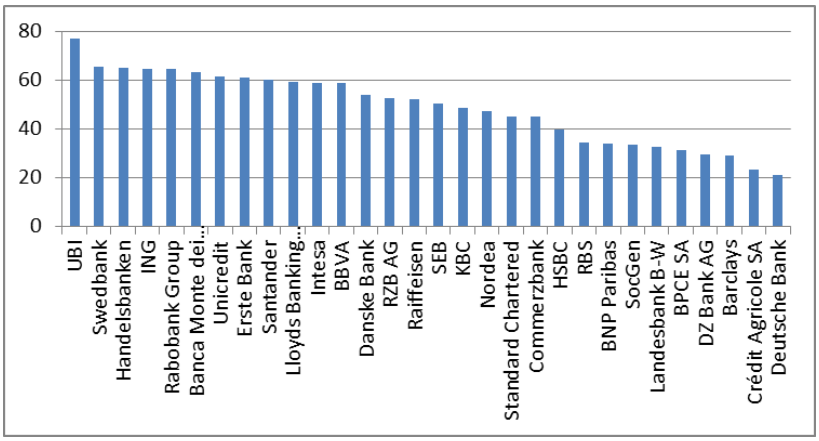
Charts 3.4.5 to 3.4.10 below reports some basic statistics on this for 2011:

- For some banks, net loans to customers amount to more than 50% of total assets. For three banks, net customer loans amount to less than 30% of the balance sheet.
- While some banks have limited assets held for trading, for others such assets constitute more than 20% of their balance sheet.[29] Barclays, BNP Paribas, Deutsche Bank, Royal Bank of Scotland and Société Générale are the five banks with the highest proportion of assets held for trading (more than 30% of total assets). A similar picture emerges when looking at assets held for trading and available for sale in 2011. Interestingly, although the balance sheet share of these assets fell for some banks since the onset of the crisis, for others it increased.
- Several banks have a particularly high notional amount of derivatives outstanding, relative to the size of total assets. For example, the notional amount of derivatives exceeds 2000% of total assets for four banks (Barclays, BNP Paribas and RBS). Note that the notional amount of derivatives does not indicate exposure, but it nonetheless provides an indication of the extent of derivative activities across different banks.
- The ratio of risk-weighted assets to total assets differs significantly between banks. It is remarkable that the banks with the highest amount of trading assets, notional derivatives, etc. (i.e. banks that are least "traditional") tend to have the lowest ratio. Risk-weights are being revised under Basel 3 or, in the EU, CRD IV.
- The difference in activities between banks is reflected in the ratio of net interest income to total operating income. Banks that are more engaged in traditional deposit-taking and lending activities tend to have more net interest income (as opposed to fees, commission and other non-interest income that is typically more associated with investment banking activities). Note however that for most banks, the share of net interest income increased in 2011 compared to 2007, reflecting the decline in income from non-interest income generating activities.

[28] According to the Eurobarometer on retail financial services (European Commission, 2012b) more than 80% of European consumers never attempt to switch providers after buying a personal loan, credit card, current account or mortgage.

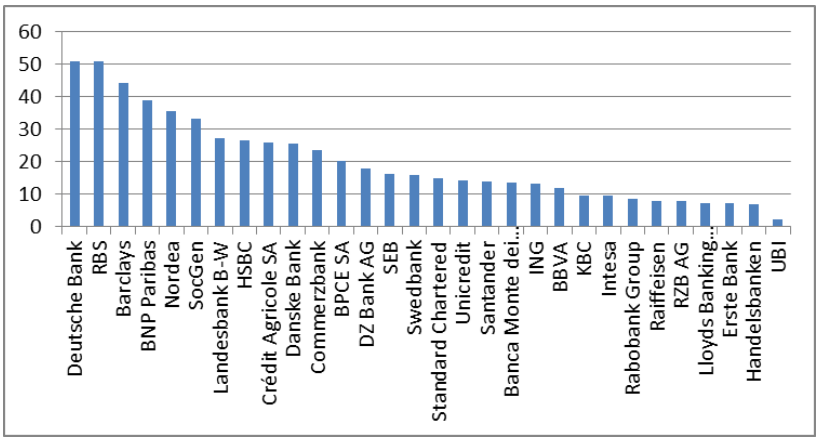
[29] The data here only considers the asset side of the balance sheet, whereas from an exposure perspective trading liabilities also need to be considered.

Chart 3.4.5: **Net loans to customers of large EU banks (2011, % of total assets)**



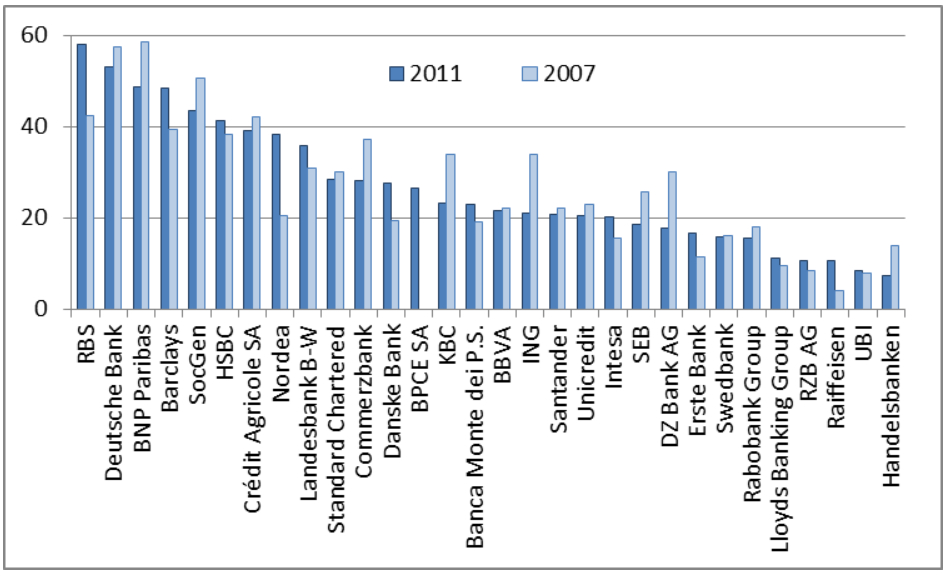
Source: Data from SNL Financial.

Chart 3.4.6: **Total assets held for trading of large EU banks (2011, % of total assets)**



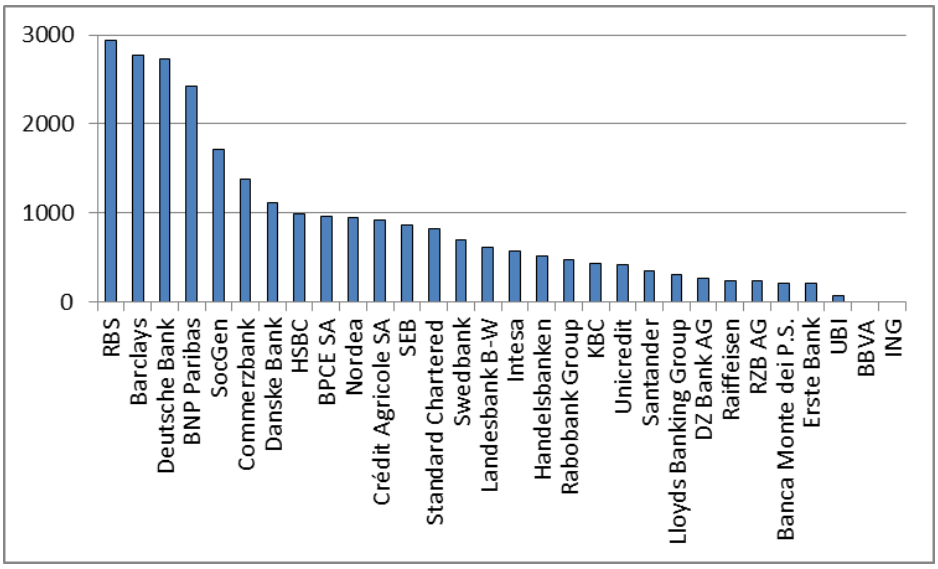
Source: Data from SNL Financial.

Chart 3.4.7: **Total assets held for trading and available for sale of large EU banks (2011 and 2007, % of total assets)**



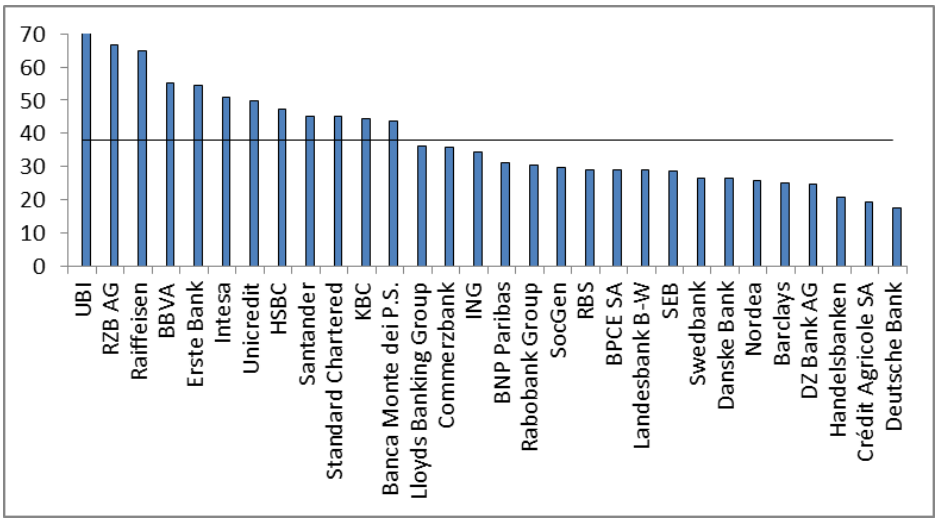
Source: Data from SNL Financial.

Chart 3.4.8: **Notional amount of derivatives outstanding of large EU banks (2011, % of total assets)**



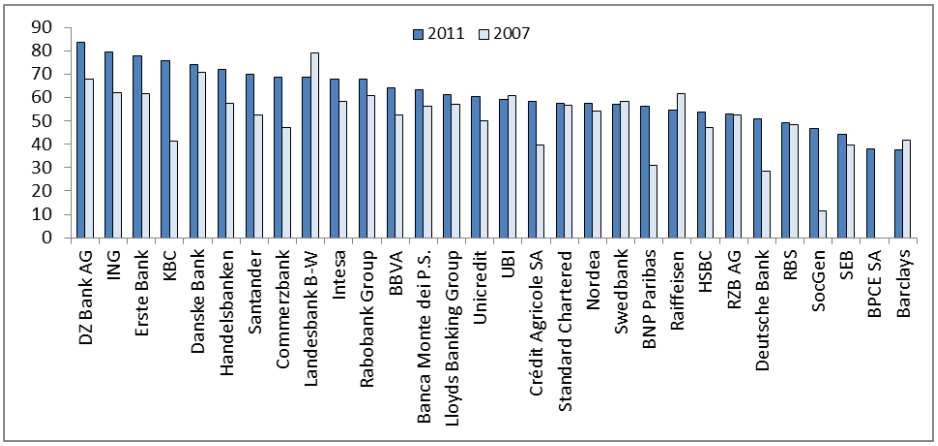
Source: Data from SNL Financial.

Chart 3.4.9: **RWA / Total assets of large EU banks (2011, in %)**



Source: Data from SNL Financial.

Chart 3.4.10: **Net interest income / total operating income of large EU banks (2011 and 2007, in %)**



Source: Data from SNL Financial.

As discussed in Chapter 2, at aggregate level and over time, the share of the basic lending activity in relation to total banking assets has diminished, as is evident amongst others in the evolution of the asset side of bank balance sheets. Two of the large EU banks are used as an example of how (customer) loans have declined as a proportion of the total balance sheet.

Chart 3.4.11: **Barclays – Evolution of assets (€ billion)**

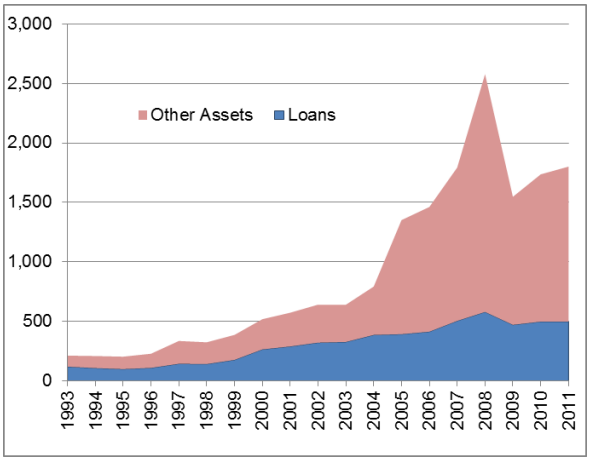
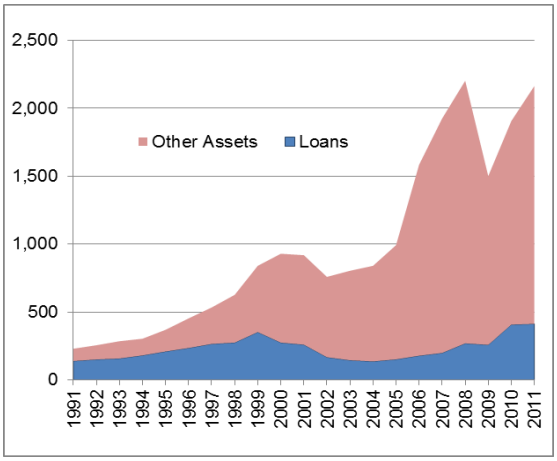


Chart 3.4.12: **Deutsche Bank – Evolution of assets (€ billion)**



Source: Data from published accounts.

Box 3.3: Literature on diversification and (dis)economies of scope

Economies of scope, including operating cost and revenue synergies as well as risk diversification benefits, are appealing in theory, but the empirical evidence on their existence is weak.

While economies of scope are found from combining deposit-taking and lending (i.e. the traditional banking activities), there is less evidence that other forms of functional diversification create value (e.g. combining traditional and investment banking).

Diversification into non-traditional banking activities may expand the range of opportunities and result in risk diversification, but these benefits may be more than offset by the costs of increased exposure to volatility (Stiroh, 2006, Stiroh and Rumble, 2006).

Diversification may bring along conflicts of interests. Customers may be locked in by being offered multiple services (Rajan, 1992). Informational advantages may hinder competition by creating barriers to entry and lowering switching behaviour (Dell'Ariccia et al., 1999).

The literature has raised the concern that more diversified and complex financial institutions are more difficult to manage and supervise, and they may be perceived as "too big or too complex to fail", leading to problems of moral hazard and excessive risk-taking.

Lumpkin (2010) identifies a number of risks associated with large financial groups, including non-transparent group transactions, moral hazard risks that allow parts of the group to engage in excessive risk-taking on the assumption that the group as a whole will assist in the event of problems, risks of double-gearing, intra-group contagion risks, potential abuse of market power and conflicts of interest.

Individual diversification by banks can make the system as a whole less diversified and more vulnerable to common shocks (Haldane, 2009). Over time there has been a loss of diversity at the system level (due to bank diversification, but also due to convergence of risk management models, etc). Leaving aside the cost and benefits of different business models, promoting diversity in bank business models at system level may therefore have benefits in itself (see Box 3.1 above).

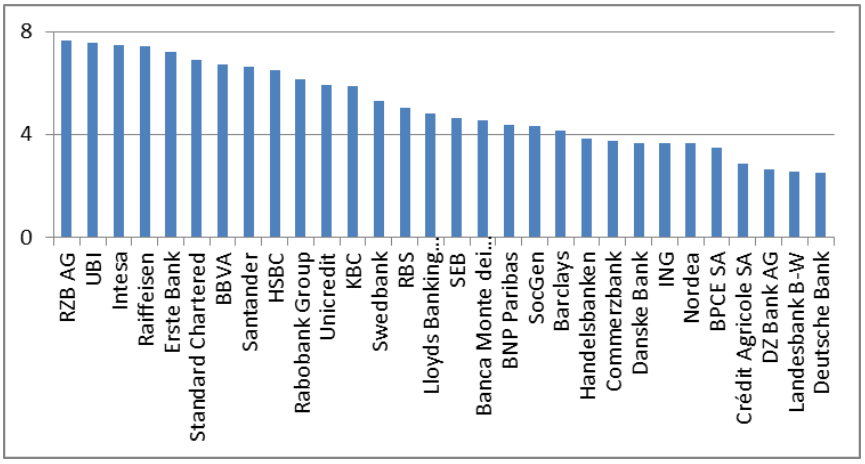
Notes: See appendix 4 for the more detailed review of the literature.

3.4.3 Capital and funding structure

Charts 3.4.13 to 3.4.16 below report basic statistics on the capital and funding structure of different banks in 2011:

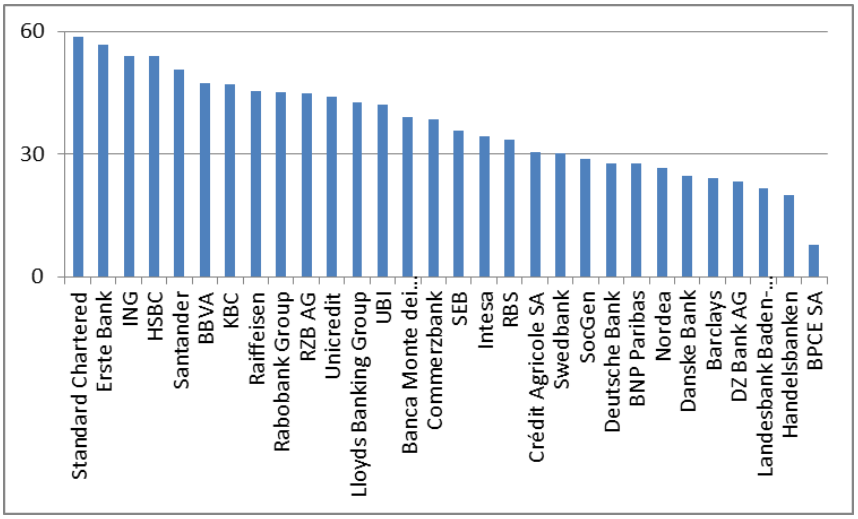
- The proportion of total equity capital differs widely, indicating significant differences in the leverage of different banks (chart 3.4.13). For a number of banks, the ratio of total equity to total assets is less than 4%.
- Significant variation also relates, for example, to the degree of traditional funding through customer deposits (chart 3.4.14) and the loan-to-deposit ratio (chart 3.4.15).
- The large banks also vary in the extent of their interbank exposures (chart 3.4.16), measured by the share of loans to and deposits from other banks.

Chart 3.4.13: **Total equity / total assets of large EU banks (2011, %)**



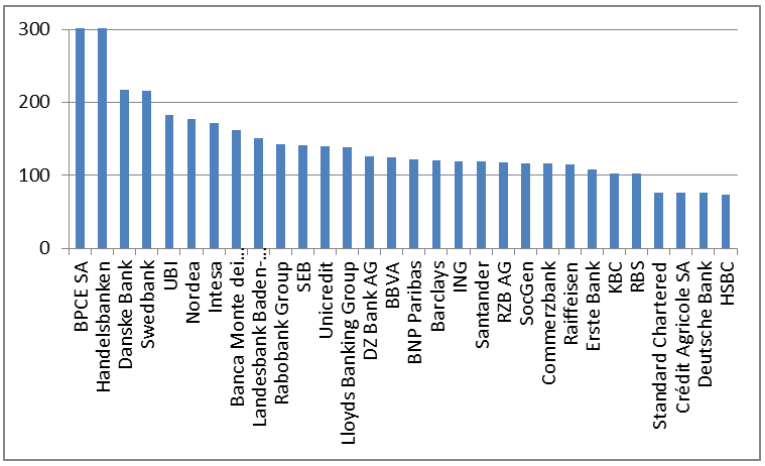
Source: Data from SNL Financial.

Chart 3.4.14: **Deposit funding ratio of large EU banks (2011, customer deposits in % of total assets)**



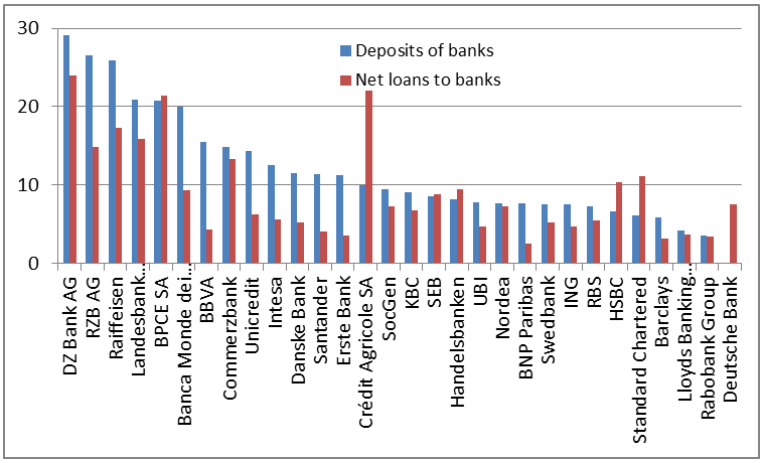
Source: Data from SNL Financial.

Chart 3.4.15: **Customer loan-to-deposit ratio of large EU banks (2011, in %)**



Source: Data from SNL Financial.

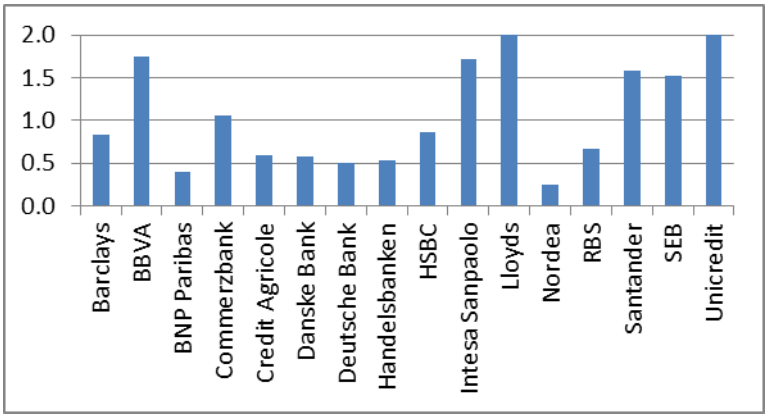
Chart 3.4.16: **Interbank deposits and loans of large EU banks (2011, in % of total assets)**



Notes: Net loans to banks shows loans and advances or deposits with other banks.
Source: Data from SNL Financial.

Chart 3.4.17 shows that, for a sample of 16 large EU banks, the capital requirements for market risks vary between close to 0% to just over 2% of the total value of trading assets, the average being close to 1%. Further to the evidence in chart 3.4.9 above, this suggests that there are risks that may not be fully covered by existing capital requirements.

Chart 3.4.17: **Capital requirements for market risk for large EU banks (2011, in % of trading assets)**



Notes: Capital requirements calculated as 8% of RWA for market risks.
Source: Data from Bloomberg.

In addition to the above 2011 snapshot, it is again useful to examine the *evolution* of the banks' funding structure over time. As illustrated for two banks (chart 3.4.18 and 3.4.19), banks have grown their balance sheets significantly without corresponding increases in equity or customer deposit funding (and with additional off-balance sheet growth which is not reported in the charts).

Chart 3.4.18**: Barclays – Evolution of liabilities (€ billion)**

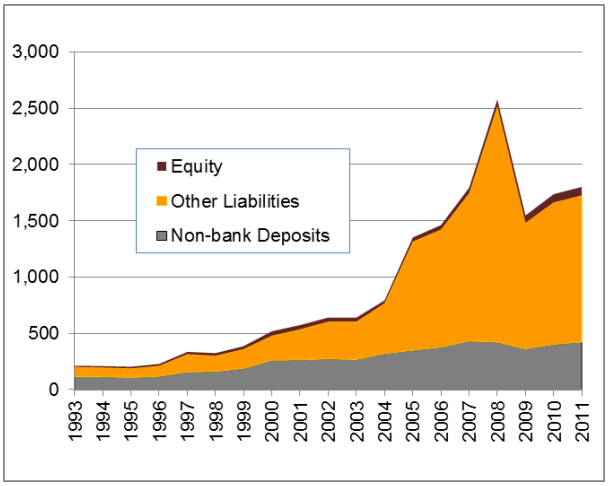
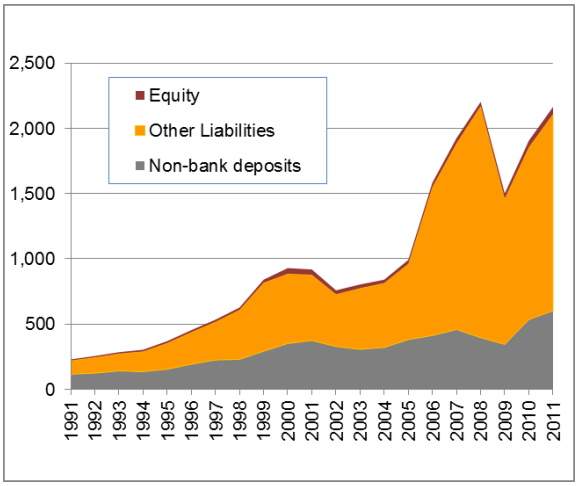


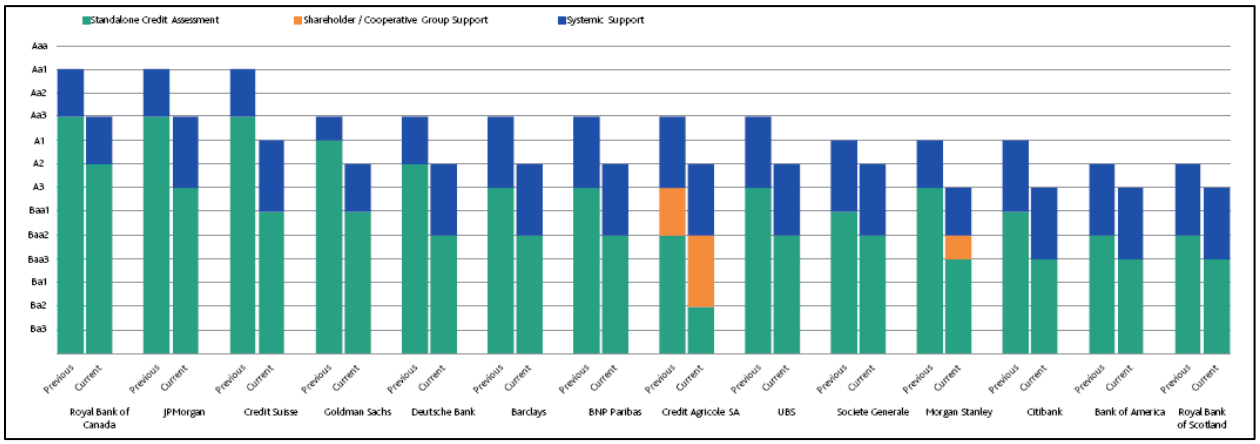
Chart 3.4.19: **Deutsche Bank – Evolution of liabilities (€ billion)**



Source: Data from published accounts.

As discussed in Chapter 2, systemically important banks have generally benefited from a government guarantee that results in an implicit subsidy to their funding costs. While difficult to quantify precisely, the systemic support uplift for individual bank credit ratings applied by the credit rating agencies is indicative of the fact that this support is still perceived to be present in the market. For the six EU banks covered in chart 3.4.20, the systemic support roughly amounts to three notches uplift to their stand-along rating, as per Moody's rating methodology. Non-EU banks equally benefit from such rating uplifts.

Chart 3.4.20: **Credit ratings and systemic support uplift for a sample of EU and US banks (2012)**



Source: Moody's (2012).

Box 3.4: Literature linking bank funding models to risks

There is a large literature on bank capital structure and funding models, including recent studies that examine the relationship between funding and bank risk and performance in the crisis. In particular, the reliance of banks on short-term wholesale funding to finance the rapid expansion of their balance sheets in the run-up to the crisis, together with excessive leverage, have been highlighted as key factors in the build-up of systemic risks and the propagation mechanism. Empirical studies show that banking crises have been preceded by periods of abnormal liquidity creation (Berger and Bouwman, 2008, 2009). There is also evidence that banks' reliance on wholesale funding had a negative effect on the performance of their stock prices after the outbreak of the crisis (Raddatz, 2010) and resulted in increased financial fragility, as measured by distance to default and the volatility of bank stock returns (Demirgüç-Kunt and Huizinga, 2009 and 2010), or by the likelihood of receiving public assistance (Ratnovski and Huang, 2009). Short-term wholesale funding allows banks to manage their balance sheet size actively in a highly pro-cyclical manner (Adrian and Shin 2010a, 2010b). In addition, banks with more stable funding structures continued to lend more relative to other banks during the global financial crisis (Cornett et al., 2010), and were less likely to fail (Bologna, 2011).

The evidence indicates that banks with larger capital cushions fared better during the global financial crisis in terms of stock returns (Demirgüç-Kunt et al., 2010). Related work by Berger and Bouwman (2010) analysed the survival probabilities of banks in the U.S. during two banking crises and three market-related crises (i.e. those originated by capital markets events), and concluded that small banks with higher capital were more likely to survive both types of crises.

Analysis by ECB (2011) also concluded that institutions with higher risk exposure in the crisis had less capital and greater reliance on short-term market funding (among other factors), whereas business models related to reduced bank risk were characterised by a strong deposit base. The analysis suggests that the effect is highly non-linear – i.e. less capital and less stable funding matters most (in terms of probability of distress) for the banks that are generally weakest, but less for the less risky banks.

3.4.4 Ownership and corporate governance

There are significant differences in the ownership structure and corporate governance arrangements between different banks. Of the sample of large EU banks considered here, there are a few banks with a mutual ownership structure and one bank is a public bank. These structures are discussed separately in section 3.5 below.

As shown in Table 3.4.2, the banks vary in their degree of blocked ownership (where shares are held by clients or other interested parties as opposed to being truly available for trade), as well in their degree of institutional shareholder ownership. Focusing on the latter, while some institutional investors take a long-term perspective, others are known to behave more based on short-term considerations, focusing on short-term profits rather than the long-term prospect of the company in which they invest. The problem of monitoring banks is amplified by the fact that share ownership tends to be very dispersed, as is evident also by the number of institutional investors. Even the largest shareholders in most cases only hold a small share of the equity of the bank. The ability and incentive of shareholders to monitor is therefore limited. Moreover, the opacity of many banks and the complexity of their activities further reduce the ability of shareholders to exert control over the banks in which they invest. There has recently been a surge in shareholder activism in relation to bank remuneration, with shareholders blocking proposed remuneration packages. But shareholder engagement is still very limited, for example when it comes to strategic managerial decisions. All in all, there has been marginal capital market discipline prior to the crisis. Equity analysts asked banks to repurchase stock and to lever up more, whereas fixed income analysts assumed that banks would

be bailed out in case of need. Whilst long and detailed, banks' financial disclosures often do not provide a clear picture of their liquidity and solvency situation, as well as their profitability drivers and their robustness and resilience.

Depositors and other bank creditors, who finance the bulk of banks' balance sheet also have limited incentives to monitor the banks, because of the explicit guarantee of deposits as well as the implicit guarantees that seemingly continue to apply to the debt of systemically important banks (see Chapter 2). Even if there were monitoring incentives, complexity and opacity makes it difficult for outsiders – creditors as much as shareholders - to monitor bank management.

This lack of external monitoring gives rise to an agency problem, which allows bank managers to pursue strategies that may deliver private benefits that are not necessarily in the interest of the owners or other investors of the bank. The literature has shown that this can lead to managers pursuing growth and diversification strategies at the expense of profitability, as well as to excessive risk-taking (see Appendix 4). Shareholders and their bank manager agents are effectively holding a call option on the bank's assets, which -given their limited liability[30]- implies that they benefit from the bank's assets becoming increasingly volatile. Managerial hubris, overconfidence and lack of skills further add to the problems.

A number of other concerns have been expressed in relation to the corporate governance of banks that go beyond the ownership structure and degree of external monitoring.[31] This includes the concern (i) that boards are not fully representative of a banks stakeholder base; (ii) that CEOs may be too powerful also vis-à-vis the chairman and the risk and control senior officers (CFO, CRO, etc.); (iii) that there may not be sufficient reporting by individual business units and limited visibility of intra-group subsidies and transfer pricing; (iv) that "fit and proper tests" are inadequate; and (v) that sanctions are insufficiently punitive, etc.

[30] Note that banks initially operated as unlimited liability partnerships where owners/managers backed the bank's losses with their own personal wealth. Over time, ownership and control were increasingly disconnected. Still in the 19th century, shareholder liability was being limited to the initial investment only.

[31] See Mehran et al. (2012) and references therein for a recent review of corporate governance issues at banks in the context of the crisis.

Table 3.4.2: **Ownership characteristics of large EU banks (2011)**

	Total % owned by top 10 insider/ stakeholders (%)	% institutional ownership (%)	Number of institutional investors	Percent held by largest institutional owner (%)
Banca Monte dei Paschi Siena	50.07	5.56	205	0.96
Barclays	9.08	76.33	808	6.76
BBVA	7.75	17.87	543	1.97
BNP Paribas	17.85	37.87	773	5.52
BPCE SA	mutual			
Commerzbank	27.84	11.87	372	2.81
Crédit Agricole SA	mutual			
Danske Bank	33.61	21.72	263	5.1
Deutsche Bank	0.19	34.63	714	3.75
DZ Bank AG	mutual		133	
Erste Bank	43.55	20.3	335	2.98
Handelsbanken	13.89	41.91	298	10.53
HSBC	36.97	44.54	951	5.9
ING	-	-	-	-
Intesa	36.22	22.83	540	1.53
KBC	50.85	10.36	269	-
Landesbank B-W	public ownership			
Lloyds Banking Group	39.43	26.7	552	1.78
Nordea	39.84	30.31	340	3.48
Rabobank Group	mutual			
Raiffeisen	79.23	6.21	219	0.66
Royal Bank of Scotland	70.38	20.18	594	1.6
RZB AG	mutual			
Santander	3.77	18.52	707	1.99
SEB	11.12	56.43	276	20.92
Société Générale	6.29	47.31	601	7.83
Standard Chartered	0.61	85.71	751	18.09
Swedbank	12.3	66.84	335	10.35
UBI	8.05	18.16	219	5.01
Unicredit	24.74	18.61	485	2.73

Source: Data from SNL Financial.

3.4.5 Corporate and legal structure

The large EU banking groups usually have a complex corporate and legal structure, in some cases including more than thousand different legal entities (i.e. distinct subsidiaries), driven by regulatory and tax considerations, as well as securitisation and acquisitions (see Appendix 5 for a stylised overview of the different banking group corporate and legal models that exist). This has raised concerns about banks being "too complex", for the purposes of internal risk management and control, supervision, monitoring by investors, and -most importantly- resolvability.

Research into these and other EU banks suggests that, due to the complexity of their organisation, it is very difficult to depict a group's organisational structure (Hu, 2012). For example, business structure and legal structure cannot always be easily reconciled. Also, data on individual subsidiaries may not be available.

3.4.6 Geographic scope and organisational structure of EU cross-border bank activity

Among the large banks, the degree of international business activity (within the EU and globally) differs considerably, as shown in Table 3.4.3 for a sample of the banks, as per 2009 data.

Table 3.4.3: **Geographic scope of sample of large EU banks (2009)**

Bank	Home country (% of total assets)	Rest of EU (% of total assets)	Rest of world (% of total assets)
Standard Chartered	15	0	85
Nordea	21	71	8
HSBC	27	17	56
Deutsche Bank	30	33	37
Santander	31	30	39
Barclays	39	16	45
BBVA	41	2	57
UniCredit	41	24	35
ING	43	37	20
BNP Paribas	45	34	21
KBC	47	36	17
Danske Bank	52	44	3
Royal Bank of Scotland	56	19	25
Société Générale	56	27	17
Crédit Agricole	62	23	15
Rabobank	65	14	21
Commerzbank	72	20	8
Groupe BPCE	77	5	18
Intesa	79	19	3
Landesbank Baden-Württemberg	81	16	3
Lloyds Banking Group	92	4	4

Source: Schoenmaker (2011).

Business activities can be organised very differently from one banking group to another. They can, for example, be organised according to geographic areas with dedicated legal entities for each business line; according to geographic areas, with a legal entity carrying out several different business activities; or with a legal entity carrying out a specific business activity across several geographic areas. Decisions on whether to set up branches or subsidiaries in EU cross-border expansion depend on several factors, including for example the type of market entry (greenfield investment, takeover, etc.), regulation, tax, and the distance between home and the new market (see European Commission, 2011d).

The choice of the legal form of cross-border service provision is not the only variable to assess differences across banks' business models. Rather, the main differences arise from the degree of integration of the risk management of the group as a whole and from the funding and liquidity models.

A survey of EU banks by the European Commission (2011d) shows that, notwithstanding the differences between the funding and liquidity practices of cross-border banking groups, they can all be categorised broadly into two main models, either centralised or decentralised (but generally with some coordination):

- **Centralised**. Banks are defined by their high degree of centralised wholesale funding and coordinated liquidity management. Their wholesale funding is mostly raised through the parent bank in its home Member State, in one or more other EU hubs and in non-EU country centres. It is then transferred from the centre to its subsidiaries through the group's "internal capital market" in the form of intra-group loans. These loans are subject to centralised transfer pricing, which represents the costs that the centre charges to its affiliates in the intra-group loan operations. The degree of centralisation differs between banks. It depends on cost efficiencies (e.g. advantages of hubs), risk appetite and management experience.

- **Decentralised**. Banks have subsidiaries which mostly fund themselves and are largely autonomous in capital and liquidity management. For instance, a bank with a constellation of stand-alone subsidiaries would fall into this category. The main characteristic of the bank's subsidiaries is heavy reliance on local deposits for their funding. In addition, each subsidiary accesses its local wholesale market, subject to central coordination and monitoring. The composition of subsidiaries' funding in those banks that follow a decentralised approach often reflects their market share or the country in which they operate. This evidence points to the same funding guidelines being established centrally and having to be implemented locally by all affiliates across the EU. However, structural liquidity gaps may still appear in funding some specific business lines, such as consumer finance. In such cases, the parent bank may provide funding from its international hubs, also using the group's internal capital market. But these intra-group transactions in the decentralised bank tend to be subject to strict limits and governance rules and are carried out at market prices.

Historically, there are different factors that influence the choice of the funding model of a bank during its foreign expansion. The two most important ones are the physical distance from home to host market and the way banks expand business lines abroad. Along these lines, centralised funding is usually established in case of market proximity and regional integration (e.g. in the Baltics for Scandinavian Member States), while decentralised funding is chosen in case of more distant markets.

As regards performance during the crisis, the Commission survey respondents which funded themselves on a decentralised basis find that their funding was more stable than those which funded themselves centrally. Partly reflecting this, all respondents sought to increase their dependence on local funding, especially retail deposits and covered bonds. However, some respondents note that intra-group flows remain an important channel for funding their affiliates. Respondents also report that integrated risk management systems proved extremely beneficial during the crisis. This is true irrespective of whether the banks funded themselves on a centralised or decentralised basis. The diversity in the funding and liquidity models of cross-border banks, spanning from centralised to decentralised operations, is examined in detail by BIS (2010a). Other studies on the performance of different cross-border funding models are reported in Box 3.5.

Box 3.5: Cross-border bank business models, funding practices and performance

IMF (2011b) finds that given the diversity of business lines and the varying objectives and stages of financial development of different countries, there is no one obvious structure that is best suited in all cases for cross-border expansion. It shows that integrated cross-border banking groups (with cross-border business conducted via branches) may provide important efficiency gains arising from the scale and diversification of their operations, but their failure can also generate spill-overs that threaten financial stability in countries in which they operate. In the event of failure, and in particular if there is limited international coordination, a subsidiary structure would generally be less costly to resolve, because spinning off the relatively healthy parts of the group may be easier. Under either structure, however, reputational risks and confidence effects may limit the ability to restrict contagion, with problems in one part of the group quickly threatening the viability of the rest.

As regards funding models, McCauley et al. (2010) identify Japanese, German and French banks as "centralized funding models", and US, Spanish and Swiss banks as "decentralized funding models". Decentralised multinational banks, which relied less on cross-currency funding and international wholesale markets, tend to provide more stable lending in host countries in a systemic crisis (BIS, 2010a; McGuire and von Peter, 2009; McCauley et al., 2010) whereas centralised international banks tend to perform better when the shocks are idiosyncratic to a specific region. The BIS (2010b) concluded that cross-border claims and locally booked foreign currency claims (often funded cross-border) dropped more abruptly than local currency claims (funded by local sources) in the crisis.

However, in times of distress, access to 'internal capital markets' (ICM) – i.e. intra-group cross-border funding flows - can have positive effects on financial stability, as support is provided to distressed foreign subsidiaries (de Haas and van Lelyveld, 2009). Along those lines, studies such as Mihaljek (2010) showed that the drop in cross-border funding flows from EU banks to Eastern Europe and Latin America was more limited compared to Asia, partly reflecting the relatively high degree of financial and monetary integration in Europe. In addition, the role of parent funding in helping Swedish subsidiaries that maintained credit supply in the Baltic States over 2007-2009 was highlighted by the BIS (2010a,b). However, the use of ICM in centralised international banks can also increase instability, by channelling resources away from affiliates, thus contributing to the amplification of shocks.

3.4.7. Performance

Appendix 3 reports key performance metrics for each of the banks in the sample and selected simple correlations between different bank characteristic and performance metrics. These correlations do not allow for any strong conclusions to be draws, owing to the fact that they do not control for all the different factors that affect bank performance (and are based on 2011 only). At most, what can be concluded on the basis of the correlations reported in Appendix 3 is that there is no obvious relationship between bank size and performance (charts A3.1 to A3.4). Also, unless other factors can be controlled for, it is not possible to identify a clear relationship between a bank's asset and funding structure and its performance (chart A3.5 to A3.8).

What is clear is that most of the large banks in the EU incurred significant losses in the period, and many required state aid. As reported in Chapter 2, more than €1.6 trillion of state aid was used to support the EU banking sector during 2008 and 2010 (13.1% of EU GDP). The ten largest beneficiaries were granted more than half of the aid. Note that several European banks that did not receive explicit state aid from their national governments have benefited from other support. This includes central bank liquidity support, as well as the implicit guarantee, or as creditor of bailed out banks. Moreover, several EU banks benefited from payments made by the US government to support its financial sector.

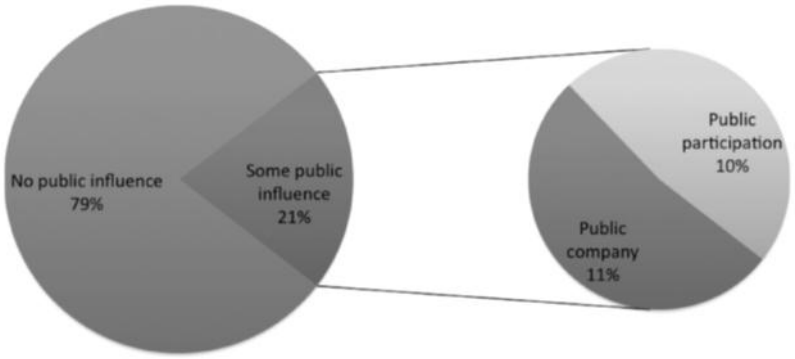
3.5 Diversity in EU banking: Publicly influenced banking models, and cooperative and savings banks

Most studies that examine business models in Europe mainly focus on the large banks, arguably because the latter account for the bulk of total banking sector assets (loans), enjoy superior data availability, and matter most from the viewpoint of a "too big to fail" concern. However, apart from the larger banks, which often focus on a broader mix of activities, there are a large number of smaller, more specialized institutions that coexist in the highly diversified European banking market. These often have different ownership structures – examples being cooperative and savings banks, or banks with strong public sector involvement.

While many of the large banks are listed stock companies, several Member States show a strong presence of cooperative banks as well as savings banks. The number of banks with state ownership has also grown, in particular as a consequence of the crisis when many governments had to step in to rescue their domestic banks. Even banks without explicit state ownership can be under public or political influence.

Based on estimates by Schmit et al. (2011), the estimated assets of the "publicly influenced" financial sector amount to €9,883 billion, or 21% of total assets of the financial sector (chart 3.5.1). The study defines "publicly influenced banks" as those where a public institution has a minimum of 5% of the voting rights. Of these, roughly half are labelled as "public institutions" (>50% control) and the other half involves entities with "public participations" (5%-49.99% control). These estimates of public institutions do not include previously private banks that were recapitalised by public authorities through equity subscription during the financial crisis, given that at least part of the crisis-induced public ownership is meant to be temporary and should get reversed when we are back into "new-normal" market conditions. Obviously, the crisis has significantly increased the number of banks with public ownership or influence, including in Member States (such as the UK and Ireland) where public ownership had previously been nil or negligible.

Chart 3.5.1: **Public sector participation in the European financial sector (pre-crisis situation)**

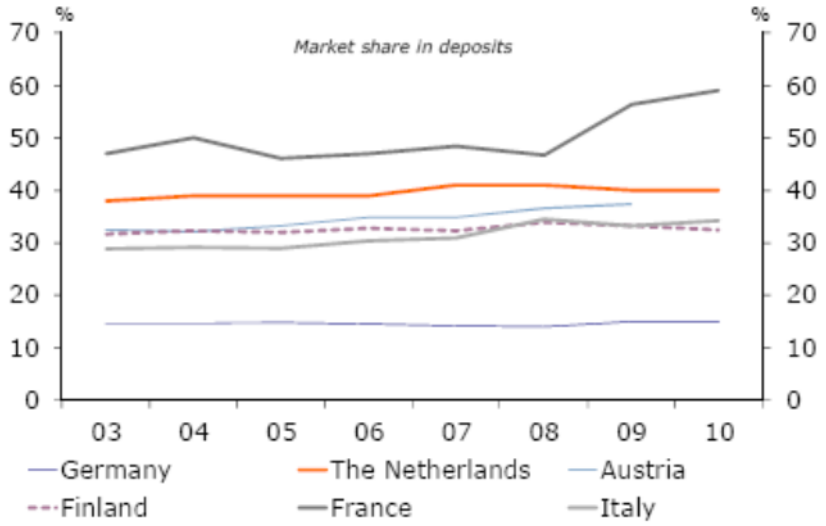


Notes: As percent of total assets in the EU plus five other European countries. "Some public influence" includes "public companies", where more than 50% of control rights is with public authorities, and "public participation", where public authorities have some control (at least 5%) but less than half of the control rights.
Source: Schmit et al. (2011).

As regards cooperatives, these are particularly prominent in Austria, France, Netherlands, Italy, Finland, as well as Germany and Spain which also have a strong savings bank sector. According to the European Association of Cooperative Banks, there are approximately 4,000 local cooperative banks. Cooperative banks have traditionally focused on retail services: providing savings products and credit lending to consumers and SMEs. They originally arose in Europe to meet local rural populations' financial needs at that time, and many continue to have a strong presence in domestic deposit markets (see chart 3.5.2) and in loan markets. However, over recent years several cooperative banks

have expanded their activities to include international services and/or investment banking activities. In several cases, these institutions appear similar to their commercial bank competitors.

Chart 3.5.2: **Market share of cooperative banks in select EU Member States, 2003-2010**



Source: Rabobank (2012).

The concept of cooperative or mutual ownership also applies to credit unions, which exist mainly in the UK, Poland, Ireland, Romania and the Baltics.[32] Most credit unions are very small institutions set up to promote thrift among their members and offer loans to members.

The mutual structure also applies to the building societies (or Bausparkassen), which are specialised institutions set up to support housing finance. Their activity is legally restricted by national laws and limited to providing credit agreements relating to residential property. For this purpose, they collect the savings of their customers in a common fund and use them to grant housing loans after a certain savings period has ended. Bausparkassen mainly exist in six EU Member States (Germany, Austria, Czech Republic, Slovakia, Romania, Hungary and Croatia).

More significant in some EU Member States are savings banks. In some Member States, savings banks are public banks in the sense that the sponsoring or responsible entity is a public administration. But not all savings banks are public, and not all public banks are savings banks. Among other activities, including the provision of financial services to the local community and SME financing, savings banks have traditionally played an important role in financing local public investment projects and other public financing (see section 3.6.4 for a case study on public finance banks in general).

There is a large body of empirical evidence on the performance, efficiency and resilience of cooperative and savings banks, with somewhat mixed conclusions (see Box 3.6).

[32] Credit unions tend to be very small organisations that often do not meet the €5 million initial capital requirement that applies to banks under CRD (exemptions from CRD generally apply in the member states in which credit unions are active). Total assets of EU credit unions are estimated at €18 billion, with the largest credit union movement being in Ireland (with total assets of €14 billion).

Box 3.6: Literature linking (cooperative) ownership of banks to performance/risk

A number of studies have examined the role of ownership and control in determining bank performance, including in particular the role played by cooperative banks as well as savings banks and other banks that are not "shareholder value" driven commercial banks. While some of these institutions have over time expanded their activities and become almost indistinguishable from their commercial bank competitors (CEPS, 2010), cooperative and savings banks have traditionally been active mainly in local retail business.

One aspect is performance in relation to loan provision. Several reasons have been put forward why cooperative and savings banks may perform better compared to commercial banks in reducing the transaction costs associated with screening borrowers as well as monitoring and enforcing repayments. The common point is the close relationship between the local cooperative or savings bank and its customers. The proximity reduces information asymmetries (Ghatak, 2000) and allows social sanctions within a tightly knit community (Stiglitz, 1990). Local banks may be in a better position to respond to the needs of SMEs and small entrepreneurs. However, they may be less capable in providing the services that other clients need.

Cooperative and savings banks are also said to foster regional development, as they typically lend the funds they have mobilised in the region where they belong. This is particularly true for the savings banks where the influence of public institutions such as local and regional governments is significant (Garcia-Cestona and Surroca, 2008).

The empirical literature suggests that cooperative banks have greater earning stability and lower return volatility compared to commercial banks (Cihak and Hesse, 2007, Groeneveld and de Vries, 2009). This is the result of (i) their ability to use customer surplus as a cushion (they are more highly capitalised on average); (ii) their lower dependence of wholesale markets; (iii) their lower incentive to take excessive risks; (iv) their tendency to operate in less risky retail banking markets; and (v) the mutual support they receive from being part of a network of cooperatives.

Cooperative banks tend to be less profitable than commercial banks, but not consistently different in terms of efficiency and market power (CEPS, 2010, Iannotta et al. 2007), in contrast to the conventional wisdom that they are less efficient and enjoy greater market power. They seem to enjoy a stable cushion of earnings, reducing their likelihood of insolvency and contributing to their stability. The evidence is mixed on whether low profits are due to operational inefficiencies, a lack of capital market discipline or simply an unwillingness to enhance current profits by giving up customer value. The literature suggests that cooperative banks have less risky assets in their balance sheets, which could be driven by either informational advantages towards their clients or a more risk-averse approach to banking in general.

The presence of cooperative banks has been found to have a positive impact on GDP growth in most countries, most notably in Austria, Finland, Germany and the Netherlands (CEPS, 2010).

3.6 Case studies: Illustration of business models that failed in the crisis

This section presents six case studies to illustrate different business models that failed in the crisis. While all banks are affected by the crisis, given its systemic nature, certain factors make particular banks more vulnerable than others. The case studies are illustrative of the range of main vulnerabilities, including:

- losses on trading activities and/or on investment portfolios (Lehman, Northern Rock, RBS, selected Landesbanken);
- aggressive expansion of business (Lehman, RBS) and/or departing from traditional function (selected Landesbanken);
- overreliance on short-term wholesale funding (Northern Rock, selected public finance banks);

- poor lending decisions, including significant exposures to the property and construction sector (Northern Rock, RBS, Spanish *cajas*); and
- high leverage (all of above) and, in the case of the Spanish *cajas*, constraints on external capital-raising due to legal structure.

3.6.1 Northern Rock[33]

Northern Rock (NR) was a building society (i.e. mutually owned), before being demutualised in 1997. In the period 1997-2007, it grew at very high rates (23% per annum) and became the fifth biggest UK mortgage bank by June 2007. It implemented an aggressive strategy in residential mortgage lending (90% of loan portfolio) offering ultra-competitive rates (NR accounted for 40% of total UK gross mortgage lending in the first semester of 2007) and it offered packages of mortgage and personal loans up to 125% of the collateral value. Traditional funding through deposits was unable to catch up with the growth of the balance sheet; hence cheap short-term wholesale markets funded its growth. NR issued and sold notes that gave the holder the right on the cash flows of the loan portfolio. New loans were packaged and their proceeds were sold through the sale of asset-backed securities.

As of 1995, the quality of the available capital started to degrade substantially. In 2005, subordinated debt issued in 2001 could be recorded as equity, hence leverage dropped substantially. Whereas the overall formal leverage did not increase, narrowly defined leverage exploded to a factor of 90 and beyond.

On September 13 2007, it was announced that NR needed assistance of the Bank of England (BoE). The morning after, depositors queued in front of the NR branches to collect their deposits and the BoE announced emergency liquidity assistance to the bank on the morning of September 14. But although it looked like a bank run by retail depositors, in fact it was not. Instead, NR's demise was the result of its institutional short-term investors (creditors) not rolling over their credit lines, which became critical several weeks, if not months, before 14 September. The actual run did take place on the wholesale market. NR turned out to be financed to a large extent with short-term wholesale funding, which it rolled over when the credit matured.

The key problem was that banks stopped trusting each other and the interbank market, one of the most liquid markets in the world, became completely illiquid (see also Chapter 2). It turns out that the depositor run was mostly an event that followed the actual NR crisis. Somewhat paradoxically, retail deposits have been shown to be the most stable source of funds for NR throughout its liquidity crisis.

The NR share price dropped from £12.50 in January 2007 to below £1 at year end 2007. It was nationalised on 17 February 2008.

In sum, the immediate cause of the NR failure was not a default by its borrowers, nor a run by depositors, but a run by its creditors. The NR case study highlights the relevance of assessing the balance sheet as a whole (leverage, liabilities, maturity mismatch, etc.) and that one needs to look at the overall system as a whole and not merely its individual constituents (that which is micro-prudent can be macro-imprudent). The NR case study offers several other general lessons. First, textbook retail deposit bank runs à la Diamond and Dybvig (1983) due to coordination failures may not be a good description of *modern* banking crises. Second, modern banking cannot be viewed separately from (capital) market and macro developments. Third, banking and intermediation is in a constant state of flux and institutions, regulations and laws are important. Fourth, NR is an example of a bank that failed following a period of extremely rapid growth of (credit) activities, excessive reliance on

[33] For more detail, see Shin (2009).

short-term funding and high leverage, which are three of the problematic bank characteristics identified in the literature (see section 3.2).

3.6.2 Lehman Brothers[34]

In 2008, Lehman Brothers was the fourth largest investment bank in the United States. It consisted of 2,985 legal entities in 50 countries, and many of these entities were subject to host country national regulation as well as supervision by the US Securities and Exchange Commission (SEC).

In 2006 Lehman took a deliberate decision to embark on an aggressive growth strategy, and to take on greater risk by substantially increasing its leverage and building up large exposures in commercial real estate, leveraged lending, and private equity-like investments. These undertakings were far riskier than many of its traditional lines of business, because instead of simply brokering transactions, the firm would retain substantial amounts of risk on its balance sheet. These risks were financed largely by short-term repurchase agreements, often totalling hundreds of billions of dollars per day.

After Bear Stearns failed and was purchased by JPMorgan Chase on 15 March 2008, Lehman was seen as the next most vulnerable investment bank. Panic increased sharply following the filing for conservatorship of Fannie Mae and Freddie Mac on September 7. Over the weekend of 12–14 September 2008, US authorities met with CEOs of leading financial institutions from around the world to try to broker a merger for Lehman, or at least raise a fund to subsidize a merger for the troubled firm. But on 15 September 2009, at 1:45 am, Lehman Brothers Holding Inc. (LBHI) filed for protection under Chapter 11 of the Bankruptcy Act, becoming the largest bankruptcy in US history. Much of the surprise of market participants had to do with a perceived change in US policy that would let a sizeable financial intermediary go under. Many market participants believed that if the authorities had managed to find $29 billion to arrange a merger for Bear Stearns, they would also be willing and able to advance at least $60 billion to save Lehman.

While the US authorities refused to support LBHI, the parent company, they did support Lehman Brothers Inc. (LBI), the US broker-dealer subsidiary, for another five days until it could enter the Securities Investor Protection Act trusteeship on 19 September when its prime brokerage activities, asset management business and a substantial portion of its client's assets and obligations were sold to Barclays Capital Inc. and others. The other concern, Lehman's leading role in the opaque OTC derivatives market, turned out not to be a problem. Most derivatives were promptly closed out and netted under ISDA Swap Agreements. Although counterparties were not necessarily happy with the prices they received, there were no knock-on effects attributable to the unwinding of the derivatives book. The main domestic impact that could be labelled systemic was due to a "moral hazard" play by managers of the $62 billion Primary Fund, a wholesale money market fund that was forced to "break the buck" because of its outsized holdings of Lehman's commercial paper. The collapse of prices in the secondary market caused the primary market for commercial paper to shut down. Commercial paper is the primary mode of finance for much of corporate America and so the US Treasury hastily provided insurance for money market mutual funds.

Chaos erupted abroad. The immediacy of the impact was in large part due to the highly integrated structure of the Lehman Group. Like many other global financial firms, Lehman substantially managed all of the cash resources centrally at the holding company. Since LBHI declared bankruptcy before cash could be swept out again to the subsidiaries, these subsidiaries found themselves suddenly illiquid and unable to continue operation. Bankruptcy proceedings were initiated in a variety of jurisdictions including Australia, Japan, Korea and the United Kingdom. Since London was Lehman's largest centre of activity outside the United States, many of the problems showed up most vividly there. The London subsidiaries, including Lehman Brothers International Europe, its largest

[34] This section draws from Claessens et al. (2010). For more details, see Valukas (2010) and FDIC (2011).

broker/dealer in Europe, filed for bankruptcy and turned to PriceWaterhouseCoopers (PwC) for administration. Since there is no provision under UK law for DIP (debtor in possession) financing, the administrators struggled to find money to fund main basic functions. PwC was confronted with 43,000 trades that were still "live" and would need to be negotiated separately with each counterparty. Also, at the time of filing, Lehman maintained a patchwork of over 2,600 software systems applications, many of which were outdated or arcane. These systems were highly interdependent, but difficult to decipher and not well documented.

In sum, in many ways the Lehman bankruptcy was unnecessarily disruptive. The firm was badly supervised and regulated, and benefited from widespread expectations that its creditors and counterparties would be protected if the worst came to worst, which proved to be mistaken. The USA acted unilaterally, providing an orderly resolution for the US broker/dealer arm of Lehman through a merger with Barclays Capital, but there was little cooperation in the resolution of the Lehman subsidiaries in 49 other countries, including, most notably, the major operations in the UK. The administrators of the Lehman bankruptcy in the United States have estimated that at least $75 billion of the overall cost could have been saved had there been any preparation for bankruptcy (Cairns, 2009).

The FDIC (2011) estimates that Lehman's senior unsecured creditors would have been able to recoup 97 cent on the dollar were Dodd-Frank powers and authorities in place at the time of Lehman's collapse and allowing for an orderly liquidation, compared to an estimated 21 cent on the dollar that resulted following the disorderly failure.

3.6.3 Royal Bank of Scotland[35]

In October 2008, Royal Bank of Scotland (RBS) in effect failed and was partially nationalised. From 7 October, it relied on Bank of England Emergency Liquidity Assistance (ELA) to fund itself; and on 13 October, the UK government announced that it would provide up to £20 billion of new equity to recapitalise RBS. Subsequent increases in government capital injections amounted to £25.5 billion. RBS's failure thus imposed significant direct costs on British taxpayers. According to the UK financial Services Authority's (FSA) 450-page report into RBS, the failure can be explained by a combination of factors.

RBS's capital position was far weaker, in terms of its ability to absorb losses, than its published total regulatory capital resources suggested. This reflected a definition of regulatory capital, which was severely deficient, combined with an RBS strategy of being lightly capitalised relative to its peers. At the end of 2007, RBS had a common equity tier 1 ratio of around 2%. This turned out to be grossly inadequate to provide market assurance of solvency amid the general financial crisis of autumn 2008, even if the RBS capital position did not breach the prevailing regulatory minimum. While the FSA pushed RBS to make a large rights issue in April 2008 and made other changes to apply a more rigorous capital regime, this came too late and the rights issue of £12 billion turned out to be insufficient during the autumn 2008 crisis.

The immediate driver of RBS's failure was not, however, inadequate capital but a liquidity run (affecting both RBS and many other banks). Potential insolvency concerns (relating both to RBS and other banks) drove that run, but it was the unwillingness of wholesale money market providers (e.g. other banks, other financial institutions and major corporates) to meet RBS's funding needs, as well as, to a lesser extent, retail depositors, that left it reliant on Bank of England ELA after 7 October 2008.

[35] Based on FSA (2012).

RBS entered the crisis with extensive reliance on wholesale funding. Its short-term funding gap was one of the largest in its peer group, and it was more reliant on overnight funding and unsecured funding. The acquisition of ABN AMRO (see below) increased its reliance on short-term wholesale funding, among other reasons, because the acquisition was primarily short-term debt financed and because ABN AMRO's large trading balance sheet left RBS more exposed to any loss of confidence in funding markets, such as occurred in autumn 2008.

In addition, RBS's balance sheet and leverage increased rapidly in the years leading up to the crisis. While RBS's investment banking division was the most rapidly growing area, RBS's loan portfolio also expanded. RBS subsequently suffered significant loan losses, with a particular concentration in commercial property (impairments on loans and advances eventually amounted to £32 billion over the period 2007-10, significantly exceeding the £17.7 billion of losses on credit trading activities).

Moreover, RBS had accumulated significant exposures containing credit risk in its trading portfolio, following its strategic decision to expand its structured credit business aggressively. The acquisition of ABN AMRO increased RBS's exposure to such assets just as credit trading activities were becoming less attractive. Structured credit markets deteriorated from spring 2007 onwards, and RBS was among the less effective banks in managing its positions through the period of decline, which ultimately resulted in significant losses.

As regards the ABN AMRO acquisition, this was undertaken by a consortium led by RBS. As noted above, the decision to fund the acquisition primarily with debt (the majority of which was short-term), rather than equity, eroded RBS's capital adequacy and increased its reliance on short-term wholesale funding. The acquisition also significantly increased RBS's exposure to structured credit and other asset classes on which large losses were subsequently taken. It turned out that the bid had been put together on the basis of due diligence that was inadequate in scope and depth, and which was therefore inappropriate in light of the nature and scale of the acquisition and the major risks involved.

The intensification of market uncertainties during summer 2008, culminating in the acute confidence loss following the Lehman collapse, affected all banks in some way. But RBS and other banks that were most affected were those that were, or were perceived as being, in a worse position, in terms of capital, liquidity and asset quality. After the Lehman collapse, RBS could mainly access the overnight markets as market participants were unwilling to fund longer-term, and when even overnight funding became difficult to access, RBS became dependent on Bank of England ELA on 7 October 2008.

Some of the causes of RBS's failure were systemic and can be attributed also to a deficient global framework for bank capital regulation and an inadequate supervisory approach. However, poor decisions by RBS's management and board during 2006 and 2007 were crucial to the bank's failure, even if some of these decisions appear poor only with the benefit of hindsight. Particular concerns were expressed on: whether the board's mode of operation, including challenge to the executive, was effective; whether the CEO's management style discouraged robust and effective challenge; whether RBS was overly focused on revenue, profit and earnings per share rather than on capital, liquidity and asset quality (whether the board designed a CEO remuneration package that made it rational to focus on the former); whether RBS's board received adequate information to consider the risks associated with strategic proposals, and whether it sufficiently questioned and challenged what was presented to it; and whether risk management information was adequate to monitor the aggregation of risks and sufficiently forward-looking to give early warning of emerging risks.

3.6.4 Selected public finance banks[36]

Public finance banks are banks that specialise in lending to public authorities. The market for making loans to local authorities (and their natural extensions) is a niche market because of (i) the specificity of the client (local authorities); (ii) the high average longevity of the loans granted; and (iii) the special legislation that applies to granting loans to local authorities. Different Member States rely on different banking models in order to serve their public finance markets. One can distinguish three main banking models of public finance banking: two long-standing, traditional ones and one more novel business model that emerged in the run-up to the crisis.

The first more traditional bank model with strong involvement in the financing of the public sector is that followed by, for example, the German Sparkassen or the French Caisse d'Epargne. This generally includes commercial banks that are characterised by a well-developed retail franchise, a good deposit gathering activity, and a local funding and local lending pattern. The bulk of their public finance and other loans are financed by retail and commercial deposits.

A second equally longstanding model is the one of public banks like Bank Nederlandse Gemeenten, the German Landesbanken (see section 3.6.5), and Crédit Local de France (before its integration into the Dexia Group). This typically includes banks characterised by a much more limited retail franchise and deposit gathering activity, but benefiting from an explicit or implicit state guarantee on their mainly local funding, in order to finance their local lending of local authorities.

Finally, in recent years an alternative business model has arisen, of which Dexia, Depfa, Kommunalkredit, and HRE are typical examples, and which is characterised by a substantially higher leverage ratio, a significant (almost exclusive) reliance on wholesale funding to support the expansion of their balance sheets and a retail franchise that is insufficient to fund all of its assets.

Given that by banking standards local authorities have enjoyed high creditworthiness, margins on credit granted to local authorities are typically relatively small and were pushed down significantly in the run-up to the crisis (as was the case to a certain extent with all risk premiums more generally).

As a result of the characteristically low margins, the sustainability of the public finance bank business models relies typically on scale, leverage, and very favourable funding conditions. These banks typically operate at a low cost and with a fixed cost structure and require a simple wholesale infrastructure. Provided the funding cost are and remain very low, then attracting more volume and revenues will lead to a lower cost income ratio and higher profitability and hence is a driver for increased scale. Funding conditions will depend on the credit rating of the public finance bank (including implicit or explicit state support) and its corresponding ability to secure cheap and continuous funding sources. Optimisation of such funding requires efficient management of maturity and liquidity mismatches, notably through capital market transactions (swaps and derivatives), which public finance banks use extensively.

A small average net interest margin may still result in a decent return on equity, if relatively little capital is held (needed to absorb the rare losses), i.e. given a sufficiently elevated leverage ratio. In other words, low margins can still result in an acceptable return on equity when scale, or more accurately leverage, is sufficiently large, combined with a very low funding cost.

Dexia, HRE, Depfa, and Kommunalkredit share the distinguishing characteristic that retail deposits represented a relatively small part of their funding, whereas they relied to a very large extent on the wholesale market for their funding. Their insufficient deposit base gave rise to a relatively large customer funding gap, defined as the difference between loans and customer deposits, which

[36] Analysis based on relevant industry and analyst reports.

needed to be filled by wholesale market funding. As a result, any gridlock in interbank or wholesale markets cut these banks off their primary funding base (funding liquidity risk). In addition, even a small mispricing of risk leads to substantial losses, given the narrow margins.

Compared to the two other types of public finance banking, these banks were characterised by a larger balance sheet, higher leverage, a more aggressive asset-liability management strategy, and a much greater reliance on the smooth functioning of wholesale markets. They proved less resilient to stress and were among the prominent bank failures (and bail-outs) during this crisis.

3.6.5 German Landesbanken[37]

Germany has a "three pillar" banking system constituted of 1) privately-owned commercial banks, 2) cooperative banks and 3) public sector banks, which in turn include Sparkassen and Landesbanken. The traditional role of the Landesbanken (LBs) was to act as central institutions for the savings banks, serving as clearing houses, holding their excess liquidity reserves, providing marketing services and access to capital markets and offering savings banks' clients investment banking services, access to foreign markets and credit on a larger scale. Therefore, local savings banks are not only the dominant owner of Landesbanken, they are also a major investor in Landesbanken debt. They also traditionally serve as the main bank of the respective Land in which they are located. As such, they were a pivotal tool for regional economic development: LBs have, since their inception, presented strategic investments for the regional governments, which sometimes view them as vehicles for the execution of their regional economic policy. However, these roles, notably acting as central institutions for the savings banks, have decreased in importance over time and the LBs have increasingly operated in similar ways to private commercial banks on an international scale. Through their size and international activities, Landesbanken complement services provided by Sparkassen, serving midcap and large cap corporates in their region. There is also some competition between Landesbanken with respect to these corporate clients.

LBs are mostly owned by their regional Sparkassen associations and the state ("Land"). In some cases, they are cross-owned by other LBs, the national Sparkassen association, and some private equity. As part of their public ownership, savings banks and LBs used to enjoy a guarantee from the public founding entity in the event of default ("Gewährträgerhaftung") as well as a maintenance guarantee ("Anstaltslast") whereby the owners ensure that the bank can meet its financial obligations at all times (i.e. providing liquidity support and capital injections if the bank is threatened by insolvency). This guarantee used to be less important for the savings banks as they are mostly refinanced by deposits, but very important for the LBs due to their market refinancing. However, during the crisis the exposures of savings banks vis-à-vis private banks and, more importantly via some Landesbanks have repeatedly forced the government to bailout the creditors of these institutions. Therefore, the lack of access to equity is a concern for some of these institutions. In 1998, private banks initiated proceedings against the system of state and municipal guarantees. Following a ruling by the European Commission that these guarantees were not in line with state aid regulations, a compromise in February 2002 between the European Commission, the "Länder" government, as well as the Länder and the Association of Savings Banks and LBs, required the abolition of the guarantee obligation, while existing liabilities were still fully covered. However, a phasing-out period until July 2005 allowed the banks to issue liabilities with government guarantee that matured up to 2015 – with no ceiling imposed on the issue volume.

LBs are characterised by structurally low profitability, due to weak revenue generation and relatively high operational costs. The considerable growth of the LBs' non-customer assets in the run-up to the crisis was fuelled by the strong accumulation of funding reserves before the loss of their state

[37] IMF (2011c), IMF (2010), and analysis of industry and analyst reports.

guarantees in July 2005. The vast amount of funding amassed was based on overly optimistic projections about future customer business and loose governance control that often ignored the immoderate expansion of non-franchise driven asset classes. Having accumulated these funding reserves, some LBs were helping to finance the asset bubbles in other countries by lending to foreign banks or buying foreign securities, including complex securitisation portfolios.

In sum, LBs historically acted as central banks of the Sparkassen, but have increasingly and aggressively digressed into wholesale funding, investment banking, and international business activities, backed by these explicit guarantee schemes.

For the LBs in particular, low profitability was not compensated for by lower volatility. Several LBs were hit hard by the crisis. The losses that some incurred during the crisis were a large multiple of the average profits earned in the years prior to the crisis (see Table 3.6.1).

Table 3.6.1: **Profit after tax of Landesbanken in difficulties**

Business year (€ million)	2001	2002	2003	2004	2005	2006	2007	2008	2009
WestLB	196	-1 730	-1 897	-1 159	308	799	-1 601	18	-531
BayernLB	254	255	80	63	470	358	175	-5 358	-2 619
HSH	204	239	262	127	400	460	280	-3 195	-838

Source: published accounts.

As a result, some of the LBs received substantial state aid. The European Commission has approved this aid on the basis of restructuring plans in cases where the bank was able to drastically downsize its business and thereby restore its viability (this was not the case for WestLB, which had to be wound-down). The restructuring implied that the LBs adjusted their business model back to being a regional service provider, which is actually closer to the original LB model generally defined in state laws.

The German federal government has made some attempts to establish a more consolidated, more domestically focused and ultimately more stable LB sector. However, the discussion within the sector and their associations has not yet delivered a clear model for the future role of LBs and their role in the savings bank sector.

3.6.6 Spanish cajas[38]

The Spanish economy is suffering from the implosion of a real estate bubble. Real estate prices have fallen sharply, and non-performing loans have risen significantly. The pace of ongoing deterioration in the loan portfolio of banking institutions threatens to overwhelm the scope of reserves, capital, profits and altogether the ability of the Spanish banking sector to absorb losses. This deterioration in domestic assets is having a larger impact on domestically oriented banks which grew significantly during the period of high credit growth prior to the economic crisis, and particularly the Cajas de Ahorro.

Cajas were institutions with a foundation type structure whose capital accrue from retained earnings and whose governance was controlled by a mix of depositors, employees, and local politicians. Generated profits that were not retained were distributed to local and socially-oriented causes. Driven by local political concerns, their lending programmes at times are said to have been prompted

[38] Based on various industry reports.

more by vested interests than by sensible business practices. Originally small in size and locally focused in their activities, the 1997 Royal Decree allowed cajas to expand for the first time beyond local regions and develop national franchises. Their growth since was also fuelled by easier access to finance (securitisation, covered bonds) and international capital inflows, with international investors showing significant appetite in Spanish banking debt.

Cajas gained market share continuously from the large listed banks through aggressive strategies focused on the real estate sector. Since the 1960s their market share in household mortgage lending increased from 10% to 50%. Loans by *cajas* to real estate developers rose from €36 billion in 2001 to €243 billion in 2008, and the number of branches and employees rose by more than 30%. While the big two Spanish banks reduced their lending in 2006-07 and focused on their international expansion, the *cajas* continued lending more keenly, tapping wholesale debt markets to fund themselves.

As the financial crisis began to unfold the Cajas needed to confront three challenges: a deterioration of their loan portfolio as activity and prices in the real estate sector began to deteriorate; an institutional limitation driven by their foundation-type nature that did not allow them to increase capital coupled with concerns about their governance structure; and a weak financial structure heavily reliant on wholesale debt markets in Europe at the time that these markets started to shrink significantly.

The on-going process of restructuring has three objectives: 1) an institutional transformation that requires the transfer of all financial assets and liabilities into an incorporated entity with the legal form of a bank; 2) a restructuring and downsizing of activities, mainly in number of institutions, branches and employees, so as to eliminate the excess capacity in the banking sector resulting from prior excessive growth; and, 3) a recognition of asset deterioration in portfolios and subsequent capital increases in selected institutions to enhance their solvency and viability.

In March 2010, there were 45 non-listed *cajas* that made up approximately 50% of the Spanish financial system. Large differences existed among them in terms of size. Spain's largest savings bank (la Caixa) had a loan book that is larger than that of the smallest 25 *cajas* combined. Since then a large process of consolidation, downsizing and restructuring has taken place, with 43 of those *cajas* taking part in the consolidation of the sector.

As of September 2012, only 13 banking groups remained. The average size of the institutions has increased from €29 billion in December 2009 to €102 billion by June 2012. Actual reductions in capacity (staff, branches,) have been relatively modest. Since 2008, total branches have declined by 19% and number of employees by 16%. Existing plans in most institutions include additional reductions. The resulting groups have been asked to transfer their banking activity to new legal entities organized as commercial banks, with the traditional *cajas* as their shareholders. Despite the wave of consolidations, a lack of capital remains a key problem and the government has had to provide financial support to a significant number of the resulting new institutions, with a significant dilution of the ownership of the traditional *cajas*.

4 EXISTING AND FORTHCOMING REGULATORY REFORMS

4.1 Introduction

The preceding chapters have illustrated that the banking sector has significantly grown in size and complexity during last decades (Chapter 2), and that banks' business models have evolved beyond the traditional retail domain to increasingly trading/capital market domain (Chapter 3). When the crisis hit in 2007, the EU banking sector was accordingly much larger than in the past, more complex, more interconnected and more integrated across the border compared with the past.

In broad terms, the severity of the crisis indicates that pre-crisis regulation and supervision was inadequate. As highlighted by the de Larosière report (2009), regulation was too focused on the health of individual institutions (microprudential) and did not sufficiently assess broader macro-prudential risks. The requirements set by prudential regulation turned out to be largely insufficient to ensure the resilience of banks, notably in the light of new financial techniques (e.g. securitisation). The crises also highlighted the danger of putting market integration first and building policy integration later. For example, supervisory arrangements – largely kept national – remained inadequate and had not kept pace with an increasingly integrated market place which provided scope for regulatory arbitrage. Furthermore, the absence of common rules for resolving failing banks made it all but impossible to have failing banks exit the market in an orderly manner.[39]

Since the outbreak of the financial crisis, alongside the management of the crisis by national authorities, state aid scrutiny by the European Commission, and interventions by central banks, the EU and its Member States have engaged in a fundamental overhaul of bank regulation and supervision. This overhaul exercise is based to a large extent on the reforms to strengthen global financial markets agreed by global leaders at the G20 summits in London in April 2009 and thereafter, and implemented in cooperation with the Financial Stability Board (FSB) and the Basel Committee of Banking Supervisors (Basel Committee).

The underlying reform objective is to create a safer, sounder, more transparent and more responsible financial system, working for the economy and society as a whole and able to finance the real economy, as an indispensable precondition for sustainable growth.[40] In order to achieve that objective, the EU is taking steps to increase the resilience of banks, but also of other parts of the financial system such as market infrastructures or non-bank financial institutions, and to reduce the impact of a potential bank failure. More specifically, proposed and agreed reforms aim at:

- Strengthening banks' ability to absorb bank-specific or systemic shocks arising in particular from areas which proved particularly vulnerable during the financial crisis – such as trading and derivatives activities, real estate lending or short-term funding structures;
- Reducing the likelihood of asset price bubbles, among other things, by taking measures to restrain indebtedness in general, and of the private sector in particular, and to reduce procyclicality in the system;
- Improving banks' internal risk management and staff incentive structures, and supervision by public authorities, including the monitoring of systemic risk. Enhancing the resilience of market infrastructures and non-bank financial actors, and thereby reduce contagion towards and between banks;

[39] The pre-crisis strategy has been summarised as follows: "The logic was to enlist market forces at the services of the integration process and to proceed with the next step of policy integration only when rendered necessary by the advance of market integration and supported by its participants." See A. Sapir (2011).

[40] Commission Communication COM(2010)301 of 2 June 2010.

- Preventing bank runs by more effectively protecting depositors in case of bank failures; and
- Ensuring that all banks can be wound down in an orderly manner so as to limit the effect on financial stability and depositors as well as the use of taxpayers' money, by reducing interconnectedness, increasing transparency, and creating effective procedures for the resolution of banks.

In accordance with its mandate, the Group has assessed key elements of this reform agenda, as to whether they are sufficient to make banks resilient to withstand crisis situations, minimise the impact of a bank failure and avoid taxpayers' support when a crisis happens, ensuring the continuation of vital economic functions and protecting vulnerable clients, while maintaining the integrity of the internal market.

A key objective of this section is to review and assess the regulatory responses agreed so far so as to determine whether structural reforms are called for.

4.2 Agreed and proposed reforms

4.2.1 Capital and leverage (agreed/proposed)

Capital requirements from Basel 1 to Basel 2 …

Credit intermediation and other services provided by banks play a critical role for the functioning of the financial system and the economy as a whole. At the same time banking includes elements which make it inherently instable – such as maturity and liquidity transformation, leverage, and the existence of systemic risks. Prudential requirements to back up a bank's balance sheet by a certain level of own funds in order to absorb losses have long been a key instrument to control and limit the risks inherent to the business of credit intermediation.

After previously relying on a more case-by-case, judgement-based approach, banking supervisors around the world, observing a sharp fall in capital levels since the 1960s and 1970s, agreed in 1988 with the Basel 1 accord that 8% of each bank's balance sheet should be backed by own funds, rather than by borrowings. However, since own funds requirements were not calibrated depending on the risks of specific activities, this left banks with the possibility to maximise returns by using their balance sheet for high-risk, high-return business that had a higher expected return, while the inherent higher risk profile did not lead to a higher capital requirement. Other shortcomings included a lack of focus on liquidity, on risk management techniques, and a failure to capture increasingly popular credit derivatives and securitisation activities.

In order to address these shortcomings, the Basel 2 framework (implemented in Europe in 2008 by Directives 2006/48/EC and 2006/49/EC (Capital Requirements Directive/CRD I package) introduced three "pillars": Pillar 1 consists of risk-sensitive minimum capital requirements. Banks may use internal risk models to calculate risk weights. This is supposed to better reflect their risk profile, but can also lead to considerable divergences in the calculation of risk-weighted assets for institutions with similar risk profiles. Mostly bigger banks made use of this possibility. Under Pillar 2 of Basel 2, banks are required to develop internal risk management capacities. Supervisors are given an active role, in the context of a supervisory review, to review whether capital is consistent with the overall risk profile and strategy of the bank. Pillar 3 includes public disclosure requirements to enhance market discipline.

…addressing the financial crisis…

The financial crisis demonstrated that the Basel 2 rules were insufficient for a number of reasons. Following calls from the G20 and the FSB, banking supervisors in the Basel Committee agreed in

2010/11 on new rules requiring banks to hold more and better quality capital (Basel 3). Proposals for EU rules implementing Basel 3 in the EU (the so-called CRD IV package)[41] are currently being finalised by the European Parliament and the Council. A common definition of own funds instruments will ensure that own funds of the bank can effectively be used in times of stress, capital requirements will be increased to 8%, of which 4.5% ought to be of Core Tier 1 capital of the highest quality, and an additional capital conservation buffer of 2.5% will be imposed. A countercyclical buffer that is built up in good times, and drawn upon in economic downturns aims at softening the pro-cyclicality of Basel 2 risk-based capital regulation. The main aim of this countercyclical buffer is to dampen the consequences of asset price bubbles by ensuring the ability of banks to maintain credit granting to the real sector.

Overview of the Basel III changes on capital

	Before	*After*
Minimum common equity requirement	2%	4.5%
+		
Capital conservation buffer met with common equity *(If under, greater contraints on earning distributions are imposed)*	0%	2.5%
=		
Total common equity requirement	2%	7%
+		
Countercyclical buffer *According to national circumstances*	0%	2.5%

… trading and derivatives risks …

As a direct consequence of the turmoil, capital requirements related to trading, securitisation and derivatives activities were tightened. The earlier CRD II and III,[42] based on the so-called Basel 2.5 accord, had supplemented the "value-at-risk" based trading book framework with an incremental risk capital charge to reflect the risk of large, but less frequent losses and the potential for large long-term cumulative price movements. Banks were, moreover, also required to calculate capital requirements based on scenarios of longer periods of stressed market situations implying significant losses ("stressed value-at-risk"). As regards securitisations, firms that re-package loans into tradable securities were required to retain some risk exposure to these securities, and investors in such securities to make their decisions only after conducting comprehensive due diligence – subject to heavy capital penalties. Firms were also required to publicly disclose more information and to hold more capital for re-securitisations. As regards derivatives, CRD IV introduces an additional capital charge for possible losses associated with the deterioration in the creditworthiness of a counterparty of a derivative (derivatives counterparty credit risk).

In addition, the Basel Committee is now consulting on a comprehensive review of trading book capital requirements.[43] In order to reduce the scope for regulatory arbitrage it suggests introducing a

[41] Commission proposals for a Directive on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, and a Regulation on prudential requirements for credit institutions and investment firms, COM(2011)452 and 453 of 20 July 2012 – also referred to as the CRD IV package.

[42] Directives 2009/111/EC and 2010/76/EC.

[43] see http://www.bis.org/publ/bcbs219.pdf

more objective boundary between the trading book and the banking book. In order to address weaknesses in risk management, the Committee is considering modifying risk measures (from "value-at-risk" to "expected shortfall") to better capture "tail risk". Requirements should be calibrated to a period of significant financial stress and should comprehensively incorporate the risk of market illiquidity (consistent with the stressed value-at-risk approach adopted in Basel 2.5). Model risk in the internal-models-based approach should be reduced, including by way of a more granular models approval process and constraints on diversification. The standardised approach should be revised to make it more risk-sensitive and allow it to act as a credible fall-back to internal models.

…systemic importance…

Due to the particular financial stability risks posed by systemically important banks, there will be additional loss-absorbency requirements for global systemically important banks (G-SIBs) of up to 3.5% as of 2016. According to the guidelines developed by the Basel Committee and FSB a global bank's systemic importance depends on its size, cross-jurisdictional activity, interconnectedness, substitutability and complexity. The Committee and the FSB are also developing guidelines for how to determine domestic systemically important banks (D-SIBs). In this framework, a bank's size in comparison to the country's GDP, as well as the specific characteristics of the local financial system, will be given greater importance when determining which banks are systemically important. The European Parliament has proposed introducing additional loss-absorbency requirements in the ongoing negotiations on the CRD IV package. Moreover, in the EU regulatory framework, Member States will be able, subject to coordination at EU level, to require institutions or certain types of them to hold capital in excess of the levels agreed by the EU. Several Member States, such as the UK or Sweden, have already announced or implemented additional capital requirements at the national level.

…and sovereign risk…

As already discussed in Chapter 2, following a call by the European Council in October 2011, a number of important European banks have been asked to build up an exceptional and temporary capital buffer against sovereign debt exposures and to establish an exceptional and temporary buffer such that the Core Tier 1 capital ratio reaches a level of 9% by the end of June 2012. This has led to an aggregate €94.4 billion recapitalisation for 27 banks and to a significant restructuring of four banks.[44] The recapitalisation has been achieved mainly via measures which have a direct impact on capital (retained earnings, new equity, and liability management), with deleveraging measures accounting for an overall reduction of risk weighted assets (RWAs) of only 0.62% compared with the level in September 2011.

…with a leverage ratio as a backstop…

As an additional element and a simple backstop to capital requirements calculated on the basis of risk weights and internal models, the CRD IV package also introduces a leverage ratio which limits the growth of banks' balance sheet as compared to their capital. As agreed by the Basel Committee, the leverage ratio is introduced as an instrument for the supervisory review of institutions. Its impacts will be monitored with a view to migrating it to a binding measure in 2018, after an appropriate review and calibration.

…and implemented through a regulation

[44] See EBA report of 11 July 2012, at http://www.eba.europa.eu/News--Communications/Year/2012/Update-implementation-capital-exercise.aspx

Basel 2 is implemented in the EU through a Directive which leaves room for significant divergences in national rules. This has resulted in a regulatory patchwork, leading to legal uncertainty, enabling institutions to exploit regulatory loopholes, distorting competition, and making it burdensome for firms to operate across the Single Market.

Several examples illustrate this. First, securitisation was at the core of the financial crisis. Previous global and EU standards addressed some of the risks by specific capital requirements. However, many Member States did not follow the standards, benefiting from a transitional opt-out. In a fully integrated market, such as securitisation, it was easy for cross-border groups to issue their securitisation titles in those Member States that opted out, rather than in. Following the experience with securitisation in the financial crisis, CRD II introduced harmonised rules to tighten the conditions under which institutions could benefit from lower capital requirements following a securitisation (including a harmonised notion of significant risk transfer). But several Member States had not transposed this by the end of 2010 as required. Second, the financial crisis has shown that reliable internal risk models are important for institutions to anticipate stress and hold appropriate capital. However, requirements for, and accordingly the implementation of, internal ratings based risk models vary from one Member State to another. As a result, capital requirements for comparable exposures differ, leading potentially to an unlevel playing field and regulatory arbitrage. Third, a tough definition of capital is a key element of Basel 3. However, experience with CRD I has shown that Member States introduced enormous variations when transposing the Directive's definition into national law. Even where the requirements of the directive were clear, some Member States did not correctly transpose them. In some cases, the Commission had to open infringement proceedings, taking many years, in order to force these Member States to comply with the directive.

In sum, introducing a single rule book based on a regulation will address these shortcomings and will thereby lead to a more resilient, more transparent, and more efficient European banking sector.

Assessment:

New loss absorbency requirements will strengthen banks' resilience against bank-specific and systemic shocks and thus reduce the probability of default. Basel 3 makes important progress in ensuring that the capital held is effectively available to absorb losses, and that banks generally hold higher levels of capital against risks from any part of their activities. It is therefore important that agreed reforms are implemented fully.

In order to ensure that loss absorbency is effective, capital requirements must be targeted at the risks inherent in different bank business lines and business models. The crisis has exposed important risks linked to banks' trading book and derivatives activities. However, risk weighted assets as compared to total assets for large cross-border banks, which typically have an important trading book, are significantly lower than for others banks (see Chapter 3). Moreover, the risk-based capital requirements (Pillar 1) based on value-at risk (VaR) model calculations can be very small compared to the size of trading assets (among the largest European banks the capital requirement for market risks ranges typically from 0 to 2 % of the total value of trading assets, see chart 3.4.17); that is, the leverage of such activities can be high. This can reflect a large share of customer-driven business volumes and limited open risk positions. However, the level of protection provided against model risks (especially problems in accounting for tail-risks and impacts of stressed market conditions) and operational risks (which increase in trading volumes) can be low without the imposition of additional capital requirements that provide further protection against extreme events, stressed market conditions and operational risks.

The present and planned capital requirements continue to rely on models and risk-based capital requirements, while the need for extra capital protection has been witnessed during the recent financial crisis. Enhancements to the Basel treatment of trading and derivatives exposures address this apparent discrepancy to some extent. According to the latest Basel 3 monitoring exercise, a full

implementation of Basel 3 in mid-2011 would have led to an increase of RWAs of large internationally active banks by ca. 20%,[45] with new rules on trading and derivatives exposures accounting for 5.2% and 6.6%, respectively (as compared to other banks for which they account only for 2.2% and 0.5%). The full impact will be seen in the analysis of the actual 2012 figures.[46]

Moreover, the future requirements and further plans by the Basel Committee primarily cover a single institution's idiosyncratic risks and do not address the systemic risks arising from trading activities, or the risks arising from highly complex market activities in combination with traditional banking activities. Neither do they generate additional protection against the tail and operational risks, as noted above. Improvements to the model-based framework are planned by the Basel Committee, reducing the dependency on certain modeling assumptions and reducing the capital-reducing benefits of diversification.[47] Moreover, the additional capital requirements do not yet address the substantial risks involved in concentrated positions, where bank can become significantly exposed to the continuation of market liquidity or the soundness of their counterparties.

The current levels of RWAs calculated based on banks' internal models and historical loss data tend to be quite low compared to the losses incurred in real estate-driven crises such as the Irish and Spanish crises. Moreover, the RWAs calculated by individual banks' internal models can be significantly different for similar risks. The CRD IV/CRR allow for an adjustment of the capital treatment of cyclical risks inherent in real estate exposures that jeopardised parts of the banking system in several phases of the crisis. This do this by introducing a countercyclical buffer, and by allowing national authorities to adjust risk weights for real estate exposures based on cyclical developments at national and sub-national level. The challenge will be for authorities to detect real estate bubbles accurately and at an early stage in order to use those tools effectively.[48] However, the problems due to the possibly very low levels of RWA and varying model outcomes across banks would need to be addressed by supervisors and coordinated European effort to foster greater consistency of model outcomes and to impose more conservative parameters where needed.

Finally, additional capital buffer requirements address the specific risks for financial stability arising from global and domestic SIBs and their size, interconnectedness and complexity, with the size of their trading and derivatives portfolios among the indicators. The actual implementation of the SIB-surcharges is currently work-in-progress and needs to be coordinated at the EU-level. Within the framework, it is possible to consider additional capital requirements aimed at tackling various aspects of systemic importance.

Overall, the Basel 3 framework has led to targeted enhancements of capital requirements in many significant areas which proved vulnerable in the crisis. However, there is scope to consider further additional measures to complement the basic risk-based requirements, such as non-risk-based capital cushions to increase the level of capital protection and to address all risks identified.

More generally, the appropriateness of capital requirements calculated based on RWAs presumes the accuracy of assumptions underlying standardised risk weights and internal models and the calibration of requirements to reflect the specific risks intrinsic to different banking businesses. The effectiveness of capital requirements therefore depends on effective and comparative supervisory

[45] See http://www.bis.org/publ/bcbs217.pdf , p. 14.

[46] First assessments of the impact of the additional rules currently considered by the Basel Committee in the review of the trading book have estimated that those reviews could lead to an increase in market risk RWAs of between 51% and 80%. See for example Autonomous (2012).

[47] BCBS: Fundamental review of the trading book, May 2012

[48] Real estate bubbles have consistently put the banking system in peril over the years. Addressing real estate bubbles probably requires the use of several instruments, be it prudential policy and monetary policy.

oversight and on a continuous improvement of risk models. The EBA has begun work in order to improve the consistency of modelling outcomes.

The work to test and compare the effectiveness of internal models by running them on benchmark portfolios is an important element in this respect, as is the fundamental review of the trading book capital requirements currently undertaken by the Basel Committee. But the experience of recent years has shown the intrinsic limitations of (i) risk models and their ability to adequately capture low probability-high impact events and to reflect interconnectedness in the financial system; (ii) the ability of supervisors to assess these models so as to ensure consistency among banks within their jurisdiction; and (iii) the ability to ensure consistency with assessments made by other supervisors in other Member States. The introduction of a leverage ratio is an important backstop in this regard. However, its simple design, based exclusively on the size of exposures, is unable to reflect the significant capital required to cover highly risky trading activities. A leverage ratio therefore cannot fully substitute risk-based capital requirements.

More fundamentally, whilst Basel 3 seems to address the weaknesses revealed by the crisis, it builds on the same regulatory approach as the previous Basel 1 and 2 frameworks. Asset liability management (ALM), trading, securitisation, funding liquidity risk etc. were all risks which were supposed to be assessed by supervisors as part of the Pillar 2 supervisory review process introduced by Basel 2, as well as partially by the Pillar 3 process of market disclosure. This did not, however, stop banks from accumulating excessive risks in these areas.

4.2.2 Liquidity (proposed)

A major problem in the global financial crisis in 2007/2008 and for most banks failing since then was the lack of liquid assets and liquid funding. Based on Basel 3, and in order to increase banks' resilience against a "dry up" of funding, the CRD IV proposals require banks to manage their liquidity according to two standards. Under the Commission proposal, as of 2015, banks will be required to hold sufficient liquid assets to meet their obligations in case short-term liquidity markets dry up (Liquidity Coverage Ratio, LCR). Moreover, as of 2018, and in order to address funding problems arising from asset-liability maturity mismatch, it is proposed to introduce a Net Stable Funding Ratio (NSFR) requiring banks to match their assets by sources of stable funding with similar maturities. Finally, the CRD IV proposals will introduce common procedures for the supervision of liquidity in cross-border groups.

Assessment:

New liquidity rules and a renewed focus on liquidity supervision (as reflected, for example, in the 2008 Basel Principles for Sound Liquidity Risk Management and Supervision) address an important element of many bank crises. The need to strengthen the ability of banks to withstand stress periods with no access to market funding (LCR) and to avoid excessive reliance on short-term market funding and excessive maturity transformation (NSFR) is apparent. Moreover, the NSFR is expected to reduce the interconnectedness in the financial system as it reduces the incentives to hold assets and liabilities in other financial institutions.

However, the implementation of both regulations raises considerable challenges, in particular for smaller banks. The selection of highly liquid asset classes that can be used to meet the LCR is not easy, and many assets considered liquid under normal market circumstances may become illiquid in crisis situations. On the other hand, the selection of eligible assets has a major impact on banks' profitability and consequently on the pricing of credit. The decision by the Basel Committee to further reflect on the definition and calibration of the final LCR requirements is therefore welcome.

The NSFR promotes banks with business models based on stable long-term funding sources. At the same time, the NSFR reduces banks' capacity to carry out maturity transformation, reducing their

profitability and partially transferring this role either to the providers of long-term stable funding or leading to a reduction of long-term financing for the economy. Thus the determination of the final details of the NSFR contains a balancing act between enabling banks to engage in maturity transformation vital for the real economy, while reducing the reliance on destabilising, short-term market funding to a sufficient degree. As the NSFR regulation is planned to enter into force in 2018, there will be further reflection on its final content.

4.2.3 Reducing contagion and complexity

Central clearing and trading of OTC Derivatives… (agreed)

Derivatives are of secondary importance for the vast majority of EU banks, but have been growing significantly over the last decade (see Chapters 2 and 3) and constitute today a major part of some banks' investment banking activities, with notional amounts of derivatives outstanding amounting to up to 2,000% of some major European banks' total assets. The demise of one of their US peers – Lehman Brothers – highlighted the size and interconnectedness of derivatives exposures, the difficulties to manage counterparty risk, and underlined the lack of transparency in derivatives market, which mostly is carried out OTC rather than via trading venues.

In order to limit contagion between banks from derivatives positions negotiated over the counter, the recently agreed European Market Infrastructure Regulation (EMIR) requires that, as of 2013, OTC derivatives must be collateralised and standardised transactions cleared by Central Counterparties (CCPs), interposing themselves between the parties and assuming their counterparty risk. This Regulation is in line with G20 commitments. Moreover, EMIR establishes trade repositories that will collect information on non-standardised derivatives, with the aim to increase transparency for regulators.

As a complement, the Markets in Financial Instruments Directive (MiFID) II review (see below) proposes to require that all standardised derivatives be traded on trading venues.

Assessment:

Counterparty risks, especially in derivatives trading, where volumes have drastically increased in the recent past, have become a major source of contagion and systemic risk. Moreover, individual institutions' risks and systemic inter-linkages stemming from the global derivatives market are hard to measure in the current environment, where opaque OTC trading dominates. Lack of transparency on individual market participants' risks, uncertainty relating to characteristics of non-standardised products as well as unpredictable implications from counterparty defaults complicate fair assessment of risks and capital needs.

It is important to increase safeguards against counterparty risks. At the moment, the regulations do not address systemic risk due to major exposure concentrations in individual institutions trading positions. Moreover, while the large exposure limits apply to interbank and intra-group exposures (if the latter are not exempted by national authorities), counterparty exposures between banks and between the entities of a financial group can still be substantial in relation to own funds.

It will be also very important to create strong incentives to move from OTC to exchange trading, and to the use of CCPs. This has already been the case in the recent regulatory proposals. Over time, as more and more derivatives classes will be subject to the obligation to be cleared by CCPs, counterparty risks in banks' derivatives business will be reduced. Such developments would improve transparency and lower the systemic risks that stem from highly complex trading operations. In order to achieve the benefit of the wider use of CCPs in the form of a reduction in systemic risk, it will be essential that the CCPs themselves are financially sound and that the capital requirements placed upon the CCPs are stringent enough and cover all material risks of the CCPs. Effectively managed and

tightly supervised CCPs will be key to ensure that this leads to an overall reduction of risk in the system.

EMIR is an important step to improve transparency of derivatives exposures for risk managers and supervisors, to limit contagion between banks via the derivatives markets, and to improve banks' resolvability by reducing complexity and interconnectedness. EMIR is expected to lead to increased transparency and improved collateralisation of OTC derivatives trades, supplemented by new capital rules for derivatives under CRD IV.

…MiFID II Proposal – Separating the operation of a trading venue from trading against own capital (proposed)

The October 2011 Commission proposal to review the MiFID Directive includes proposals to upgrade the market structure framework in MiFID.

MiFID aims at ensuring price transparency and fair treatment for market participants, and supervisory oversight by regulators. The MiFID II proposal upgrades transparency and market integrity requirements for existing categories of trading venues (regulated markets and multilateral trading facilities, MTFs) and extends coverage to non-equity markets. It requires trading venues which do not correspond to any of the existing categories to register as Organised Trading Facilities (OTF), subject to strong organisational requirements and identical transparency rules both for equity and non-equity instruments. Furthermore, in the context of the G20 commitments to enhance transparency and resilience of derivatives markets, MiFID II provides that, in the future, standardised derivatives will have to be traded on one of those trading venues.

MiFID II also addresses the interaction between trading venues and investment banks participating in the markets. While regulated markets are not operated by investment banks, MTFs may be run by either independent brokers or large banks, but are by their nature neutral venues which can be clearly identified and functionally separated from banking activities. In order to ensure the OTF operator's neutrality in relation to any transaction taking place and that the duties owed to clients cannot be compromised by a possibility to profit at their expense, as well as to clearly distinguish trading activity in which the bank is the direct counterparty of a trade, the proposal prohibits OTF operators – banks in many cases - from trading against their own capital. This distinguishes the operation of an OTF from the activity of dealing on own account, on a systematic basis or not.

The European Parliament and the Council have not agreed positions on these proposals yet.

<u>Assessment:</u>

The Commission’s proposal is expected to lead to an organisational separation between banks' dealing on own account business and the operation of a trading venue. However, as MiFID II is focussed on protecting market integrity and investors and is not intended to deal with issues concerning the setting-up of different legal entities for the provision of different services or activities, the separation will not require separate subsidiaries with stand-alone capital. Neither does the Commission's proposal deal with the separation of traditional banking activities (deposit taking and lending) from the provision of investment services and activities.

… Central Securities Depositories Proposal - separating settlement and banking services (proposed)

Central securities depositories (CSDs) operate systemically important infrastructures for the securities and the payments markets, resilience of which is key to withstand market stress situations. In March 2012, the Commission issued a proposal for a regulation on improving securities settlement in the European Union and on CSDs. In the context of this report, the proposed treatment of CSDs, which also provide banking services related to the settlement service, is of particular interest. The

Commission considers that these CSDs are exposed to additional risks linked to those services and therefore to a greater likelihood of suffering a default or being subject to severe stress with severe consequences for the securities and payments markets. While these services tend to be limited to intraday lending or deposit taking, the amounts handled are significant. In order to prevent the spill-over of risks from the banking services to the CSD services and to ensure CSD activities (in particular the IT infrastructure for settlement) can continue if the banking business were to become non-viable, the Commission has proposed that such banking services must be provided by a legal entity (acting as a so-called "settlement agent"), i.e. a credit institution that is separate from the operator of the infrastructure.

Assessment:

The intention of the proposal is to reduce contagion of the CSD core services, i.e. operation of a securities settlement infrastructure, by the provision of the riskier banking services by the CSD itself. For CSDs that currently provide banking services, the proposal, if adopted, will imply subsidiarisation of the banking services within the banking group in relation to the CSDs organised as banks, as a result of the need to separate settlement market infrastructures from riskier banking services. This is the first step towards subsidiarisation of certain businesses, which will be complemented by separate capital requirements to be met by the newly created subsidiary on a stand-alone basis.

… upcoming Securities Law Proposal – clarifying securities ownership chains (forthcoming)

The European Commission is currently preparing a legislative proposal on the legal certainty of securities holding and transactions. The proposal is expected to address the legal framework of holding and disposition of securities held in securities accounts, the legal framework governing the exercise of investors' rights flowing from securities through a "chain" of intermediaries, in particular in cross-border situations, and the submission of any activity of safekeeping and administration of securities under an appropriate supervisory regime. The proposal is expected to facilitate the resolution of financial institutions active across borders by clarifying “who owns what” in complex securities transactions chains.

Assessment:

The intention of the proposal is to increase the transparency of banks' securities holdings both in going concern for risk management and supervisors, and in case of failure so as to facilitate bank resolution or insolvency proceedings.

…and Shadow Banking System – developing appropriate prudential regulation of bank-type activities outside the regular banking system (forthcoming)

The shadow banking system, i.e. entities such as special purpose vehicles, money market funds and other mutual funds, insurance companies performing bank-type activities outside the regular banking system e.g. in the context of securities lending and repo activities, performs important functions in the financial system. For example, it creates additional sources of funding, can lead to a transfer of risks to entities which can manage them more efficiently, and offers investors alternatives to bank deposits. But recent years have shown that they can also pose potential threats to long-term financial stability if their transactions connect to banks, the banking system or asset markets.

While the banking sector has been subject to numerous reforms over the last years, the shadow banking system has remained less regulated and further efforts are clearly needed. There are, however, some exceptions. For example the funds-industry is already subject to many regulatory requirements (also prudential requirements) in the EU. Moreover, the Alternative Investment Fund Managers Directive is much widening the scope of regulated funds (to include hedge funds, private capital funds etc.).

The FSB is working on recommendations to ensure an appropriate prudential regulation and supervision of shadow banking activities. The Commission, on the other hand, has consulted on the need to take appropriate action in the EU on certain shadow banking activities (Green Paper on Shadow Banking, COM(2012)102 of 19 March 2012).

Assessment:

Ongoing work on shadow banking should make additional contributions to address systemic concerns as regards banks' exposure to shadow banking entities and reduce interconnectedness in the interbank markets by addressing the provision of liquidity to banks via repo transactions and by non-bank actors such as money market funds. The intention is also to ensure that if the ongoing reforms push certain activities out of the regular banking sector, they will nevertheless be subject to appropriate prudential oversight.

4.2.4 Transparency and quality of data for risk assessment

Accounting standards, statutory audit, public disclosure… (proposed)

Banks' financial accounts are an important tool to give bank management, investors and supervisors an accurate picture of a banks' economic situation and allow them to identify risks. Publicly traded banks in the EU are subject to international accounting standards (IFRS). New accounting standards developed by the International Accounting Standards Board (IASB) are revising certain issues which proved to be important during the crisis. For example, the rules for consolidation and the disclosures for non-consolidated entities (in particular in relation to securitisation and other off-balance sheet entities) are reviewed. The IASB is also working on a new accounting treatment of financial instruments. The objective of the IASB is to find a balance between fair value measurement and amortized cost to properly fit to the banks' business model (mixed attribute approach) and to respond to the critics regarding the counterintuitive consequences of own credit risk accounting for financial liabilities designed at fair value and to cater for adequate provisioning against expected losses.

However, as accounting standards are the basis for prudential regulation and supervision, the continuing divergences between accounting standards in different jurisdictions create significant scope for opacity and regulatory arbitrage. Notably, significant divergences between US GAAP and IFRS remain, for example as regards off-setting rules mainly for derivatives but also for other financial instruments such as securitisation, as regards impairment rules, and as regards the consolidation of off-balance sheet vehicles. The IASB and the FASB have also tried to set up a new impairment model based on expected losses for credit risk, but it is as yet uncertain whether this will succeed.

High-quality audits of banks are an integral part of the financial reporting environment to ensure credible financial statements on which management and supervisors can rely. Audits of some large financial institutions just before, during and since the crisis resulted in 'clean' audit reports despite the serious intrinsic weaknesses in the financial health of the institutions concerned. Proposals adopted by the European Commission in November 2011 aim to clarify the role of auditors and introduce more stringent rules, in particular to strengthen the independence of auditors and bring greater diversity into the audit sector as well as to strengthen and coordinate better the supervision of auditors in the EU.

Assessment:

Clear, transparent and comprehensive accounting standards are indispensable preconditions for managers, investors and supervisors to be able to understand the actual risks to which a bank is subject. New international accounting standards go in the right direction and have already brought some improvements, for example on consolidation, but reforms must continue to be pursued and

completed in a timely manner. International convergence is critical in this regard, and faster progress in convergence is necessary. Moreover, it remains to be seen whether even improved accounting standards will allow for effective risk oversight by managers, investors and supervisors, given the sheer complexity of certain banking businesses structures.

Mark-to-market requirements in existing accounting rules can be a source of pro-cyclicality due to volatility in financial institutions' profitability and capital adequacy. Such issues are heightened in periods of limited market liquidity and depressed market prices. Particular challenges are also caused by the use of models-based estimates of market values, when market prices are not available. However, marking-to-market allows early detection of problems and transparent valuation of a firm's balance sheet. Historical cost accounting can lead to financial problems remaining undetected for a long period of time and can thus also cause lack of market confidence in a particular firm or entire sector of financial institutions.

Moreover, the added value of financial information to enhance market discipline depends on public disclosure of meaningful and comparable data. Existing public disclosure requirements for banks are focused on prudential, rather than accounting information and do not ensure comparability of data across banks.

… and credit rating agencies (agreed /proposed)

The EU has introduced a regulation of credit rating agencies (CRAs) to ensure external credit ratings used by financial institutions for regulatory purposes are of high quality. Today, all CRAs in the EU are registered and supervised by the European Securities and Markets Authority (ESMA) and in particular subject to scrutiny of their rating methodologies. Moreover, the Commission has made proposals to improve the structure of the ratings market and to reduce overreliance on ratings by financial institutions and its encouragement by financial regulation. Under proposals currently under negotiation, banks would be prevented from relying solely and mechanistically on external credit ratings and would be required to strengthen internal risk assessment capacities, transparency and accountability.

Assessment:

An accurate assessment of credit risk is an indispensable part of banks' risk management and a precondition for effective supervisory oversight. Strengthening banks' internal risk management capacities and ensuring high quality requirements for external ratings and supervision of rating agencies are important steps in that direction. Moreover, while external ratings serve useful purposes, it is important to avoid that banks rely solely and mechanistically on external ratings. Reducing the reliance of financial policy implementation on CRA evaluation is also needed.

4.2.5 Corporate Governance and remuneration (agreed/proposed))

Prudential requirements on capital, leverage, or liquidity may be important for a bank's resilience in case of crises. But they can only complement an active and cautious management of risks by the bank itself. Even though prevention of failure should be in the fundamental interest of a bank and its shareholders, bank crises experienced over the last years provide ample evidence of corporate governance systems failing to ensure staff and management acted in the interest of the bank and of risks that were not managed and controlled properly.

Two major reforms have been enacted to help avoid excessive risk-taking by individual credit institutions and ultimately the accumulation of excessive risk in the financial system.

In order to ensure that staff and management incentives are aligned with a bank's long-term interest and do not encourage excessive risk taking, new rules introduced in 2010 (CRD III) require banks to

implement remuneration policies which do not encourage excessive risk-taking. In particular the rules require a substantial part of variable remuneration to be paid in shares or share-like instruments and demand deferring a substantial portion of the variable remuneration over a longer time. The existing regulation requires that that overall remuneration may not be excessively based on variable remuneration, but there is no fixed cap on the size of variable remuneration compared to total pay.

In order to increase the effectiveness of risk governance in European banks, the CRD IV package proposes to enhance the existing governance framework for banks, in particular by increasing the effectiveness of risk oversight by boards, improving the status of the risk management function, and ensuring effective monitoring by supervisors of risk governance. In addition, the European Parliament is proposing further enhancements of remuneration rules, and in particular a 1:1 ratio between fixed and variable remuneration.

Assessment:

New requirements to improve corporate governance and remuneration are important steps to align private incentives of banks, their management, staff and owners with society at large. However, effective control over risk-taking still faces considerable challenges (for example, as already set out in Chapter 3, even with improved remuneration incentive structures, management and staff face limited downside risk due to limited liability. Shareholder control is limited as shares are often dispersed and held by short-term investors; other investors have fewer monitoring incentives, because even with bail-in proposals implemented only some of them face a risk of loss).

Weak governance and shareholder control has often plagued credit institutions with strong political connections. Moreover, the scope for control will reach its limits if the size or complexity of a bank itself makes it impossible for the management and external investors to effectively control risks. However, improvements in corporate governance will not be effective in addressing collective underestimation of risks which are characteristic of systemic crises.

As regards remuneration, limiting the incentives for excessive risk-taking due to high bonuses (variable remuneration) could be achieved, for example, by requiring a cap on the amount of bonuses compared to fixed annual pay. Having a clear regulatory cap would also substantially ease the task of the supervisory authorities in screening out undesirable remuneration policies. A clear cap would also reduce the pay wedge between business and risk management staff and help attract highly-skilled staff members into the latter functions. The regulatory requirements up to date do not yet effectively address the risk of excessive risk-taking and allow varying approaches by individual national supervisory authorities.

4.2.6 Supervision

Alongside with banks' internal risk management, bank supervision is essential to monitor a banks' risk profile and intervene if the bank's own management does not take appropriate action to reduce excessive risks. Since the start of the crisis, the CRD has been strengthened to enhance and converge national supervisors' powers. Moreover, most if not all supervisors in the EU have reviewed their supervisory approaches and increased their resources.[49]

A new EU supervisory architecture – Reinforcing European coordination between supervisors… (agreed)

[49] This is reflected also in the ongoing review of the Basel Committee's Core Principles of Effective Banking Supervision following calls from the G20 in Toronto and the FSB.

Supervision of cross-border banks represents particular challenges. Both origins and management of the financial crisis laid bare a gap between increasingly integrated banking markets and cross-border groups and still essentially national supervisors, often lacking the necessary coordination with each other. Several situations also raised question marks as to whether home and host supervisors lived up to their responsibilities in crisis situations. The CRD II package recognised the important role of Colleges of Supervisors for these purposes. Since 1 January 2011, the newly created European Banking Authority (EBA) coordinates national banking supervisors, as evidenced by its coordination role in the 2011 bank recapitalisation requested by the European Council. The EBA has binding mediation powers among other things in relation to the approval of banks' internal risk models and Pillar 2 supervisory review (see above). As part of the CRD IV package, an integrated framework for liquidity supervision in relation to cross-border groups will be created as of 2016.

.. systemic risk oversight… (agreed)

In order ensure that bank regulation and supervision takes account of the interaction between individual banks' risk profiles and the financial system and the economy as a whole, the EU has set up the European Systemic Risk Board (ESRB), responsible for issuing early warnings and recommendations in relation to the build-up of systemic risk, alongside similar bodies in many Member States. The ESRB has been working on the identification and assessment of systemic risk and is developing principles for appropriate mandates and tools for macro-prudential policy to address those risks.[50]

…and supervision of conglomerates… (agreed/forthcoming)

Many banking groups in the EU carry out business in insurance or other sectors of the financial services industry at the same time. Financial conglomerates give rise to specific risks, including a potential double counting of regulatory capital, or risks including risks of intra-group contagion, risk concentration and conflicts of interest. In addition to sector-specific supervision of the bank and insurance business in a conglomerate, the 2002 EU Financial Conglomerates Directive (Directive 2002/87/EC) allows national supervisors to engage in supplementary supervision and monitor group risks. A review of the Financial Conglomerates Directive in 2011 focused on ensuring that all relevant groups are covered by supplementary supervision. This will be integrated by a second review in 2013.

…Banking Union and single supervisory mechanism (proposed)

In order to address the negative feedback loops between bank stability and Member States' finances, the European Council of 28-29 June 2012 asked the Presidents of the Council of Ministers, in collaboration with the Presidents of the Eurogroup, the European Commission, and the ECB to develop, by December 2012, a road map for the achievement of a genuine Economic and Monetary Union. As a first step, following a specific call from the Euro Area Summit, on 12 September 2012 the European Commission presented legislative proposals for the establishment of a single supervisory mechanism within the EU, as a first step towards Banking Union.

Assessment:

A greater focus on intensive bank supervision and decisive early intervention actions, underpinned by effective powers for competent authorities are equally important to ensure banks' risks and their management are supervised effectively. At the same time, this presents considerable challenges in day-to-day supervision, in particular in relation to complex banks and to business lines where risk

[50] See for example the ESRB Recommendation of 22 December 2011 on the macro-prudential mandate of national authorities - ESRB/2011/3, OJ 2012/C 41/01.

profiles can change significantly in very short time periods and thereby risk outpacing supervisory control.

Macroprudential supervision is an area under development and will ensure that systemic risks will receive the necessary supervisory attention. However, the early recognition and accurate assessment of systemic risks will remain a very challenging task, and seamless cooperation between macro- and micro-prudential supervision is required. There is currently a lack of information at the EU-level necessary for a macro-prudential assessment. One such area where information is particularly lacking are the interconnections between financial institutions and analyse respective contagion links.

Another area in need of further development concerns the tools available to authorities to address the growing imbalances in credit markets. In the past, real estate lending – fuelling instable development of asset prices – has been associated with many serious banking problems, also in the recent financial crisis (e.g. in Ireland, Spain and Denmark). The European implementation of the Basel 3 framework (CRD IV) will offer significant flexibility for national authorities to react to growing cyclical instabilities and to strive at preventing the emergence of stability-endangering risks in the financial system as a whole. Such tools, especially the counter-cyclical capital buffer, can be activated by national competent macro-prudential authorities under the coordination by the ESRB.

This development is highly welcome, but further work is needed to equip authorities with sufficient macro-prudential tools. In many jurisdictions, legal changes will be needed to allow the use of specific tools, and EU-level harmonisation would be highly welcome. There is support to the inclusion of a loan-to-value (LTV) cap and/or loan-to-income (LTI) cap into the macro-prudential toolkit. They are direct measures to limit the amount of gearing and prevent the over-indebtedness by individual borrowers vis-à-vis the value of the assets purchased by the respective credit or their income. Hence, they are direct measures to limit leveraged growth in asset markets and the growth of household sector imbalances. In the past, LTV values well over 100% significantly fuelled the build-up of real estate credit and pricing bubbles. National regulation to allow authorities to set up LTV caps (and LTI caps with a similar purpose) and EU-level harmonisation of the actual definition and use of such restrictions should be a priority in the further development of an effective set of macro-prudential tools.

4.2.7 Bank Recovery and Resolution (proposed)

Neither strict prudential rules nor close supervision can exclude bank failures, or if they would, the cost of doing so would be prohibitively high. In order to ensure that such failures can be managed without impact on the stability of other financial institutions or financial markets, and without recourse to public resources, the G20 and the FSB have underlined the importance of effective frameworks for the resolution of financial institutions.

As part of the FSB's Key Attributes for effective resolution regimes of financial institutions, the FSB issued in 2011 guidance on recovery plans (by banks) and resolution plans (by respective authorities) that should be developed for G-SIBs by end 2012. The practical implementation of these requirements is currently underway by national supervisory authorities. It is expected that such requirements will be extended to other relevant institutions as well. Both plans will form a central place in ensuring the resolvability of institutions. Moreover, several Member States, including the UK and Germany, have introduced bank resolution mechanisms at the national level.

In light of these developments, the Commission proposed in June 2012 a Bank Recovery and Resolution Directive (BRR) requiring all Member States to have in place resolution regimes, consisting of several elements:

- Banks must draw up recovery plans setting out measures to restore their viability in case of difficulties, and authorities must prepare resolution plans for cases of non-viability;
- If authorities identify obstacles to resolvability in the course of this planning process, they can require a bank to change its legal or operational structures to ensure that it can be resolved with the available tools in a way that does not compromise critical functions, threaten financial stability, or involve costs to the taxpayer;
- Authorities must have at their disposal effective and harmonized powers of early intervention to ensure that financial difficulties are addressed as soon as they arise;
- In case a bank is failing or likely to fail, authorities are equipped with a harmonized set of resolution powers – including for example the sale of a business, the setting up of a bridge bank and bail-in, whereby the bank would be recapitalised with shareholders being wiped out or diluted and creditors having their claims reduced or converted to shares. Moreover, specific procedures for cross-border resolution are set up; and
- In order to ensure that the resolution authorities have at their disposal the financial means necessary for effective resolution action without recurring to taxpayers' money, dedicated resolution funds financed by risk-based industry contributions will have to be build up with a sufficient capacity to reach 1% of covered deposits in 10 years.

Negotiations in the European Parliament and the Council on the proposal are still at an early stage.

Assessment:

Implementation of the BRR proposal would enhance the likelihood that banks can be wound down in an orderly fashion and without impact on other market participants.

Recovery and resolution plans will indicate specific problems in the resolution of a bank – deriving from a bank's structure or from other elements. With the preventive powers, resolution authorities will have the tools to act if the plans show that a bank is irresolvable. The crucial requirement for supervisors is to ensure that the bank has in place credible means to maintain the continuity of its key functions as well as capital adequacy and liquidity of the whole group. Such means could include the sales of operations or assets or unwinding of risk positions. The bank should also evaluate the value and saleability of its business lines and assets under stressed market conditions. Hence, the evaluation of the recovery plans (that will be matched by resolution plans) could give a possibility for supervisors to react if the bank does not present a credible way of resolving or winding down its businesses (e.g. trading risk positions or other major risk positions) in a manner that does not jeopardize the banks' financial health and/or significantly contribute to systemic risk. However, significant further practical experience will have to be gathered in this on-going process of developing recovery and resolution plans. For these tools to be effective, it is key that supervisors invest significant resources to scrutinise and challenge banks as to their resolvability. Furthermore, access to information and seamless cooperation among authorities is crucial.

The possibility to bail in creditors is intended to give the resolution framework credibility as a toolkit to be applied also to big banking groups. While not all liabilities will be subject to bail in, the requirement to hold certain amounts of bail-inable instruments will ensure that bail in can be applied to all banks. In the future, bail-in should be the rule, and bail-out the rare exception.

A number of features of the bail-in instruments have been outlined in the proposed BRR. For instance, the bail-in tool would only be used in conjunction with other reorganisation measures, and the ex-ante creditor hierarchy would be respected. However, the predictability of the use of the bail-in instrument should be improved so as to increase marketability of the new bail-inable securities. A clearer definition would clarify the position of bail-in instruments within the hierarchy of debt commitments in a bank's balance sheet and allow investors to better understand the eventual treatment of the respective instruments in the case of resolution. The resolution funding

arrangements proposed by the Commission, which reflect similar arrangements already put in some Member States, are important to ensure that those costs are primarily borne by the financial sector. If bail-ins of bank creditors became the rule rather than the exception most funding needs would be manageable in size and temporary only.

While the Commission proposal is a significant step forward in developing the EU framework for managing banking crises, the fact that responsibility for safeguarding financial stability and protecting depositors stays at a national level may give rise to unilateral national actions in the resolution of large, cross-border banks. Therefore, an even stronger European dimension, in the form of a Banking Union, is necessary.

4.2.8 Deposit Insurance Schemes (proposed)

A bank's traditional core business – taking short-term deposits and granting longer term credit – is prone to bank runs. A bank is not able to pay out all depositors, as its assets are partially locked up in long-term assets, and as soon as there is a doubt about a bank's solvency, all depositors will try to be first in the line to recoup their deposits. This will lead to a further aggravation of the bank's liquidity situation, which may require fire-sales that could lead to insolvency.

Under Directive 94/19/EC, banks in all Member States must be covered by deposit guarantee schemes, insuring deposits in case of unavailability up to €20 000, and – following an initial reform during the crisis – €100 000 as of 2008. In order to increase deposit-holders' confidence in the effectiveness of the deposit guarantee schemes, to reduce the use of tax-payers money to guarantee deposits, and to avoid races for higher coverage in times of crises, the Commission proposed in 2010 a further harmonisation, introducing a more sustainable funding of DGS by way of risk-based ex ante contributions, facilitating administrative procedures and reducing payout delays. The Commission also proposed introducing a European element by enabling national DGS to borrow from each other in case of funding shortage. In ongoing negotiations, the Council and the European Parliament have partially followed this, but have not followed suggestions for a mandatory borrowing between national schemes.

Assessment:

The effectiveness of DGS in preventing bank runs depends on the trust their financial capacity and their ability to ensure that depositors have continuous access to their deposits and are not affected by a bank failure (whether through compensation pay-out or through other means, such as facilitating the transfer of the deposit accounts to another entity). Payout delays should not prevent depositors from accessing their funds immediately. The 2010 Commission proposal, and in particular its provisions on ex ante financing, payout delays, and mutual borrowing between national schemes aim at addressing this issue.

Deposit guarantees continue to rely above all on schemes set up and financed at the national level. If deposits are to be exempt from the principle that bail-ins are the rule, deposit insurance can be handled by drawing on existing national deposit guarantee schemes. Looking at the future, a stronger European dimension may be introduced by the Banking Union. However, the creation of an EU-wide deposit guarantee system based on common rules and without links to legacy systems is challenging and thus can only be built over time.

4.3 Structural reforms

Structural reforms are in the pipeline in some countries. This section looks at three most prominent examples of such ongoing reforms: activity restrictions (Volcker Rule), size limits (Dodd-Frank Act) and structural separation of certain activities (UK Independent Commission on Banking).

4.3.1 The Volcker Rule

Building on the existing activity restrictions on insured depository institutions and the bank holding company structure, Section 619 of the Dodd Frank Act, known as the Volcker Rule, further restricts deposit-taking banks from engaging in certain types of market-oriented activity (proprietary trading). The underlying intention of the rule is to safeguard the core of the banking system, i.e. "commercial banks". It is an attempt to make this important core of 'traditional' banking easier to understand and to prohibit it from engaging in more complex activities that are prone to conflicts of interest with the core objective of commercial banking (take deposits and make loans). The rule is also partly a US-specific response to a US-specific problem. Since the Gramm-Leach-Bliley Act, banking groups have (re)ventured beyond their core commercial activities into investment banking. The Volcker Rule should therefore be interpreted as an attempt to bring back order into this new, complex financial system, by attempting to draw a firm line that should prevent conflicts of interest, avoid excessive risk taking and limit the safety net to purely commercial banks.

The rule prohibits any banking entity from engaging as principal in short-term trading in securities, derivatives, or commodity futures, i.e. activities judged as incompatible with the appropriate risk profile and customer-driven mission of banking entities. The rule is subject to exemptions for market-making, hedging, trading in US government securities, and other activities. Furthermore, no permitted proprietary trading activity may involve high-risk trading strategies or assets, or a material conflict of interest with customers, clients, or counterparties.

The rule was subject to consultation earlier this year. Key concerns raised by respondents during the consultation process included:

- the appropriate scope of the exemption for market making-related activities, including concerns about (i) the impact on market liquidity if such exemption is not construed broadly (e.g. Duffie (2012) provides an analysis of the potential effects of the Volcker Rule on market liquidity) and (ii) the potential for arbitrage and evasion if the exemption is not construed narrowly;
- the scope and potential burden of the compliance programme and data-reporting requirements included in the proposed rule;
- the excessive breadth of the statutory definition of "hedge fund and private equity fund"; and
- the extraterritorial implication of the Volcker Rule's statutory application to (i) the non-US activities of foreign banks and (ii) proprietary trading in non-US sovereign debt by both US and foreign banks.

Although the Volcker Rule enters into effect on July 21, 2012, the Federal Reserve issued a statement earlier this year clarifying the Volcker Rule's two-year compliance period for banking entities (i.e. need to comply as of July 2014).

Compared to existing US regulation, the Volcker Rule is applicable broadly at the consolidated level and restricts very specific types of activities that, although clearly financial in nature and in some cases very difficult to differentiate from permitted activities, were deemed by the US Congress to be incompatible as a policy matter with the appropriate risk profile and customer-driven mission of banking entities. It is therefore different from the regime in place under the Glass-Steagall Act

between 1933 and 1999, which separated more bluntly commercial banking from investment banking and did not attempt to make fine distinctions between “high-risk” and “low-risk” activities, nor “proprietary” and “customer-driven” activities, in regulating bank structure.

Given the difficulty of providing clear ex-ante definitions by means of legislation, the Volcker Rule relies on a reporting and compliance regime that will collect new data to be monitored over time. The compliance and reporting regime will be adapted to the magnitude of institutions' trading activity.

4.3.2 The UK Independent Commission on Banking (ICB)

A specific variant of functional separation was proposed by the UK ICB in 2011. It recommended that large UK banks should ring-fence their retail bank operations into separate legal subsidiaries with their own prudential safeguards.

As regards the ring-fence, the ICB stated that the taking of deposits from and providing overdrafts to individuals and SMEs have to be provided by the ring-fenced entity (mandated services). Other services cannot be provided by the ring-fenced entity (prohibited services). The latter were not exhaustively defined, but the ICB provided a set of objectives and some further detail. Activities that are necessary for the efficient provision of mandated services may be provided by the ring-fenced bank (ancillary services). The ICB furthermore set out detailed requirements to ensure that the ring-fenced entity can be isolated from the group in a few days and can continue to provide services without solvency support (legal and operational links). It also proposed detailed requirements on economic links to ensure that ring-fenced bank's relations with other parts of group take place on third party basis; and, that the ring-fenced bank should not be dependent on the group's continued financial health for its solvency or liquidity. As regards the specific prudential safeguards of the ring-fenced bank and the wider group, the ICB proposed a number of requirements (more equity, stricter leverage limits, bail-in, depositor preference, primary loss absorbing capacity…).

The UK government formally welcomed the ICB's report in December 2011 and in June 2012 released a White Paper for consultation on how it proposes to implement the recommendations. More specifically:

- **Scope**: the UK government proposes to exempt smaller institutions from the ring-fencing requirement by means of a *de minimis* exemption whereby banks with less than £25bn in mandated deposits would not have to implement the ring-fence. Furthermore, building societies will be carved out. However, the 1986 Building Societies Act already restricts the activities building societies can provide. A forthcoming review will further bring the Act in line with the ring-fencing requirement;

- **Boundaries of the ring-fence**: the UK government proposes to exempt high-net-worth individuals from the ring-fence and further clarifies what constitutes an SME;

- **Derivatives**: the UK government confirms that ring-fenced banks should not be allowed to originate, trade, lend or make markets in derivatives. Furthermore, the government proposes to provide in primary legislation that dealing in investments as principal will be a prohibited activity. However, it proposes to take a power in secondary legislation to allow exemptions to those prohibitions so that banks can for example manage balance sheet risks, for instance by means of derivatives. It proposes furthermore that, subject to conditions, ring-fenced banks may provide certain simple derivatives products to its customers. The

conditions are aimed at ensuring that providing these products does not give rise to increased exposure to market risk and that the services are sufficiently simple so as not to threaten resolvability (the key conditions set by the ICB for ring-fenced banks providing risk management products);

- **Operational subsidiarisation**: provided that banks respect the operational separability criteria (i.e. independent capitalisation and funding, effective service level agreements, provision of services by operational subsidiaries at arm's length basis, operational assets owned by operational subsidiary), they should be free to organise their operational structure as they choose. It will be up to the regulator to require operational changes from firms where it has been shown that a firm's operational infrastructure presents a barrier to separability;

- **Loss absorbency**: Ring-fenced banks should hold a minimum level of 17% of primary loss absorbing capacity (PLAC), consisting of an equity buffer of 3% and a choice for banks whether to hold the remaining 7 percentage points in either equity or highest quality loss absorbing debt. For non-ring-fenced banks, the government proposes that the most systemic UK G-SIBs (those subject to the maximum G-SIB surcharge) should hold at least 17% PLAC against all domestic and non-exempted overseas operations;

- **Leverage limits**: the UK government does not propose requiring large ring-fenced banks to respect stricter leverage limits than those considered internationally;

- **Bail-in**: the government supports bail-in and expects to implement it when transposing the European Commission's proposal for a Recovery and Resolution Directive (BRR) that contains bail-in powers. PLAC should accordingly consist of capital (equity, Additional Tier 1 and Tier 2) and long-term unsecured debt that is subject to the bail-in power; and

- **Depositor preference**: the government proposes to change the creditor hierarchy so that insured deposits (those covered by the UK deposit guarantee system – FSCS) are preferred in insolvency, i.e. depositors rank ahead of other creditors. The aim is to sharpen the incentives for other senior unsecured creditors to exert discipline on banks' behaviour.

The draft proposal will be published shortly and the UK government has committed to have all legislation in place by May 2015. The legislation will delegate power to regulatory authorities, who will then have to develop detailed rules within two years. Banks will have to comply by the start of 2019.

4.3.3 Size limits

Another set of structural reform measures are those aimed at limiting the size of banks. The aim of size limits is to cap the size of financial institutions, thereby dampening the impact of a failure. A first option is to avoid excessive market concentration by for example stipulating that an individual institution cannot capture more than a certain percentage of the overall market. The limits can apply to organic growth and/or growth by acquisition. A limit on growth resulting from acquisitions has been used in the US since the mid-1990s (national deposit concentration limit). It was complemented by the Dodd-Frank Act (financial sector concentration limit).

Section 622 of the Dodd Frank Act imposes a concentration limit on 'financial companies'. These are prohibited from merging, consolidating with or acquiring another financial company if the total consolidated liabilities of the resulting financial company exceed 10% of the aggregate consolidated

liabilities of all financial companies. It applies on top of the concentration limit for the deposit market that prevents acquisitions and consolidations, resulting in banking groups having more than 10% share of national deposits. The national deposit concentration limits have been in place since the 1994 Riegle-Neal Act and were imposed as a quid pro quo for the liberalisation of rules governing inter-state bank acquisitions.

While the national deposit cap currently 'bites' (some institutions are just at the limit and can thus not grow nationally by means of acquisitions), the financial sector concentration limit foreseen under Section 622 is unlikely to have a practical effect in the short term; however, it will over time result in a marketplace characterised by actors that are no larger in relative terms than is currently the case.[51] However, this rule only addresses new combinations. It does not address the outstanding stock of existing financial companies, which will not be broken up/reduced in size. It therefore prevents more market consolidation, rather than reducing the current size of financial firms. Accordingly, it would do little to address current perceptions of too big to fail/supervise/manage. Furthermore, the size limit is a relative measure. As the financial system grows (liabilities increase), firms will be allowed to grow bigger in absolute terms. Also, by exclusively focusing on size, it does not address other problems related to systemic firms (e.g. interconnectedness, substitutability, complexity, cross-jurisdictional activity…).

[51] Financial Stability Oversight Council (2011), *Study and Recommendations Regarding Concentration Limits on Large Financial Companies.*

5 FURTHER REFORMS OF THE EU BANKING SECTOR

The Group's mandate is to consider whether there is a need for structural reforms of the EU banking sector to establish a safe, stable and efficient banking system serving the needs of citizens, the EU economy and the internal market. This chapter outlines the Group's views of what reforms to pursue in light of that mandate. A first section highlights the role of banks in the EU economy and what the objectives of reform should be. A second section outlines the main problems characterising the EU banking sector and how they affect the resilience of banks and the safety and efficiency of the internal market. A third section outlines the Group's views on the extent to which the current regulatory reform agenda addresses these problems. As regards further reforms, a fourth section outlines two illustrative reform avenues that the Group has considered. A fifth section outlines the Group's proposal in the light of the relative merits of these two avenues. Section 6 outlines the importance of the EU institutional architecture, before section 7 stresses the issue of competition. Section 8 highlights the issue of reforms and the impact on the international competitiveness of the EU banking section, also in light of existing structural reform proposals.

5.1 The role of banks in financing the real economy

Banks have a pivotal role in providing finance to households and firms. This is particularly the case in Europe where the share of banks in financing companies and households has traditionally been relatively large compared to capital market financing.

Banks' role in corporate finance is central, especially for small-and-medium sized enterprises (SMEs). The continuous and smooth supply of banking services to SMEs is essential also for large corporations because SMEs are often subcontractors to them.

It is of utmost importance that the regulatory reform as a whole supports and strengthens the European banking sector's ability to continue to provide its financial services efficiently, given how essential they are to society more broadly. Various models of organizing banks can be successful in supplying these services, provided that sufficient competition is maintained and that bank management or client decision-making is not distorted by expectations of banks being too big, or too important to fail.

A key objective is therefore to ensure a banking sector that is capable of financing the real economy and of pursuing its other functions that contribute to the prosperity of EU citizens and the economy. At the same time, this objective cannot be achieved without restoring and further enhancing the resilience of banks and confidence in the banking sector as a whole. The banking sector must become sustainable and not rely on any extraordinary taxpayer support.

5.2 The problems in the EU banking sector

Previous chapters have documented how the EU banking sector as a whole (Chapter 2) and the business models pursued by individual banks (Chapter 3) have evolved in the years preceding the current crisis as well as after it began. The problems described below were global in nature and did not necessarily originate in Europe, but nevertheless affected large parts of the EU banking sector.

In the years preceding the global financial crisis that started in 2007, the banking landscape had undergone major changes. Global financial institutions had grown ever bigger in size and scope and their organizational complexity had increased. They had become strongly interconnected via increasingly long chains of claims, as well as correlated risk exposures arising from increasingly similar investment strategies. Leverage had strongly increased and the average maturity of their debts had shortened.

Behind these trends were forces that intensified competition in financial services. Advances in information technology as well as in investment theory and practice meant that commercial banks faced increasing competition both on the liability and asset sides of their balance sheets. New savings alternatives to bank deposits, such as money market mutual funds, proliferated and new opportunities for borrowing, in addition to bank loans, emerged. In fact, an entire shadow banking sector developed, comprising a chain of non-bank institutions which were able to provide similar financial intermediary services as traditional banks. [52]

In Europe, the universal banking model has a relatively long history of combining commercial banking and investment banking under the same roof. However, there was a trend before the crisis among the biggest European banks to strengthen their focus on investment banking, including trading operations, and to increase their reliance on wholesale funding. This was driven in part by the growing demand of non-financial firms for risk management products. Banks sought economies of scale and scope and strived to take advantage of diversification benefits from multiple sources of income. In the US, the gradual unwinding and the ultimate repeal of the Glass-Steagall Act in the late 1990s made it possible to reunite investment banking and commercial banking, which had been kept separate since the 1930s crisis.

Commercial banking moved increasingly away from customer relationship-based banking, where loans are granted and then held until maturity, to the "originate and distribute" model, where granted loans are pooled, then securitized and sold to investors. This shift in the business model increased traditional banks' connections to the shadow banking sector. They became part of the long intermediation chains that are characteristic of shadow banking.[53] The increasing influence of an investment banking-oriented management culture also spurred a focus on short-term profits in commercial banking, reinforced by shareholder pressure and short-term performance-based managerial compensation schemes. Investment banks, in turn, transformed themselves from partnerships into public corporations. This helped them grow, but also provided them with incentives to take risks that their partners would not have taken with their own money.

The expansion of banks' balance sheets in the run-up to the crisis was fuelled by several **macroeconomic factors**. First, global imbalances (especially between the leading emerging economies and the United States) developed as globalization progressed. Accumulating surpluses in the emerging economies increased their demand for safe assets. The advanced western financial markets, partly as a response to this growing demand, offered financial innovations that increasingly utilized securitization of previously illiquid assets such as (subprime) mortgages. In Europe, macro-economic imbalances started to develop within the euro area, and many countries experienced property market overheating. Another important macroeconomic factor was that in the aftermath of the slower economic growth of the early 2000s, the monetary policy stance both in the US and Europe was relatively loose.

On the basis of those developments, a number of specific problems can be highlighted that undermined the resilience of a number of European banks and by extension the safety and efficiency of the market place leading up to the crisis. Although the banking sector has undergone significant changes since the beginning of the crisis, including in response to regulatory and market pressure, shortcomings in a number of areas remain:

- **Excessive risk-taking fuelled by intra-group subsidies**: A combination of poor risk management; distorted incentives; underestimation and underpricing of risks; and, lack of

[52] See e.g. Hoenig and Morris (2011): "Restructuring the Banking System to Improve Safety and Soundness".
[53] See e.g. Adrian and Shin (2010): "The Changing Nature of Financial Intermediation and the Financial Crisis of 2007 – 2009".

oversight led banks to take excessive risks. Alongside their rapid balance sheet expansion, which for a number of banks included the build-up of large asset inventories to meet their market-making and other trading functions, banks became increasingly funded through and reliable on wholesale markets and thereby more vulnerable to market illiquidity and instrument illiquidity. The expansion of trading activities has been fuelled by funding benefits for those activities within integrated banking groups ("intra-group subsidies"). Integrated banking groups benefit from access to intra-group deposit funding that is relatively stable, long in duration, less risk sensitive and explicitly guaranteed. Moreover banks issuing debt to fund investment bank activities pay a blended interest rate, as bank investors take into account the non-investment bank part of the bank (e.g. deposit funding). In both cases, the risks inherent in the integrated banks' trading activities are not fully priced into their funding costs in normal times, thereby increasing the incentives for excessive trading risks. While the increase in the extent and nature of bank activities may have been driven by client demand and market-making, it has led to a disproportional increase in intra-financial business often promising higher returns for the industry than other activities. Banks' balance sheets have increased much more than their traditional customer-facing activities (e.g. customer loans and deposits)[54];

- **Increased complexity, size, and scope**: in the years leading up to the crisis, banks have increased significantly in size and complexity. For the largest banks, this increase has coincided with an expansion of investment bank activity, such as brokerage, trading and market-making activities. This has made it more difficult for bank management and the board of directors to exercise control throughout the organisation. It has also made it more difficult for external parties (be they investors, other market participants or supervisors) to monitor effectively the behaviour of banks;

- **Leverage and limited ability to absorb losses:** the expansion of activities has been accompanied by an increase in leverage, whereas the capital base of banks has not expanded in parallel. Prior to the crisis, banks' balance sheets grew at a much faster pace than their capital and deposit base. Banks accordingly have a very narrow capital base, which could be rapidly depleted were asset prices to fall precipitously. Furthermore, the crisis also illustrated that a large part of banks' capital stock was effectively unable to absorb losses. Their increased reliance on short-term funding also increased banks' exposure to liquidity shocks;

- **Inadequate supervision and overreliance on bank management, boards and market discipline**: Basel II led to the wide-spread use of banks' internal models. However, there was insufficient oversight and challenge of those models. This enabled banks significantly to reduce risk-weighted assets and the real amount of capital held. Newer trading activities were inadequately captured in regulatory capital requirements. Reliance on market discipline failed. Investors demanded increasingly unrealistic returns and banks responded by taking unacceptable risks;

- **Increased interconnectedness, systemic risk and limited resolvability**: the expansion of trading activity and the increased reliance on wholesale funding increases links between banks and renders them more vulnerable to counterparty risks, with an associated increase in the use of complex financial instruments (e.g. derivatives, structured finance, etc.). The strong linkages between banks have led to an increase in systemic risk. The increase in complexity and interconnectedness also had the effect of making it very difficult to resolve

[54] Part of the European banks balance sheet increase resulted from holding securitized assets and mortgages originating from other areas, particularly the US; see Shin (2012).

banks in an orderly manner, without triggering further financial turmoil. The situation was exacerbated by the lack of a regulatory framework giving authorities the necessary mandate and tools to manage failing banks, and as well as by the hesitation of authorities to act on time;

- **Competitive distortions and implicit public support leading to competitive distortions and negative bank-sovereign feed-back loops**: In the EU, nearly all failing banks, and banks of systemic importance in particular, have been supported by public funds in the form of capital injections, guarantees and liquidity support. The public support extended to banks has created competitive distortions.[55] Banks benefiting from explicit or implicit public support can raise funds more cheaply than other banks, as investors have factored in the decrease in investment risk arising from the likelihood of state support should the bank run into trouble. This support amounts to an implicit subsidy from the public sector to the banks in question, tilting the playing field to their advantage and generally limiting efficient entry and exit from the market. This support has significantly drained public finances and was one of the reasons triggering concerns about the sustainability of sovereigns in parts of the EU. Investors have by extension also questioned the solvency of banks headquartered in those Member States; and

- **Lack of EU institutional framework governing the single market in financial services**: the increases for example in risk-taking, size, complexity and interconnectedness have been accompanied by an expansion of cross-border activity, as banks have used the opportunities created by EU law to provide their services in other Member States. However, the arrangements governing the single market for financial services – notably the institutional architecture (e.g. supervisors and resolution authorities), as well as safety nets (e.g. deposit insurance) – have not evolved accordingly. As a result, while banks became increasingly transnational in nature, the institutional governance arrangements remained largely national. Faced with this mismatch, many Member States have taken measures aimed at safeguarding *domestic* financial stability. These measures have adversely affected banks with business models predicated on a single market scope.

These problems have increased the likelihood of the failure of EU banks. They have furthermore increased the potential impact of a banking crisis on society. They have also reduced the stability, efficiency and fairness of the market place.

5.3 Evaluating the current regulatory reform agenda

As highlighted in Chapter 4, the current reform agenda has been designed to address many of the problems highlighted above. The Basel III (CRDIV/CRR) reforms to strengthen capital and liquidity requirements improve risk-based capital adequacy and quality, and curb excessive maturity transformation and lack of liquidity buffers. In the EU, the proposals to strengthen common supervisory structures and to establish effective bank resolution tools are very important steps towards establishing effective early intervention mechanisms. The current reform agenda accordingly overlaps with the objectives set by the Group's mandate. Even so, while sharing the same end-objectives, the current reforms do not necessarily address all the underlying problems in the EU banking sector as identified by the Group (see annex 6 for our full assessment). More specifically:

[55] There are a number of other structural and behavioural features of the market, in particular in retail banking, which give rise to competition concerns and deserve further analysis. Moreover, scandals such as the recent LIBOR rate-rigging case revealed the limits of self-regulation and scope for a few banks to manipulate prices.

- **Capital**: Basel III/CRDIV will strengthen banks' capital base, thus reducing the probability of failure by tightening and improving the quality of the risk-weighted capital requirements. However, the crisis has illustrated the problems associated with risk-based capital requirements if certain risks are not reflected adequately (or at all). Market (especially tail-risks) and operational risks arising from complex market activities may not be covered fully by the model-based capital requirements; nor may systemic risks arising from major trading operations. The increase in capital requirements has taken bank business models as a given and does not aim to address complexity in the banking system. It also does not address transparency and understanding of risk for key stakeholders, including bank management boards, regulators and investors. Although the aim for example of the Basel 2.5 reform – which addressed loopholes in trading book requirements – and the ongoing review of the trading book capital requirements by the Basel Committee is to reduce incentives to capital arbitrage via off-balance sheet arrangements, thus reducing complexity and incentives for intra-group subsidies, additional measures might be needed. In addition, capital requirements will address the risks linked to real estate lending only to the extent that competent authorities make proactive use of the possibility to modify real estate risk weights based on the economic cycle;

- **Liquidity**: Following Basel III, liquidity requirements are, for the first time, to be imposed on banks. This will strengthen their ability to withstand stress periods with no access to market funding (LCR) and to avoid excessive reliance on short-term market funding (NSFR). Given the importance of liquidity and proper asset-liability management of banks, principles of good liquidity management should therefore be implemented in the EU. However, the definition and calibration of these global standards remains under review. It is important to get them right so as to not either impair monetary policy or the economic recovery;

- **Leverage ratio**: The leverage ratio is an important backstop to the risk-weighted capital requirements. By making individual banks less levered, an appropriately calibrated leverage ratio could effectively increase loss absorbency, thus reducing the probability of failure, assuming the same level of risk-weighted assets;

- **Market infrastructures**: the gradual transfer of OTC derivatives to CCPs will significantly reduce interconnectedness between banks, thus reducing the impact of failure, provided that the CCPs are well-regulated and supervised. Moreover, increased margin/collateral obligations will ensure the price of OTC derivatives better reflects the associated risk and thus reduce excessive risk-taking. The associated capital requirements on non-CCP cleared derivatives should also contribute to an increase in the use of more transparent standardised OTC derivatives, which will help reducing complexity of that particular market place and the relevant contracts. However, as it is narrow in focus, the recent EMIR reform does not address other problems identified.

- **Resolution**: the powers and tools contained in the Commission's recent proposal for a Bank Recovery and Resolution Directive (BRR) will contribute to ensuring that banks can be wound down in an orderly fashion, thus reducing the impact of failure. Holders of bail-inable debt will have the incentive to monitor banks more closely, which contributes to reining in excessive risk-taking provided that (i) national authorities take the necessary action when needed, and (ii) investors are actually able to scrutinise banks. In this respect, recovery and resolution planning may contribute to reducing complexity of banks, depending on the actions undertaken by banks and national authorities. However, the resolution powers will not in themselves make banks more resolvable. As noted in the Financial Stability Board

(2011[56]), "*the complexity and integrated nature of many firms' group structures and operations … make rapid and orderly resolutions of these institutions under current regimes virtually impossible*." In addition, further practical experience will have to be gathered, also as regards the dynamic effects on the market place of devolved decision-making to national authorities;

- **Supervision**: supervision has the potential to rein in excessive risk-taking, thus reducing the probability of failure. Stronger supervision would therefore contribute to restricting activities that relate particularly to interconnectedness, thus further reducing impact of failure. So far supervisors have had limited scope to address complexity outright, but the mandate is expanding. This is particularly the case with the recovery and resolution planning process, which enables supervisors to require structural changes based on the resolvability assessment. In addition, supervisors need to be involved on a timely and continuous basis. They must take a strategic, forward-looking view and be willing to act intrusively, timely and bold in direction. Furthermore, while the creation of the European Banking Authority (EBA) has significantly contributed to converging supervisory practices, significant differences still remain. Finally, ultimate responsibility for supervision remains at national level and the current levels of coordination and cooperation have proven insufficient to preserve the internal market throughout the crisis and effectively supervise banks active across the internal market in an identical way. That is why the recent first proposals on banking union outlining the Single Supervisory Mechanism are welcome;

- **Lack of a sufficient systemic (macro-prudential) focus:** banking supervision and regulation did not sufficiently focus on systemic/macro-prudential risks prior to the crisis. Banks themselves do not have an incentive fully to internalize the social cost stemming from their own contribution to system-wide risks. In the absence of substantive regulatory and supervisory measures, systemic risks built up in the form of ever larger, more complex and more leveraged financial institutions. Three main weaknesses ought to be mentioned: first, the Basel minimum capital requirements were based on stand-alone risks of a bank; second, liquidity risks were not covered by the Basel rules. This was a problem because excessive short-term market funding increases interconnectedness and hence systemic risk in the financial system; and, third, the existing supervisory structures focused on risks facing individual institutions rather than the financial system as a whole;

- **Risk management and corporate governance**: effective governance and control mechanisms within financial institutions could have helped mitigate the crisis. Accordingly, the CRDIII in 2010 introduced new rules to ensure that staff and management incentives (including remuneration policies) are aligned with a bank's and society's long-term interests and do not encourage excessive risk taking. Moreover, in order to increase the effectiveness of risk governance in European banks, the CRDIV package proposes enhancing the existing governance framework for banks, in particular by increasing the effectiveness of risk oversight by boards; improving the status of the risk management function; and, ensuring effective monitoring by supervisors of risk governance. When implemented, these rules will contribute to restraining excessive risk-taking, shifting the focus to more long-term risk-adjusted returns and improving the risk culture of banks. Nevertheless, in the absence of representative and authoritative boards, more rigorous regulatory scrutiny of board and management appointments, more accountability and stronger sanctions and stricter measures on remuneration, these rules may not go far enough; and

[56] FSB (2011), "Effective resolution of systemically important financial institutions".

- **Lack of focus on consumer protection in financial regulation and supervision:** the financial crisis at least partly originated in irresponsible lending practices. However, the current EU-wide regulatory and supervisory framework and proposals may not sufficiently address these aspects. Several EU initiatives focus on improving transparency of financial instruments (MiFID, PRIPS, UCITS). However, they present two types of shortcomings: first, transparency alone may not be sufficient effectively to protect retail consumers (e.g. in view of complex financial products, selling techniques) and there may be a need to consider different avenues (e.g. engage into more intensive product regulation and/or regulation of marketing practices in the banking sector); and, second, there are supervisory gaps (e.g. consumer protection authorities not being competent in the financial area, and financial supervisors focusing on prudential control) leading to inconsistent implementation.

In sum, substantial steps have been taken, or are in the process of being taken, to address the problems highlighted by the crisis. Even so, the current reform agenda does not fully correct incentives for excessive risk-taking, complexity and intra-group subsidies. While banks' loss absorbency will increase, it is unclear that the new capital rules will be sufficient to limit trading risks or incentives for excessive real estate (and other) lending. Banks in trading and other investment banking activities continue to enjoy a funding subsidy by conducting these activities on the back of (explicitly) guaranteed deposits and other implicit support extended to the bank as a whole. The complexity of bank structures and activities also makes it more difficult to curb excessive risk-taking through internal control processes and external scrutiny by supervisors or market participants. While the Commission's BRR proposal puts a welcome emphasis on reducing complexity, further measures could nevertheless be considered so as to assist resolution authorities. Additional reforms are therefore warranted to complement the existing reforms in order to further address excessive risk taking incentives, complexity, intra-group subsidies, resolvability, and systemic risk.

5.4 Determining the nature of further reforms

Against the background of the analysis above, the Group considered whether certain new regulatory steps would be warranted to complement the existing reforms in order to: (i) further limit the likelihood of banking failures; (ii) improve the resolvability of banking institutions; and (iii) reduce the likelihood of having to resort to taxpayers' funds in rescuing banks.

In particular, two illustrative structural reform avenues were developed and discussed:

- The introduction of a non-risk weighted capital buffer for trading activities and contingent functional separation of significant trading activities; and
- A similar capital buffer but with immediate functional separation of significant trading activities.

Both avenues may lead to functional separation (i.e. segregation of trading activity in excess of a threshold to a separately capitalised and funded stand-alone subsidiary). However, whereas in the first avenue such separation is contingent upon a supervisory evaluation concluding that a bank would not be able to wind down its trading risk positions in a crisis situation in a manner that safeguards its financial health and/or overall financial stability, in the second avenue functional separation would be immediate and independent of any discretionary supervisory evaluation.[57]

The Group agreed that a *de minimis* threshold ought to be applied in both avenues. The threshold should be set based on the view of the degree of client-driven trading needs and the trading risk

[57] Naturally, such 'immediate' separation could be introduced with a transitional time-frame for implementation, as appropriate.

deemed acceptable. A threshold above zero would imply that some trading activity is inherently linked to client needs and that a degree of trading risk on deposit-taking banks' balance sheets is acceptable.

5.4.1 Avenue 1: a non-risk weighted capital buffer for trading activities and contingent functional separation of significant trading activities

This avenue is composed of two main elements:

- First, a non-risk weighted capital requirement on trading activities in addition to the Basel risk-weighted requirements, for banks with significant trading activity. The non-risk weighted capital buffer would be based on the amount of trading activities (e.g. measured in relation to trading assets).
- Second, separation of banking activities subject to a supervisory evaluation of the credibility of the recovery and resolution plans based on a clear set of common EU-wide criteria. In order to reduce market uncertainty over the impact of the reform, a timeline could be set according to which banks and supervisors would have to conclude the assessment of the recovery and resolution plans and take decisions regarding possible structural requirements.

5.4.1.1 Additional non-risk weighted capital buffer for trading activities

All banks with significant trading activity in excess of a certain threshold would be required to hold an additional non-risk-weighted capital buffer on top of the existing Basel 2.5 and 3 requirements (as a part of the Pillar 1 capital requirements), in order to reduce their probability of failure due to major trading losses; to limit their incentives to develop excessive trading activity; and to cap the increased loss absorbency in case of failure.

In order to avoid overlap with ongoing regulatory initiatives, when calibrating the size of the additional buffer, account should be taken of the ongoing trading book review by the Basel Committee on Banking Supervision (BCBS).

The size of the additional capital buffer could increase in proportion to the level of deposit funding.

The additional capital buffer for trading activities is motivated by the existence of market (especially tail risks) and operational risks arising from complex market activities. These may not be covered fully by the model-based capital requirements, and – in case of major institutions – the systemic risks arising from major trading operations. Analysis shows that all of these risks are currently increasing in the volume of trading activities. The extra capital requirement would have to be maintained even if trading activity is organized in a legally-separate entity in order to ensure these risks remain covered and to mitigate regulatory arbitrage.

The requirement that the additional capital buffer would increase in proportion to the level of deposit funding is motivated by the related risks associated with retail banking activities and depositors arising from diversified business models which combine retail banking with trading activities. The extra requirement would mitigate the moral hazard problem stemming from the explicit and implicit public protection of depositors and the non-risk sensitive pricing of deposits. It would also create incentives not to use insured deposits to fund trading assets.

The requirement could be covered by common equity Tier 1 own funds. The additional capital buffer would come on top of the risk-based Basel requirements, not as a “floor” for model outcomes, as the Basel leverage ratio requirement.

5.4.1.2 Structural separation conditional on the recovery and resolution plan

All banks with significant trading activity would be subject to a supervisory evaluation of the credibility of their recovery and resolution plans in terms of their ability to wind down their trading risk positions in a crisis situation.

Banks would present to their supervisors, as part of the overall recovery and resolution plan (RRP) foreseen under the proposal for a Directive on Bank Resolution and Recovery,[58] how they could wind down their trading risk positions in a crisis situation in a manner that does not jeopardize their financial health and/or significantly contribute to systemic risk. Banks should be able to demonstrate that they are in a position to segregate retail banking activities from trading activities and wind down the latter separately, without affecting the conduct of the retail business and creating the need to inject taxpayers' funds.

The burden of proof for the credibility of the plan would sit with the bank, while the supervisors would be tasked with carrying out the evaluation. Strong cross-border harmonization of the supervisory evaluation will be needed through setting clear assessment criteria regarding the triggers that would cause a rejection of the plans, as well as rigorous ex post review to ensure that consistency has been achieved. The EBA would be responsible for setting harmonized standards at the EU level, while the ECB, within the new Single Supervisory Mechanism, would be responsible for the assessment in respect of euro area banks.

The triggers would be related to the scale of the risk positions and their relation to market size, as large positions are difficult to wind down, particularly in a market stress situation. The triggers would also be related to the complexity of the trading instruments and organization (governance and legal structure) of the trading activities, as these features materially affect the resolvability of trading operations. The structure of various legal entities (subsidiaries) should be such as to allow the objectives set out above to be met in a potential resolution situation (i.e. the limitation of the impact of a crisis/failure/winding down on the continuation of the basic banking activities).

A credible RRP may still necessitate the scaling down of certain activities, either by request of the supervisor or under the bank's own initiative.

If a bank presents a RRP that is not evaluated to be credible, , it would have to separate its trading activities into a segregated legal entity that would be allowed to fail; which would not be deposit funded; and, which would have to respect prudential requirements on a solo basis. The deposit-taking entity should be fully insulated from the risks of the segregated entity carrying out trading operations. The deposit-taking entity should also not conduct any trading activities other than those related to liquidity management and own hedging (i.e. market-making or client-driven trading would otherwise not be allowed even with limited proprietary risk taking), nor provide liquidity or capital support to other group entities.

To ensure effectiveness, the supervisory evaluation process should involve the following characteristics.

- First, the evaluation process should be subject to a timeline according to which the assessment should be concluded and possible structural requirements made in order to reduce regulatory forbearance and market uncertainty;

[58] Proposal for a Directive of the European Parliament and of the Council establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directives 77/91/EEC and 82/891/EC, Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC and 2011/35/EC and Regulation (EU) No 1093/2010, COM/2012/0280 final - 2012/0150 (COD)

- Second, the decisions of supervisory authorities should be set out in a public document containing a full reasoning in order to enable public scrutiny; and
- Third, sanctions should apply to ensure that restructuring requirements are being observed.

5.4.1.3 Rationale and assessment

The rationale for this avenue can be summarised as follows:

- First, against the backdrop of the ongoing financial crisis and the fragility of the financial system, an evolutionary approach that limits the risk of discontinuities to the provision of financial services is warranted;
- Second, this avenue avoids the immediate costs of separating banks' various activities when not warranted from the public interest perspective and offers flexibility to their structural choices. Those EU universal banks that acted with prudence have weathered the financial crisis well. This avenue incentivises banks to carry out stability-enhancing changes themselves, but also leaves the supervisors with the final say;
- Third, this avenue avoids the problems of defining ex ante the scope of activity to be separated or prohibited. It supports a harmonised approach in the Single Market, provided that the EBA issues clear standards for the approval of the RRPs; and provided that supervisors, including the new single supervisor, are empowered to implement the standards in a consistent manner. Reduction of market uncertainty and prompt EU-wide implementation would be supported by setting a common timetable;
- Fourth, this avenue specifically addresses problems of excessive risk-taking incentives and high leverage in trading activities by introducing an additional volume-based capital requirement. It also addresses the risks in complex business models combining retail and investment banking activities and systemic risk due to excessive interconnectedness between banks; and
- Fifth, the avenue is designed to complement existing regulatory developments based on the Basel rules and the EU supervisory and bank resolution proposals. Thus, it could be implemented as a part of the overall regulatory reform programme without interfering with the basic principles and objectives of those reforms.

The critical elements in the avenue are the adequacy of the capital buffers against the risks and a sufficiently harmonised implementation of the requirements for the RRPs. In controlling the risks related to the fragmentation of reform implementation across the Single Market, clear EBA standards, a common timetable and the single supervisor will be essential.

Despite its complementarity, this avenue could still entail some challenges. First, as regards the capital buffer, calibration of the buffer may not be easy. The buffer should ideally be aimed at off-setting the additional risks and the implicit subsidy. While those are straightforward to portray qualitatively, they may be difficult fully to quantify. Furthermore, the additional buffer could make the overall capital framework more complex. Second, as regards the contingent structural separation, such a decentralised bottom-up process has both advantages and disadvantages. It would allow the tailoring of the chosen approach to specific circumstances and preferences that may well differ between banks and Member States and hence achieve all the benefits associated with functional separation for those banks that need it most. To guard against the risk of unwarranted differences in structural approaches, the principles for harmonising and guiding the process outlined above are important.

5.4.2 Avenue 2: immediate functional separation of significant trading activities

An alternative approach to avenue 1 is to require the functional and capital separation of significant trading activities at the outset without the need for a prior supervisory evaluation. When pursuing this immediate separation avenue, a first choice to be made is which activity to separate. Given the

documented increase in trading activity prior to the crisis and the associated risks, this avenue would lead to the separation of significant trading activity above a certain threshold. This immediate functional and capital separation (i.e. not subject to supervisory discretion) would be complemented by the same additional non-risk weighted capital buffer for trading activities outlined in the first avenue of reform, apart from the part increasing in proportion to the level of deposit funding. The principles of the capital buffer are accordingly not repeated here.

5.4.2.1 Separation of significant trading activities

Under this avenue, banks with significant trading activity in excess of a certain threshold (as per Avenue 1) would have to separate that activity from other retail and commercial banking activities.

If a threshold is set at a value greater than zero, this approach could be used to exempt banks which have limited trading activities as part of their business model of a universal bank, in order to support other banking activities and offer customers a full range of banking services.

Banks in excess of the threshold would have to transfer the activity to a separate legal entity. A choice would be needed as to whether the bank should transfer only the activity in excess of the threshold or all the investment bank activity. The former option would acknowledge that all banks have some degree of trading activity.[59]

The trading entity and the rest of the group would have to be economically independent and easily separable from each other. Both parts of the new, restructured banking group would have to maintain separate ring-fenced capital; have separate funding; and, meet other prudential regulatory requirements on a stand-alone basis. This would be combined with rules on legal, operational and economic links between both parts of the group (separate reporting; disclosure of stand-alone results and balance sheets; independent boards and governance; financial relations between trading part and group organised in accordance with the arm's length principle etc.). Such a separation would not, however, prevent a certain degree of intra-group coordination of capital and liquidity management. In the case of a crisis, the retail/commercial banking entity may be allowed to receive support from the trading part of the group, provided that the prudential regulatory requirements are met by both parts of the group.

In order to ensure full separability and protection against intra-group contagion from the trading entity, that entity could neither own nor be owned by an entity itself carrying out other banking activities. An integrated banking group would therefore have to be structured by way of a holding company owning both trading entities and other banking entities. Ownership structures that do not fit this model (e.g. cooperative banks) may deserve separate consideration in this regard.[60]

5.4.2.2 Rationale and assessment

The rationale for this avenue can be summarised as follows.

- First, separation of activities is the most direct instrument to tackle banks' complexity and interconnectedness. Incentives for risk-taking in the trading arm would be reduced, as the

[59] To control the risk of the trading activity below the threshold that would not be transferred, additional measures may be required (e.g. requiring only client-facing, simple risk management products, daily position reports to supervisors).

[60] In practical terms, few cooperatives have significant trading activities, which may suggest that such activity traditionally has not been part of their core activities. One option could therefore be to subject those cooperatives with significant trading activities above the ultimately chosen threshold to the same measures as other banks. Alternatively, one could consider other safeguards with equivalent effect.

latter would not be able to profit from liquidity, funding and solvency support from other parts of the group;

- Second, as banks become simpler in structure, recovery and resolution should in principle become more feasible, as balance sheets would be separate. It should hence be easier to sell off or close down (i.e. allow to fail) the trading part;
- Third, a simpler structure could also make it easier for the management and board to understand and manage their operations and for outsiders to monitor and supervise them. This can enhance the effectiveness of market discipline and financial supervision.
- Fourth, separation would enable further control of the activities of each functional entity. For example, it could be used to prohibit certain risky activities, especially in deposit banks which enjoy explicit public guarantees;
- Fifth, separating commercial banking and trading can also reduce the mixing of the two different management cultures; and
- Finally, functional separation along the lines considered above can take place within the universal banking model. The impact on potential efficiencies resulting from diverse service provision is therefore more limited.

Structural separation would entail a number of challenges. The requirement for the different parts of the banking group to be self-funded and separately capitalised would reduce diversification benefits, increase bank funding costs and as a result increase the cost of financial services (and/or reduce profits or bonuses). To the extent that part of the funding cost increase is due to the removal of an implicit subsidy, this may not present a social cost. The functional separation within the universal banking model would, however, preserve any economies of scale and scope in operating costs and revenues. In any case, evidence on the economies of scale and scope in banking, as well as the benefits from diversification, seems to be mixed (see Chapter 3). Even so, if this effect were to be material, it could increase the cost of financial services. Implementing this separation is also likely to include decisions on where to draw the line between the different parts of an integrated universal banking group, which is not straightforward. Furthermore, the strength of the separation may be eroded over time or may not work as intended and accordingly its detailed design is important.[61] In addition, functional separation may not substantially improve transparency of intra-group transfers, as defining market prices for the purposes of arm's length pricing remains difficult and subject to judgement.

5.5 The proposal

The High-level Expert Group was *requested to consider in depth whether there is a need for structural reforms of the EU banking sector or not and to make any relevant proposals as appropriate, with the objective of establishing a safe, stable and efficient banking system serving the needs of citizens, the EU economy and the internal market.*

In evaluating the European banking sector, the Group has found that no particular business model fared particularly well, or particularly poorly, in the financial crisis. Rather, the analysis conducted revealed excessive risk-taking – often in trading highly-complex instruments or real estate-related lending – and excessive reliance on short-term funding in the run-up to the financial crisis. The risk-taking was not matched with adequate capital protection and high level of systemic risk was caused by strong linkages between financial institutions.

[61] For example, Sections 23A and B of the Federal Reserve Act – introduced as part of the Glass-Steagall Act of 1933 and still in force – impose limits on certain transfers between bank holding companies' commercial bank subsidiaries and the other parts of the Group. These limits did not prevent significant transfers between the different parts of the bank during the crisis.

A number of regulatory reforms have been initiated to address these and other weaknesses that endanger financial system stability. The Group has reviewed these ongoing regulatory reforms, paying particular attention to capital and liquidity requirements and to the recovery and resolution reforms.

Stronger capital requirements, in general, will enhance the resilience of banks; correct, to some extent, the incentives of owners and managers; and, will also help reduce the expected liability of taxpayers in the event of adverse shocks to bank solvency. The implementation of the new Capital Requirement Regulation and Directive (CRR/CRDIV) will constitute a major improvement in all these respects. Connected to its mandate, the Group also expects the on-going fundamental review of the trading book by the Basel Committee to improve the control of market risk within the banking system.

The Group sees the Commission's proposed Bank Recovery and Resolution Directive (BRR) as an essential part of the future regulatory structure. This proposal is a significant step forward in ensuring that a bank, regardless of its size and systemic importance, can be transformed and recovered, or be wound down in a way that limits taxpayer liability for its losses. The preparation and approval of recovery and resolution plans (RRPs) is likely to induce some structural changes within banking groups, reducing complexity and the risk of contagion, thus improving resolvability.

However, despite these important initiatives and reforms, the Group has concluded that it is necessary to require legal separation of certain particularly risky financial activities from deposit-taking banks within the banking group. The activities to be separated would include proprietary trading of securities and derivatives, and certain other activities closely linked with securities and derivatives markets, as will be specified below. The Group also makes suggestions for further measures regarding the bank recovery and resolution framework, capital requirements and the corporate governance of banks. The objective is further to reduce systemic risk in deposit-banking and investment-banking activities, even when they are separated.

The central objectives of the separation are to make banking groups, especially their socially most vital parts (mainly deposit-taking and providing financial services to the non-financial sectors in the economy) safer and less connected to trading activities; and, to limit the implicit or explicit stake taxpayer has in the trading parts of banking groups. The Group's recommendations regarding separation concerns businesses which are considered to represent the riskiest parts of investment banking activities and where risk positions can change most rapidly.

Separation of these activities into separate legal entities is the most direct way of tackling banks' complexity and interconnectedness. As the separation would make banking groups simpler and more transparent, it would also facilitate market discipline and supervision and, ultimately, recovery and resolution. The proposal is outlined in more detail below.

In the discussion within the Group, some members expressed a preference for a combination of measures: imposing a non-risk-weighted capital buffer for trading activities and a separation of activities conditional on supervisory approval of a RRP, as outlined in Avenue 1 in Section 5.4.1, rather than a mandatory separation of banking activities. In the discussions, it was highlighted that the ongoing regulatory reform programme will already subject banks to sufficient structural changes and that Avenue 1 is designed to complement these developments and could thus be implemented without interfering with the basic principles and objectives of those reforms. It was also argued that this approach specifically addresses problems of excessive risk-taking incentives and high leverage in trading activities; the risks in complex business models combining retail and investment banking activities; and, systemic risk linked to excessive interconnectedness between banks. Moreover, it was argued that Avenue 1 avoids the problems of having to define ex ante the scope of activity to be separated or prohibited. Against the backdrop of the ongoing financial crisis and the fragility of the financial system, it was also seen that an evolutionary approach that limits the risk of discontinuities to the provision of financial services could be warranted.

5.5.1 Mandatory separation of proprietary trading activities and other significant trading activities

The Group proposes that proprietary trading and all assets or derivative positions incurred in the process of market-making, other than the activities exempted below, must be assigned to a separate legal entity, which can be an investment firm or a bank (henceforth the "trading entity") within the banking group.[62] Any loans, loan commitments or unsecured credit exposures to hedge funds (including prime brokerage for hedge funds), SIVs and other such entities of comparable nature, as well as private equity investments, should also be assigned to the trading entity. The requirements apply on the consolidated level and the level of subsidiaries.

The Group suggests that the separation would only be mandatory if the activities to be separated amount to a significant share of a bank's business, or if the volume of these activities can be considered significant from the viewpoint of financial stability. The Group suggests that the decision to require mandatory separation should proceed in two stages:

- In the first stage, if a bank's assets held for trading and available for sale, as currently defined, exceed (1) a relative examination threshold of 15-25% of the bank's total assets or (2) an absolute examination threshold of EUR100bn, the banks would advance to the second stage examination.
- In the second stage, supervisors would determine the need for separation based on the share of assets to which the separation requirement would apply. This threshold, as share of a bank's total assets, is to be calibrated by the Commission. The aim of the calibration is to ensure that mandatory separation applies to all banks for which the activities to be separated are significant, as compared to the total balance sheet. In calibrating the threshold, the Commission is advised to consider different bases for measuring trading activity, including, for example, revenue data.

Once a bank exceeds the final threshold, all the activity concerned should be transferred to the legally-separate trading entity. The proposal should require a sufficient transition period to be assessed by the Commission. Finally, the smallest banks would be considered to be fully excluded from the separation requirement.

All other banking business except that named above, would be permitted to remain in the entity which uses insured deposits as a source of funding (henceforth "deposit bank"), unless firm-specific recovery and resolution plans require otherwise. These permitted activities include, but need not be limited to, lending to large as well as small and medium-sized companies; trade finance; consumer lending; mortgage lending; interbank lending; participation in loan syndications; plain vanilla securitisation for funding purposes; private wealth management and asset management; and, exposures to regulated money market (UCITS) funds. The use of derivatives for own asset and liability management purposes, as well as sales and purchases of assets to manage the assets in the liquidity portfolio, would also be permitted for deposit banks. Only the deposit bank is allowed to supply retail payment services.

Provision of hedging services to non-banking clients (e.g. using forex and interest rate options and swaps) which fall within narrow position risk limits in relation to own funds, to be defined in regulation, and securities underwriting and related activities do not have to be separated. These can thus be carried out by the deposit bank. The Group acknowledges the potential risks inherent in these activities and suggests that the authorities need to be alert to the risks arising from both of them.

[62] The legal form by which the recommendation is to be applied needs to apply to all banks regardless of business model, including the mutual and cooperative banks, to respect the diversity of the European banking system.

The trading entity can engage in all other banking activities, apart from the ones mandated to the deposit bank; i.e. it cannot fund itself with insured deposits and is not allowed to supply retail payment services.

The legally-separate deposit bank and trading entity can operate within a bank holding company structure.[63] However, the deposit bank must be sufficiently insulated from the risks of the trading entity.

Transfer of risks or funds between the deposit bank and trading entity within the same group would be on market-based terms and restricted according to the normal large exposure rules on interbank exposures. Transfers of risks or funds from the deposit bank to the trading entity either directly or indirectly would not be allowed to the extent that capital adequacy, including additional capital buffer requirements on top of the minimum capital requirements, would be endangered. The possibility of either entity having access to central bank liquidity depends on the rules of the counterparty status in different jurisdictions. The deposit bank and trading entity are allowed to pay dividends only if they satisfy the minimum capital and capital buffer requirements.

To ensure the resilience of the two types of entities, both the deposit bank and the trading entity would each individually be subject to all the regulatory requirements, such as the CRR/CRDIV and consolidated supervision, which pertain to EU financial institutions. Hence they must, for example, be separately capitalized according to the respective capital adequacy rules, including the maintenance of the required capital buffers and possible additional Pillar 2 capital requirements.

The specific objectives of separation are to 1) limit a banking group's incentives and ability to take excessive risks with insured deposits; 2) prevent the coverage of losses incurred in the trading entity by the funds of the deposit bank, and hence limit the liability of taxpayer and the deposit insurance system; 3) avoid the excessive allocation of lending from the deposit bank to other financial activities, thereby to the detriment of the non-financial sectors of the economy; 4) reduce the interconnectedness between banks and the shadow banking system, which has been a source of contagion in a system-wide banking crisis; and 5) level the playing field in investment banking activities between banking groups and stand-alone investment banks, as it would improve the risk-sensitivity of the funding cost of trading operations by limiting the market expectations of public protection of such activities.

While pursuing these key objectives related to financial stability, separation also aims to maintain banks' ability efficiently to provide a wide range of financial services to their customers. For this reason, the separation is allowed within the banking group, so that the same marketing organisation can be used to meet the various customer needs. Benefits to the customer from a diversity of business lines can therefore be maintained. Moreover, as the proposal allows hedged trading and securities underwriting to continue, it also leaves sufficient room and flexibility for deposit banks to service corporate customers and thus fulfil their role in financing the real economy. Similarly, the trading entity can engage in a broad range of activities. The proposal addresses the core weaknesses in the banking sector, while retaining the key benefits of the universal banking model and allowing for business model diversity.

Finally, it is important that the proposal is sufficiently simple so as to ensure harmonised implementation across Member States. The Group suggests that banking activities which naturally belong together can be conducted within the same legal entity. In particular, the proposed separation concerns both proprietary trading and market-making, thus avoiding the ambiguity of defining separately the two activities. Similarly, the assets which are part of the separation do not

[63] As already mentioned, the legal form by which the recommendation is to be applied needs to apply to all banks regardless of business model, including the mutual and cooperative banks, to respect the diversity of the European banking system.

include any loans to non-financial firms, because differentiating among these (for example, according to loan size) would be equally challenging at the EU level and important scale economies in corporate lending might be lost.

5.5.2 Additional separation of activities conditional on the recovery and resolution plan

The BRR proposal of the Commission in June 2012 grants powers to resolution authorities to address or remove obstacles to resolvability. The Group emphasises the importance of two elements of the proposal in particular, namely the recovery and resolution plan and the bail-in requirements for debt instruments issued by banks (see the next section).

In the Group's view, producing an effective and credible RRP may require the scope of the separable activities to be wider than under the mandatory separation outlined above. The proposed BRR gives the resolution authority the powers to require a bank to change its legal or operational structure to ensure that it can be resolved in a way that does not compromise critical functions, threaten financial stability or involve costs to the taxpayer are given to the resolution authority in the proposed BRR.

The Group emphasises the need to draw up and maintain effective and realistic RRPs. Particular attention needs to be given to a bank's ability to segregate retail banking activities from trading activities, and to wind down trading risk positions, particularly in derivatives, in a distress situation, in a manner that does not jeopardize the bank's financial condition and/or significantly contribute to systemic risk. Moreover, it is essential to ensure the operational continuity of a bank's IT/payment system infrastructures in a crisis situation. Given the potential funding and liquidity implications, transaction service continuity should be subject to particular attention in the RRP process.

The Group supports the BRR provision that the EBA plays an important role in ensuring that RRPs and the integral resolvability assessments are applied uniformly across Member States. The EBA would, accordingly, be responsible for setting harmonised standards for the assessment of the systemic impact of RRPs; as well as the issues to be examined in order to assess the resolvability of a bank and trigger elements that would cause a rejection of the plans. The triggers should be related to the complexity of the trading instruments and organisation (governance and legal structure) of the trading activities, as these features materially affect the resolvability of trading operations. The trigger elements should also be related to the size of the risk positions and their relation to market size in particular instruments, as large positions are particularly difficult to unwind in a market stress situation.

5.5.3 Possible amendments to the use of bail-in instruments as a resolution tool

In addition to the use of RRPs, the Group also strongly supports the use of designated bail-in instruments within the scope of the BRR, as it improves the loss-absorbency ability of a bank. The power to write down claims of unsecured creditors or convert debt claims to equity in a bank resolution process is crucial to ensure investor involvement in covering the cost of recapitalisation and/or compensation of depositors. It also reduces the implicit subsidy inherent in debt financing. This additionally improves the incentives of creditors to monitor the bank.

A number of features of bail-in instruments have been outlined in the proposed BRR. For instance, the bail-in tool would only be used in conjunction with other reorganisation measures, and the ex-ante creditor hierarchy is to be respected. However, the Group has come to the conclusion that there is a need to further develop the framework, so as to improve the predictability of the use of the bail-in instrument. Specifically, the Group is of the opinion that the bail-in requirement ought to be applied explicitly to a certain category of debt instruments, the requirement for which should be phased in over an extended period of time. This avoids congestion in the new issues market and allows the primary and the secondary market to grow smoothly. However, banks should be allowed to satisfy any requirement to issue bail-inable debt instruments with common equity if they prefer to

do so. This could be especially useful for smaller institutions, whose bail-in instruments could face particularly narrow markets.

The Group is also of the opinion that a clear definition would clarify the position of bail-in instruments within the hierarchy of debt commitments in a bank's balance sheet, and allow investors to know the eventual treatment of the respective instruments in case of resolution. Detailing the characteristics of the bail-in instruments in this way would greatly increase marketability of both new bail-inable securities and other debt instruments and facilitate the valuation and pricing of these instruments.

In order to limit interconnectedness within the banking system and increase the likelihood that the authorities are eventually able to apply the bail-in requirements in the event of a systemic crisis, it is preferable that the bail-in instruments should not be held within the banking sector. This would be best accomplished by restricting holdings of such instruments to non-bank institutional investors (e.g. investment funds and life insurance companies). Bail-in instruments should also be used in remuneration schemes for top management so as best to align decision-making with longer-term performance in banks. The Group suggests that this issue should be studied further.

5.5.4 A review of capital requirements on trading assets and real estate related loans

Model-based capital requirements related to risks in trading-book assets may suffer from modelling risks and measurement errors. In particular, tail-risks and systemic risks (including the impact on market liquidity of failures of major players) are not well-accounted for. Significant operational risks are related to all trading activities as demonstrated by several incidents of substantial loss events. The current operational risk capital charges are derived from income-based measures and do not reflect the volume of trading book assets. Moreover, significant counterparty and concentration risks can be related to all trading activities.

The mandatory separation proposed by the Group leaves substantial room for customer-driven and hedged trading and risk management activities in deposit banks so as to ensure the ability of these entities to service the real economy. On the other hand, the significant risks of the separated or stand-alone trading entities warrant robust capital rules to control the risk posed to the parent group and financial system as a whole. Thus, the weaknesses in the capital requirements presented above have implications for both the deposit bank and trading entity.

The Basel Committee has launched an extensive review of trading-book capital requirements[64]. The Group welcomes this review. In its work, the Group has identified two approaches to improve the robustness of the trading book capital requirements:

- setting an extra, non-risk based capital buffer requirement for all trading-book assets on top of the risk-based requirements as detailed under Avenue 1 in Section 5.4.1; and/or
- introducing a robust floor for risk-based requirements (i.e. risk weighted assets (RWA)).

The benefit of the first approach (an extra capital buffer) is that it would improve protection against operational risks and reduce leverage, and it would not interfere with banks' incentives to use and further develop internal models – as it would come on top of the risk-based requirements. The benefit of the second approach (a robust floor for RWAs) is that it would more directly address the possibility of model errors in modelling market risks. The Group suggests that the Basel Committee takes into account in its work the shortcomings of the present capital requirements as identified by the Group and that an evaluation be carried out by the Commission, after the outcome of the Basel

[64] Amongst the issues under consideration is a move from value-at-risk to expected shortfall measures which are less prone to tail risks. The Basel Committee is also considering a more granular approach to model approvals, limiting the capital benefits of assumed diversification. Furthermore, the Basel Committee is considering a floor or surcharge to the models-based approach.

Committee's review, as to whether the proposed amendments to the trading-book capital requirements would be sufficient to cover the risks of both deposit banks and trading entities.

The Group also acknowledges that the RWAs calculated by individual banks' internal models (IRB) can be significantly different for similar risks. Supervisors are currently working on this issue. The Group encourages them to take strong and coordinated action to improve the consistency of internal models across banks. The treatment of risks should be more harmonised in order to produce greater confidence in the adequacy and consistency of the IRB-based capital requirements. This work should be one key step towards a common European supervisory approach.

The Group suggests that the Commission should consider further measures regarding the treatment of real estate-related lending within the capital requirement framework. History has shown that many systemic banking crises resulting in large commitments of public support have originated from excessive lending in real estate markets. This has often been coupled with funding mismatches and over-reliance on wholesale funding. The current levels of RWAs based on banks' internal models and historical loss data tend to be quite low compared to the losses incurred in past real estate-driven crises. The EBA and the new single euro area supervisory authority should make sure that capital adequacy framework includes sufficient safeguards against substantial property market stress (e.g. via robust floors on the RWAs calculated by internal models).

Moreover, insufficient attention was given to macro-prudential issues preceding the financial crisis. In the current European System of Financial Supervision, the European Systemic Risk Board (ESRB) has been given the responsibility for macro-prudential supervision at the EU level, whereas the institutional structures at a national level are still to be defined in most European countries. Effective macro-prudential policy needs appropriate tools. As a direct measure to limit the risks stemming from real estate markets, the ESRB recommends that loan-to-value (LTV) and/or loan-to-income (LTI) caps are included in the macro-prudential toolbox. The Group fully supports this recommendation and further recommends that strict caps to the value of these ratios should be provided in all Member States and implemented by national supervisors.

The Group welcomes the implementation of the minimum leverage ratio requirement as a backstop to the risk-weighted capital requirement. The monitoring of the leverage ratio as defined in the CRR/CRDIV will provide vital information to be used in the calibration. In due course, consideration should be given as to whether the requirement currently planned for the leverage ratio is sufficient. The Group also considers that the adequacy of the current large exposure limits should be assessed regarding inter-institution and intra-group exposures. In particular, the adequacy of the current maximum limit on inter-institution exposures effectively to limit excessive interconnectedness between financial institutions and systemic risks should be assessed. It should also be considered whether the same tightened limit should be applied to intra-group exposures (in section 5.5.1 it is suggested that the same exposure limits ought to apply to intra-group exposures). The latter could be important to limit the extent of exposure of the deposit bank to the trading entities within the same banking group.

5.5.5 Strengthening the governance and control of banks

Governance and control is more important for banks than for non-banks, given the former's systemic importance, ability quickly to expand and collapse; higher leverage; dispersed ownership; a predominantly institutional investor base with no strategic/long-term involvement; and, the presence of (underpriced) safety nets.

A bank's board and management are responsible for controlling the level of risk taken. However, the financial crisis has clearly highlighted that the governance and control mechanisms of banks failed to rein in excessive risk-taking.

The difficulties of governance and control have been exacerbated by the shift of bank activity towards more trading and market-related activities. This has made banks more complex and opaque and, by extension, more difficult to manage.

It has also made them more difficult for external parties to monitor, be they market participants or supervisors. As regards the former, the increase in size and the advent of banks that are too-big-to-fail have further reduced market participants' incentives to monitor banks effectively. As regards the latter, supervisors' ability to monitor banks has proven inadequate, in particular when it came to understanding, monitoring and controlling the complexity and interconnectedness of banks that expanded increasingly in trading activities.

Accordingly, strengthening governance and control is essential. Building on the corporate governance reforms currently under consideration and in addition to the reform proposals outlined above, it is necessary further to: (i) strengthen boards and management; (ii) promote the risk management function; (iii) rein in compensation; (iv) facilitate market monitoring; and, (v) strengthen enforcement by competent authorities. More specifically:

- **Governance and control mechanisms**: Attention should be paid to the governance and control mechanisms of all banks. More attention needs to be given to the ability of management and boards to run and monitor large and complex banks. Specifically, fit-and-proper tests should be applied when evaluating the suitability of management and board candidates;

- **Risk management**: In order to improve the standing and authority of the risk management function within all banks, so as to strengthen the control mechanism within the group and to establish a risk culture at all levels of financial institutions, legislators and supervisors should fully implement the CRD III and CRD IV proposals. In addition, while the CRD often remains principles-based, level 2 rules must spell out the requirements on individual banks in much greater detail in order to avoid circumventions. For example, there should be a clear requirement for Risk and Control Management to report to Risk and Audit Committees in parallel to the Chief Executive Officer (CEO);

- **Incentive schemes**: One essential step to rebuild trust between the public and bankers is to reform banks' remuneration schemes, so that they are proportionate to long-term sustainable performance. Building on existing CRD III requirement that 50% of variable remuneration must be in the form of the banks' shares or other instruments and subject to appropriate retention policies, a share of variable remuneration should be in the form of bail-in bonds. Moreover, the impact of further restrictions (for example to 50%) on the level of variable income to fixed income ought to be assessed. Furthermore, a regulatory approach to remuneration should be considered that could stipulate more absolute levels to overall compensation (e.g. that the overall amount paid out in bonuses cannot exceed paid-out dividends). Board and shareholder approvals of remuneration schemes should be appropriately framed by a regulatory approach;

- **Risk disclosure**: In order to enhance market discipline and win back investor confidence, public disclosure requirements for banks should be enhanced and made more effective so as to improve the quality, comparability and transparency of risk disclosures. Risk disclosure should include all relevant information, and notably detailed financial reporting for each legal entity and main business lines. Indications should be provided of which activities are profitable and which are loss-making, and be presented in easily-understandable, accessible, meaningful and fully comparable formats, taking into account ongoing international work on these matters; and

- **Sanctioning**: In order to ensure effective enforcement, supervisors must have effective sanctioning powers to enforce risk management responsibilities, including sanctions against the executives concerned, such as lifetime professional ban and claw-back on deferred compensation.

5.6 The European institutional architecture

The financial crisis highlighted failures in the EU institutional architecture.

First, supervisory arrangements had remained by and large national and proved ill-equipped to deal with an integrated market place. In light of this shortcoming, policy makers are faced with a choice: either to upgrade the institutional architecture or downgrade market integration.

Important steps aimed at strengthening the European institutional architecture were taken at the early stages of the financial crisis, notably as regards the establishment of more integrated banking supervision through the European System of Financial Supervision (ESFS, in the form of the European supervisory authorities and the ESRB).[65]

Even so, Member States have increasingly resorted to national measures aimed at safeguarding national financial stability, reflecting the depth of the financial crisis and the domestic mandate of national competent authorities. However, such measures are unlikely to be fully effective, given the integrated market place, and are fragmenting the Single Market and disrupting the effective management of cross-border banking groups.

The European institutional architecture therefore has to be further strengthened so as to fully support economic and monetary integration. The evolution of the financial crisis into a sovereign debt crisis, undermining the credibility of financial safety systems (e.g. deposit guarantees) provide further justification for such a move.

The Group therefore welcomes the first proposals related to a banking union that were recently tabled by the European Commission.[66] If implemented, the proposals would substantially strengthen the EU institutional architecture by creating a Single Supervisory Mechanism for banks in the Euro area, established within the European Central Bank (ECB).

The Group furthermore agrees that to complete the banking union it is necessary to establish an EU resolution system and, over time, deposit insurance system. Before that legacy issues need to be addressed. This would increase the protection of depositors by strengthening the financial soundness of deposit guarantee schemes and enable the orderly market exit of failing banks.

The Group believes that the recommendations put forward in this report, which are made for the Single Market as a whole, can also help the establishment of a banking union. Notably, the restriction of speculative risk-taking and the limitation of the use of guaranteed deposits to fund or subsidise significant trading activities facilitate the supervision of the largest and most complex banks within a Single Supervisory Mechanism and facilitate the closer linking of deposit guarantee schemes by limiting the risks insured by those schemes.

[65] The High-level Group on financial supervision in the EU (de Larosière Group) (2009).

[66] Proposal for a Council regulation conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions, 2012/242; Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU No. 1093/2010; Communication from the Commission to the European Parliament and the Council: A roadmap towards a Banking Union, COM(2012) 510.

5.7 Competition

To improve effective consumer choice and enhance consumer protection, it is necessary to improve transparency, address product tying and ensure responsible marketing practices. Self-regulatory measures have proven to be insufficient in this regard.

The Group has not had the possibility to conduct a detailed competition analysis, but recommends that further analysis in this area be undertaken in order to determine whether additional measures are necessary to improve competition, notably in the retail banking area.

Such an analysis is also warranted to assess the impact of a retrenchment of banks to their national markets, as well as to assess whether national measures aimed at safeguarding domestic financial stability do not unduly affect competition in the Single Market

5.8 Competitiveness

The proposals above have an impact on the competitive standing of EU banks vis-à-vis their non-EU competitors. They could have an impact in particular on the location of trading activities if the EU's overall regulatory stance were to be substantially stricter than that of other key jurisdictions. Such effects need to be assessed. The Group understands that the recommendations contained in this report, if endorsed by the Commission, would be subject to an extensive impact analysis, as part of the normal procedure for any legislative proposal.

In this context, reference should not only be made to those countries already pursuing structural reforms of banks (for example the US and the UK), but also to Asian countries. On the other hand, many countries around the world are considering additional regulations on top of international standards, which would be necessary to mitigate the specific risks in their own territories.

For example, as highlighted in chapter 4, the US has decided to prohibit US banks from carrying out proprietary trading.[67] This reform, where the specific rules remain under discussion, takes place in the context of a long US history of structural separation within banking groups, where commercial banks cannot carry out certain activities that can only be provided by separate, non-bank affiliates. The US also has rules governing transfers between the different parts of a bank.[68] The functional separation element of the reform avenues considered above would accordingly bring the structure of the EU banking groups concerned closer to that of US banking groups.

As also highlighted in chapter 4, the UK is currently in the process of implementing the recommendations of the Independent Commission on Banking (ICB), which foresees a functional separation of the retail part of large UK banks. These intentions are fully compatible with the functional separation elements of the avenues put forward above.

As regards capital, several countries have indicated their intention to go beyond the minimum requirements set out in the Basel III framework. Switzerland, for example, is in the process of implementing legislation that would require significantly higher levels of equity, as well as wider loss absorbing capacity (bail-inable debt) from the two big Swiss banks (Credit Suisse and UBS). The UK, as part of implementing the ICB recommendations, also intends to raise the loss-absorbing capacity of both the ring-fenced retail bank and large banking groups. Furthermore, some Member States are also considering common equity requirements in excess of the Basel III minimum. The CRD IV proposals under negotiation provide a framework for such higher standards.

[67] Section 619 Dodd-Frank Act, Volcker Rule

[68] E.g. Section 23A of the Federal Reserve Act, which impose limits on certain transactions between a commercial bank and its affiliates; and Section 23B of the same act, which stipulates that such transactions should take place on the same terms and conditions as those for non-affiliated companies.

The Group therefore believes that its proposals are balanced. If implemented, they would make it easier to manage, monitor and supervise banks. Tomorrow's banks would be less risky and more resilient, and the banking system as a whole would be more sustainable. That is the best basis on which to compete globally.

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LIST OF ABBREVIATIONS

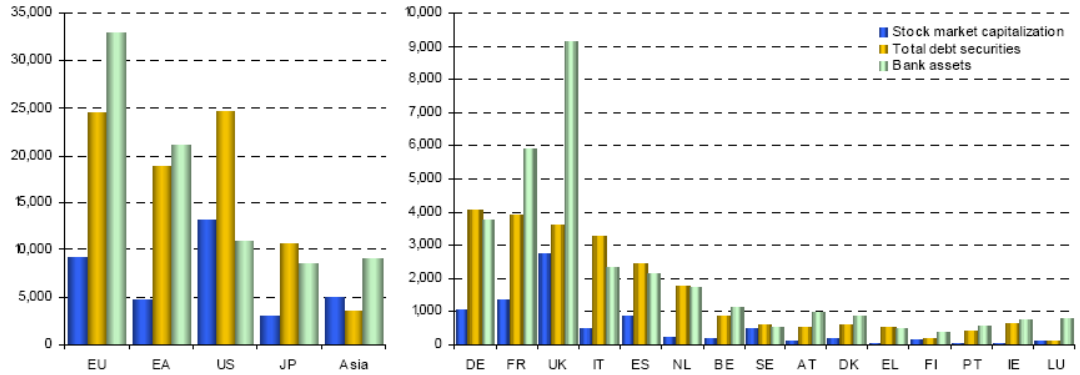
ABCP	• Asset-backed commercial paper, which is commercial paper that is backed by a large variety of assets (like asset-backed securities, ABS), issued with a short term maturity (up to 12 months, not like ABS, which are much longer term) and is generally issued by securitisation conduits to fund the (usually off-balance sheet) purchase of assets.
ABS	• Asset-backed securities, which are securities issued by a (usually off-balance sheet) SPV and backed by a pool of receivables, no matter what the asset class of such receivables. Typically, most ABS are backed by assets such as consumer loans, auto loans, student loans, credit card receivables, etc.
ALM	• Asset and liability management
Basel 1, 2, 3	• Basel 1: 1988. Capital adequacy rules for banks at a global level (credit risk only), which are implemented in the EU by the CRD (see below). 1996: Amendments to Basel 1: Inclusion of market risks, recognition of internal models (VaR models). • Basel 2: 2004 • Basel 2.5: 2009 introduces changes to trading book and securitisation treatment. • Basel 3: agreed by the BCBS in 2010-11
BCBS	• Basel Committee on Banking Supervision (Basel Committee)
BRIC	• Acronym for Brazil, Russia, India, and China.
BRR	• Bank Recovery and Resolution Directive (as proposed)
CCP	• Central Counterparty
CDO	• Collateralized debt obligations, which are securities backed by corporate or SME loans (collateralized loan obligations or CLO), bonds (collateralized bond obligations or CBO), CDS (credit default swaps), collateralised swap obligations or CSO), other ABS (CDO of ABS), other CDOs (CDO^2, CDO^3, etc.), or a mix of all the above.
CDS	• Credit default swap, which is a contract whereby the CDS buyer makes periodic payments (premium) to the CDS seller, in exchange of which the CDS seller commits to indemnify the CDS buyer in case of a credit event related to a certain underlying exposure. • A CDS contract is similar to credit insurance.
CEE countries	• Central and Eastern European countries
CET1 capital	• Common equity Tier 1 capital, as defined in capital adequacy rules
CFO	• Chief Financial Officer – Member of the Executive Board
CLO	• Collateralised loan obligation (see ABS and CDO)
CMBS	• Commercial mortgage-backed securities, which are securities backed by commercial mortgage loans.
CRA	• Credit rating agency
CRD I, II, III, IV	• Capital Requirements Directive • 2006: Approval of EU Directive on Basel 2. 2006-2008: so-called “dual run” period (Basel 1+2). Since January 2008: full Basel 2 rules implementation in the EU. As of 2012, Basel 2.5 implementation through CRD III. • CRD IV adopted by the Commission in 2011.
CRO	• Chief Risk Officer

CRR	• Capital Requirements Regulation, adopted by the Commission together with CRD IV to set out prudential requirements for banks
CSD	• Central Securities Depository
DGS	• Deposit Guarantee Scheme
EMIR	• European Market Infrastructure Regulation on OTC derivatives, central counterparties and trade repositories
EBA	• European Banking Authority
ECB	• European Central Bank
EFSF	• European Financial Stability Facility, which is a limited liability company established by the euro area Member States, on an intergovernmental basis, for the purpose of providing loans to euro area countries in financial difficulties
ESM	• European Stability Mechanism, which replaces the temporary EFSF
EIOPA	• European Insurance and Occupational Pensions Authority
ESA	• European Supervisory Authority: EBA, ESMA, and EIOPA
ESMA	• European Securities Market Authority
ESRB	• European Systemic Risk Board, which is responsible for the macro-prudential oversight of the financial system within the EU.
EA17	• 17 EU Member States whose currency is the euro (Belgium, Germany, Greece, Spain, Estonia, Ireland, France, Italy, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Slovakia and Finland).
EONIA	• Euro overnight index average, which is a measure of the effective interest rate prevailing in the euro interbank overnight market.
EU15	• Last 15 Member States that joined the EU
EU12	• First 12 Member States that joined the EU
EU27	• EU Member States
Euribor	• Euro interbank offered rate, which is the rate at which a prime bank is willing to lend funds in euro to another prime bank. back to top
FDIC	• Federal Deposit Insurance Corporation, which is the US deposit guarantee and resolution authority.
FSB	• Financial Stability Board
GAAP	• Generally Agreed Accounting Practices, which is an accounting framework (used by American companies and businesses).
IASB	• International Accounting Standards Board
ICB	• Independent Commission on Banking, which was set up in the UK to examine the need for structural separation
IFRS	• International Financial Reporting Standards
LCR	• Liquidity coverage ratio
LTI	• Loan-to-income ratio
LTRO	• Longer term refinancing operations. In the crisis, the ECB provided LTRO facilities to European banks, e.g. in December 2011 and February 2012.
LTV	• Loan-to-value ratio
M&A	• Mergers and acquisitions
MFI	• Monetary Financial Institution, which is the term used by the ECB that includes credit institutions as defined in Community law, and other financial institutions whose business is to receive deposits and/or close substitutes

	for deposits from entities other than MFIs and, for their own account (at least in economic terms), to grant credits and/or make investments in securities. Note that money market funds are also classified as MFIs.
MiFID	• Markets in Financial Instruments Directive
MTF	• Multilateral trading facility
NFC	• Non-financial corporation
NSFR	• Net Stable Funding Ratio
OMT	• Outright Monetary Transactions, which are transactions in sovereign bond markets to be carried out by the Eurosystem that aim at safeguarding an appropriate monetary policy transmission and the singleness of the monetary policy.
OTC	• Over-the-Counter or bilateral, as opposed to centrally traded on e.g. an exchange.
RMBS	• Residential mortgage-backed securities, which are securities backed by residential mortgage loans.
RWA	• Risk-weighted assets, which are assets weighted by the relevant risk weight factor to reflect credit risk, market risk and operational risk. • Minimum (regulatory) capital ratios are expressed as a % of risk-weighted assets.
SIB	• Systemically important bank • G-SIB, D-SIB, E-SIB qualifiers stand for globally, domestically, and European, respectively.
SIV	• Structured investment vehicle, which is a vehicle investing mainly in (long-term) securitised assets and funding such investments by issuing senior debt (both commercial paper and medium term notes), junior debt and equity.
SMP	• Securities Markets Programme, which were interventions by the Eurosystem in public and private debt securities markets in the euro area to ensure depth and liquidity in those market segments that are dysfunctional. • Terminated on 6 September 2012 (introduction of OMT).
SPV	• Special purpose vehicle
VaR	• Value at Risk. Risk management concept that provides a metric for the potential loss incurred by a bank's trading unit within a given time frame and a given confidence interval.

APPENDIX 1: AGGREGATE DATA

Chart A1.1: **Bank assets compared to equity and debt markets in EU and elsewhere**



Source: calculations based on IMF Global Financial Stability Report September 2011

Table A1.2: **Total number and assets of monetary financial institutions by country (March 2012)**

	No. of institutions	Total assets (€million)	GDP in 2011 (€million)	Total assets in % of GDP	% change in total assets since 2001
Austria	765	1,011,062	300,241	336.7%	76.3%
Belgium	108	1,161,709	368,304	315.4%	49.4%
Bulgaria	31	42,857	38,483	111.4%	-
Cyprus	141	130,390	17,761	734.1%	-
Czech Republic	57	192,959	154,913	124.6%	-
Denmark	161	1,115,073	239,245	466.1%	131.0%
Estonia	17	19,067	15,973	119.4%	-
Finland	323	641,579	191,571	334.9%	285.0%
France	656	8,454,275	1,996,583	423.4%	108.7%
Germany	1,893	8,522,747	2,570,800	331.5%	35.2%
Greece	54	435,211	215,088	202.3%	104.8%
Hungary	189	115,325	100,513	114.7%	-
Ireland	479	1,250,195	156,438	799.2%	135.0%
Italy	740	4,158,073	1,580,220	263.1%	121.4%
Latvia	30	28,348	20,050	141.4%	-
Lithuania	91	24,198	30,705	78.8%	-
Luxembourg	142	1,040,680	42,822	2430.3%	27.4%
Malta	26	51,166	6,426	796.2%	-
Netherlands	284	2,480,282	602,105	411.9%	95.9%
Poland	699	334,764	370,014	90.5%	-
Portugal	155	580,737	170,928	339.8%	94.5%
Romania	41	90,662	136,480	66.4%	-
Slovakia	30	59,719	69,058	86.5%	-
Slovenia	25	53,714	35,639	150.7%	-
Spain	334	3,732,258	1,073,383	347.7%	188.9%
Sweden	174	1,160,037	386,772	299.9%	148.9%
UK	373	9,933,059	1,746,962	568.6%	68.4%
Total EU	8,018	46,820,146	12,637,477	370.5%	-

Notes: Total assets based on aggregate balance sheet of monetary financial institutions.
Source: ECB, Eurostat.

Table A1.3: **Non-MFI loans and deposits in relation to total assets (March 2012)**

	Total assets (€million)	Loans to NFCs (€million)	Loans to households (€million)	Loans to NFCs and households in % of total assets	Deposits of non-MFIs	Deposits of non-MFIs in % of total assets
Austria	1,011,062	165,743	143,829	30.6%	325,210	32.2%
Belgium	1,161,709	115,892	110,979	19.5%	482,845	41.6%
Bulgaria	42,857	17,120	9,580	62.3%	25,782	60.2%
Cyprus	130,390	25,913	23,795	38.1%	49,328	37.8%
Czech Republic	192,959	33,836	45,391	41.1%	111,211	57.6%
Denmark	1,115,073	140,173	317,099	41.0%	159,545	14.3%
Estonia	19,067	5,968	6,936	67.7%	9,692	50.8%
Finland	641,579	66,017	110,969	27.6%	129,028	20.1%
France	8,454,275	877,889	1,075,705	23.1%	1,943,734	23.0%
Germany	8,522,747	913,747	1,434,674	27.6%	3,130,822	36.7%
Greece	435,211	111,234	125,960	54.5%	175,219	40.3%
Hungary	115,325	24,948	26,165	44.3%	45,664	39.6%
Ireland	1,250,195	99,275	111,267	16.8%	210,533	16.8%
Italy	4,158,073	895,084	615,721	36.3%	1,430,192	34.4%
Latvia	28,348	7,745	7,164	52.6%	8,032	28.3%
Lithuania	24,198	7,738	7,508	63.0%	11,924	49.3%
Luxembourg	1,040,680	52,903	34,394	8.4%	221,957	21.3%
Malta	51,166	5,598	4,024	18.8%	10,921	21.3%
Netherlands	2,480,282	367,471	417,820	31.7%	865,991	34.9%
Poland	334,764	61,093	128,387	56.6%	186,667	55.8%
Portugal	580,737	114,016	139,781	43.7%	241,025	41.5%
Romania	90,662	26,546	23,840	55.6%	43,517	48.0%
Slovakia	59,719	16,187	17,437	56.3%	39,457	66.1%
Slovenia	53,714	20,219	9,422	55.2%	24,042	44.8%
Spain	3,732,258	849,640	848,569	45.5%	1,707,510	45.8%
Sweden	1,160,037	206,006	302,018	43.8%	246,217	21.2%
United Kingdom	9,933,059	533,305	1,412,254	19.6%	2,776,881	28.0%
Total EU	46,820,146	5,761,306	7,510,688	28.3%	14,612,946	31.2%

Notes: Data includes all loans to non-financial corporations (NFCs) and households, but deposits only includes deposits of non-monetary financial institutions residing in euro area (for EA17 members) or domestically. Based on the aggregate balance sheet of monetary financial institutions.
Source: ECB

APPENDIX 2: PREVIOUS BANKING CRISES

US savings and loans crisis in the 1980s[69]

Financial deregulation and innovation allowed the US Savings and Loans (S&L) industry to expand rapidly. However, S&L managers did not manage risks appropriately in the new lines of business. As expertise and risk management culture did not keep pace with the rapid growth in new lending, risk taking grew in excessive proportions. Regulators and supervisors did not sufficiently monitor and constrain the new activities. The problems increased because of a combination of sharply increasing interest rates in 1979-1981 and an ensuing severe recession in 1981-1982. The sharp increases in interest rates affected the funding costs of banks (whereas the yields on their assets had a longer maturity and were not repriced to the same extent) and, jointly with the sharp recession, non-performing loans increased dramatically. By some estimates, more than half of the S&L institutions had negative net worth and were thus insolvent by end 1982.

At that point in time, regulatory forbearance prevented insolvent S&L institutions from being closed. Irregular regulatory accounting principles were adopted that, in effect, substantially lowered capital requirements (for example, by allowing intangible capital such as goodwill). Forbearance was driven by a lack of sufficient funds in the insurance fund (Federal Savings and Loans Insurance Corporation) to close the S&L institutions and pay out depositors, regulatory capture, and reluctance to admit failure on behalf of the regulators. Regulatory forbearance further increased moral hazard, search for yield, and gambling for resurrection incentives.

Ultimately, the Federal Savings and Loans Insurance Corporation closed about 300 S&Ls with total assets of $125 billion. The Resolution Trust Company was established in 1989 to manage and resolve insolvent thrifts placed in conservatorship or receivership. It was assigned to sell more than $450 billion of real estate owned by failed institutions. After seizing the assets of about 750 insolvent S&Ls (roughly 25% of the industry), the Resolution Trust Company sold over 95% of them, with a recovery rate exceeding 85%. In the end, from 1986 to 1995, the number of federally insured thrift institutions in the US declined from 3250 to about 1650, i.e. by about 50%.

Swedish banking crisis in the 1990s[70]

The deregulation of credit markets in 1985, combined with a high inflation environment and a tax system that stimulated borrowing, triggered a frenzy of real estate lending and speculation. Moreover, due to the exchange controls that were only relaxed in 1989, speculative investments were more or less confined to the domestic commercial real estate markets. Large volumes of loans were granted on doubtful grounds and the real estate bubble ultimately collapsed.

In 1992, seven of the largest Swedish banks representing 90% of the market suffered heavy losses, primarily from loans to commercial real estate. Aggregated loan losses amounted to 12% of Sweden's GDP or roughly 20% of total lending. The stock of NPLs was much larger than the banking sector's total equity capital. Five of the seven largest banks needed and obtained additional capital from either the government or their owners.

In response to the banking crisis, the Swedish government announced a combination of guarantees of deposits and bank debts and a tough capital regime for the banks. Risk capital, i.e. common shares and perpetual subordinated loans, was not covered by the blanket guarantee. Conditions for state support to banks included rectifying shortcomings in the past, better internal controls and risk management. Compliance with the condition could be ensured through the appointment of State representatives on the boards of the banks receiving support. The Swedish government also

[69] Source: Curry and Shibut (2000), CBO (1992), and Mishkin (2004)
[70] Based on Andersson and Viotti (1999), Ingves and Lind (1996), Ergungor (2007), Englund (1999), and Jonung (2009).

introduced measures to allow foreign banks to establish subsidiaries in order to mitigate the effect on lending and enhance competition.

As the Finance Ministry considered that it did not possess the necessary qualifications to manage the broad support for the banking system and as assigning this role to the Riksbank would create conflicts of interests, a special authority was created, the Bank Support Authority (BSA). The BSA became formally operational in May 1993 and also set up a separate Valuation Board.

All banks that needed support were required to write down their assets to "realistic" values and to raise additional capital if the write-downs brought their capital levels below the existing minimum standards. Any bank that could not raise such capital privately was taken over in a manner that entirely wiped out the value for shareholders. The threat of these measures led several major banks to find a way to raise private capital rather than succumb to nationalisation. Five of the seven largest banks received capital injections, but the Swedish government only ended up taking over two large banks. Both nationalised banks and some of the private sector banks used good bank/bad bank structures as a way to manage their troubled assets with the least disturbance to the ongoing banking activities.

Bailed out banks were split. The good assets continued operating under the same name. The bad assets were transferred to a special vehicle or asset management company, Securum. When assets were put under the administration of Securum, they were written down in a due diligence process. The allocation of sufficient funding prevented the premature sale of assets at prices below their intrinsic value.

The technique of having bad banks was used by private and government-owned banks, whereby the bad banks of the private banks were not supported at all by the government. Since each bank had its own bad bank, the issue of how to value the transferred assets did not become critical. An approximate value was sufficient since the bank and the bad bank had the same owner.

Sweden abolished the blanket guarantee and the special legislation in July 1996. Sweden spent 4% of its GDP to rescue ailing banks, but by 2007 and thanks to recouped value and revenues from several sources the cost of the bailout was recovered. Securum ultimately produced a surplus. Dividends, partial sale of shares in Nordbanken, and a rising value of the government's remaining equity stake in Nordbanken (now Nordea) made up for the rest. This positive outcome was not only due to good crisis management or of the use of "good bank/bad bank" approach, but also of the state of the world business cycle which provided a favourable environment for an economic upturn.

APPENDIX 3: FURTHER DATA ON SAMPLE OF EU BANKS

Table A3.1: **Total assets and market capitalisation (2011)**

Bank	Country	Total assets (€ million)	Market capitalisation (€ million)
Banca Monte d. P. S.	IT	240,702	2,929
Barclays	UK	1,871,469	25,699
BBVA	ES	597,688	32,444
BNP Paribas	FR	1,965,283	36,171
BPCE SA	FR	795,728	-
Commerzbank	DE	661,763	6,662
Crédit Agricole SA	FR	1,723,608	10,861
Danske Bank	DK	460,832	9,102
Deutsche Bank	DE	2,164,103	26,627
DZ Bank AG	DE	405,926	-
Erste Bank	AT	210,006	5,046
Handelsbanken	SE	275,514	12,678
HSBC	UK	1,967,796	105,022
ING	NL	961,165	-
Intesa	IT	639,221	21,265
KBC	BE	285,382	3,307
Landesbank B-W	DE	373,059	-
Lloyds Banking Group	UK	1,161,698	21,335
Nordea	SE	716,204	24,069
Rabobank Group	NL	731,665	-
Raiffeisen	AT	146,985	3,904
Royal Bank of Scotland	UK	1,803,649	26,625
RZB AG	AT	150,087	-
Santander	ES	1,251,525	52,048
SEB	SE	265,219	9,864
Société Génerale	FR	1,181,372	12,830
Standard Chartered	UK	461,284	40,207
Swedbank	SE	208,464	9,081
UBI	IT	129,804	2,855
Unicredit	IT	926,769	12,384

Source: Data from SNL Financial.

Table A3.2: **Asset structure (2011)**

Bank	Total assets (€ billion)	% net loans to customers	% net loans to banks	% total securities	% total derivatives	% total assets held for trading
Banca Monte dei P.S.	241	63.3	9.3	20.1	7.0	13.5
Barclays	1,871	29.1	3.2	59.2	34.5	44.0
BBVA	598	58.9	4.4	25.2	8.7	11.8
BNP Paribas	1,965	33.9	2.5	52.7	23.7	38.8
BPCE SA	796	31.3	21.4	37.6	16.9	20.0
Commerzbank	662	44.8	13.3	38.7	19.5	23.5
Crédit Agricole SA	1,724	23.2	22.0	44.9	22.7	25.9
Danske Bank	461	53.9	5.3	29.8	16.1	25.4
Deutsche Bank	2,164	21.1	7.5	62.2	40.1	50.9
DZ Bank AG	406	29.6	24.0	28.0	8.4	17.7
Erste Bank	210	60.9	3.6	26.1	5.2	7.1
Handelsbanken	276	64.8	9.4	11.3	6.0	6.8
HSBC	1,968	39.5	10.4	39.2	13.6	26.3
ING	961	64.6	4.7	18.3	7.2	13.1
Intesa	639	58.9	5.7	27.5	8.2	9.4
KBC	285	48.5	6.7	29.6	6.2	9.4
Landesbank B-W	373	32.4	15.9	48.3	18.5	27.3
Lloyds Banking Group	1,162	59.3	3.6	26.0	6.8	7.3
Nordea	716	47.1	7.2	40.9	24.0	35.5
Rabobank Group	732	64.4	3.4	16.9	8.1	8.5
Raiffeisen	147	52.2	17.4	19.5	5.9	7.9
RBS	1,804	34.2	5.5	50.6	35.1	50.7
RZB AG	150	52.8	14.8	19.4	5.8	7.7
Santander	1,252	59.9	4.1	21.4	9.1	13.8
SEB	265	50.2	8.9	22.9	7.1	16.1
Société Générale	1,181	33.6	7.3	47.8	21.8	33.0
Standard Chartered	461	44.9	11.1	32.8	11.3	15.0
Swedbank	208	65.2	5.2	13.1	5.6	15.9
UBI	130	76.8	4.8	9.9	1.8	2.2
Unicredit	927	61.2	6.2	25.4	12.9	14.1

Source: Data from SNL Financial.

Table A3.3: **Capital structure (2011)**

Bank	RWA/ total assets (%)	Tier 1 capital ratio (%)	Total equity/ total assets (%)	Total tangible common equity/ total assets (%)	Tier 1 capital/ total assets (%)
Banca Monte dei P.S.	43.70	11.1	4.6	2.4	4.8
Barclays	25.01	12.9	4.2	3.1	3.2
BBVA	55.34	10.3	6.7	4.9	5.7
BNP Paribas	31.22	11.6	4.4	2.8	3.6
BPCE SA	29.00	9.6	3.5	1.8	2.8
Commerzbank	35.75	11.1	3.7	2.8	4.0
Crédit Agricole SA	19.36	11.2	2.9	1.4	2.2
Danske Bank	26.46	16.0	3.7	3.0	4.2
Deutsche Bank	17.62	12.9	2.5	1.7	2.3
DZ Bank AG	24.54	10.1	2.7	1.4	2.5
Erste Bank	54.29	10.4	7.2	3.2	5.7
Handelsbanken	20.71	18.4	3.9	3.6	3.8
HSBC	47.33	11.5	6.5	4.8	5.5
ING	34.38	11.7	3.6	3.4	4.0
Intesa	50.88	11.5	7.5	5.0	5.8
KBC	44.27	12.3	5.9	2.8	5.4
Landesbank B-W	28.86	12.9	2.6	2.4	3.7
Lloyds Banking Group	36.30	12.5	4.8	4.2	4.5
Nordea	25.86	12.2	3.6	3.2	3.2
Rabobank Group	30.56	17.0	6.2	3.2	5.2
Raiffeisen	64.84	9.9	7.4	4.2	6.4
RBS	29.14	13.0	5.0	3.7	3.8
RZB AG	66.48	9.9	7.7		6.6
Santander	45.22	11.0	6.6	3.9	5.0
SEB	28.73	15.9	4.6	3.9	4.6
Société Générale	29.57	10.7	4.3	2.7	3.2
Standard Chartered	45.15	13.7	6.9	5.6	6.2
Swedbank	26.51	17.2	5.3	4.3	4.6
UBI	70.11	9.1	7.6	4.6	6.4
Unicredit	49.68	9.3	5.9	3.9	4.6

Source: Data from SNL Financial.

Table A3.4: **Funding structure (2011)**

Bank	Total assets (€ billion)	% customer deposits	% bank deposit	% total debt	% total derivative liabilities	Customer loan-to-deposit ratio (%)
Banca Monte dei P.S.	241	39.0	20.0	25.9	8.1	162.2
Barclays	1,871	24.1	5.9	29.6	33.8	120.8
BBVA	598	47.2	15.5	16.3	8.3	124.7
BNP Paribas	1,965	27.8	7.7	20.0	23.5	122.0
BPCE SA	796	7.7	20.8	42.1	15.8	406.8
Commerzbank	662	38.6	14.9	19.2	20.9	116.2
Crédit Agricole SA	1,724	30.5	10.0	14.5	22.4	76.1
Danske Bank	461	24.8	11.5	29.0	15.6	217.6
Deutsche Bank	2,164	27.8	n.a.	20.9	39.0	76.1
DZ Bank AG	406	23.4	29.1	15.3	9.2	126.3
Erste Bank	210	56.6	11.3	17.4	4.4	107.5
Handelsbanken	276	19.9	8.2	57.5	5.2	325.1
HSBC	1,968	53.9	6.6	11.2	13.5	73.3
ING	961	54.0	7.5	17.8	7.7	119.8
Intesa	639	34.3	12.6	25.2	8.9	171.7
KBC	285	47.1	9.1	10.8	8.3	102.8
Landesbank B-W	373	21.5	20.9	34.9	18.9	151.0
Lloyds Banking Group	1,162	42.6	4.2	24.6	6.0	139.0
Nordea	716	26.5	7.7	26.0	23.5	177.4
Rabobank Group	732	45.1	3.6	33.0	8.6	142.7
Raiffeisen	147	45.4	25.8	13.1	6.3	114.9
RBS	1,804	33.4	7.2	12.5	34.8	102.5
RZB AG	150	44.7	26.6	13.0	6.1	118.0
Santander	1,252	50.5	11.4	17.6	8.8	118.6
SEB	265	35.7	8.5	26.8	6.5	140.6
Société Générale	1,181	28.8	9.5	16.9	21.7	116.7
Standard Chartered	461	58.7	6.1	11.4	11.0	76.4
Swedbank	208	30.2	7.5	43.1	4.9	215.7
UBI	130	42.0	7.8	37.3	1.8	182.9
Unicredit	927	44.0	14.3	18.7	13.2	139.3

Source: Data from SNL Financial.

Performance metrics and correlations

Table A3.5: **Profitability (2011)**

Bank	ROA 2011	ROA 2007	ROE 2011	ROE 2007	Cost-income-ratio 2011	Total 5-year market return (%)
Banca Monte dei P. S.	(1.95)	0.91	(28.42)	17.35	76.08	-92.78
Barclays	0.23	0.39	6.20	17.02	62.34	-70.76
BBVA	0.61	1.39	9.04	25.53	50.86	-65.64
BNP Paribas	0.35	0.53	8.05	14.55	61.46	-62.89
BPCE SA	0.11	-	2.84	-	65.18	-
Commerzbank	0.11	0.31	2.76	12.27	80.64	-95.36
Crédit Agricole SA	(0.07)	0.34	(2.29)	10.65	53.23	-86.86
Danske Bank	0.05	0.49	1.46	14.91	58.89	-64
Deutsche Bank	0.21	0.37	8.28	17.89	75.50	-68.84
DZ Bank AG	0.15	0.21	5.66	8.21	72.63	-
Erste Bank	(0.26)	0.81	(3.44)	13.90	54.26	-73.41
Handelsbanken	0.53	0.85	13.78	22.04	47.13	24.99
HSBC	0.65	0.97	10.98	16.34	54.28	-6.09
ING	0.43	0.39	11.82	14.89	58.13	-
Intesa	(1.25)	1.70	(14.43)	20.61	65.97	-77.59
KBC	0.02	1.00	0.26	18.42	59.90	-85.73
Landesbank B-W	0.02	0.08	0.89	3.14	51.63	-
Lloyds Banking Group	(0.28)	0.94	(5.94)	27.75	77.43	-89.85
Nordea	0.43	0.85	10.61	19.27	54.91	-37.78
Rabobank Group	0.38	0.48	6.13	8.87	64.07	-
Raiffeisen	0.69	1.51	9.24	17.36	60.77	-77.96
RBS	(0.13)	0.69	(2.56)	11.27	69.73	-95.86
RZB AG	0.51	0.94	6.41	15.80	64.10	-
Santander	0.50	1.10	7.68	18.42	51.02	-52.63
SEB	0.50	0.64	10.81	18.95	60.52	-61.81
Société Générale	0.24	0.16	5.37	4.96	65.47	-85.81
Standard Chartered	0.87	0.98	12.30	15.39	56.16	12.78
Swedbank	0.66	0.80	12.20	18.87	55.35	-54.23
UBI	(1.41)	1.00	(15.43)	10.71	71.58	-85.44
Unicredit	(0.95)	0.72	(13.97)	12.59	67.36	-93.7

Source: Data from SNL Financial.

Charts on bank size and performance

Chart A3.1

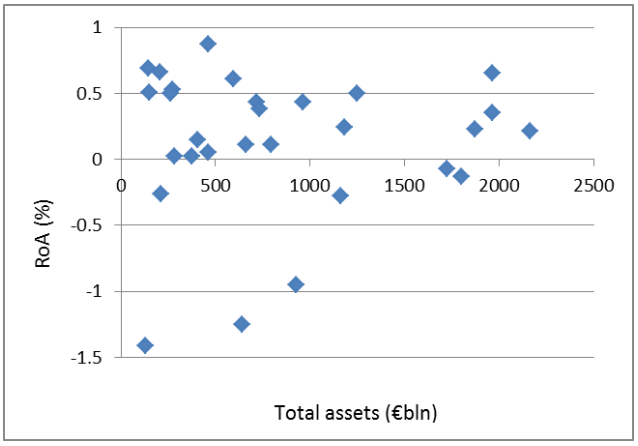


Chart A3.2

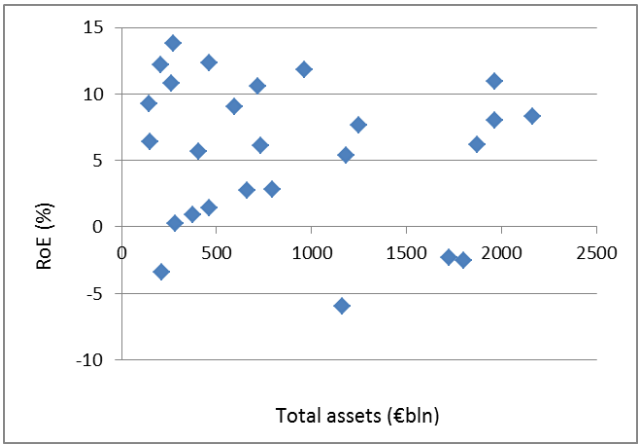


Chart A3.3

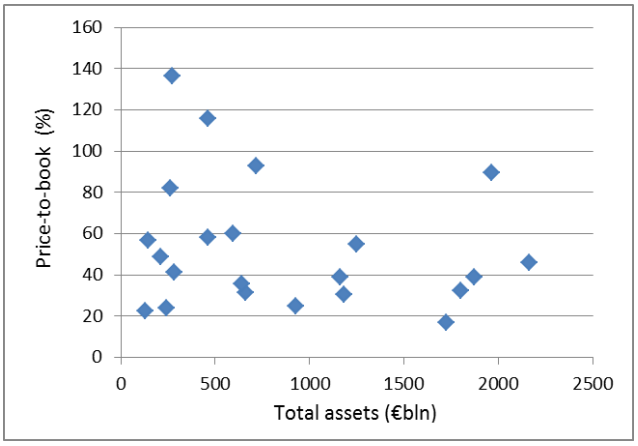
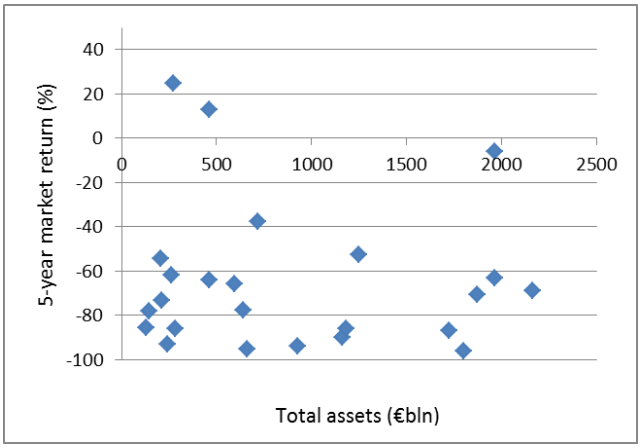


Chart A3.4



Source: Data from SNL Financial.

Charts on asset and funding structure and performance

Chart A3.5

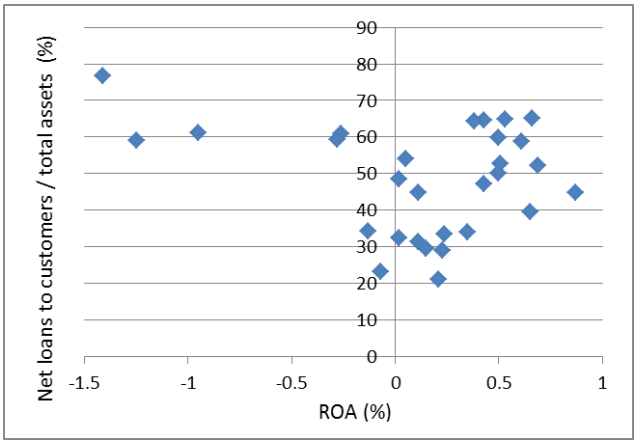


Chart A3.6

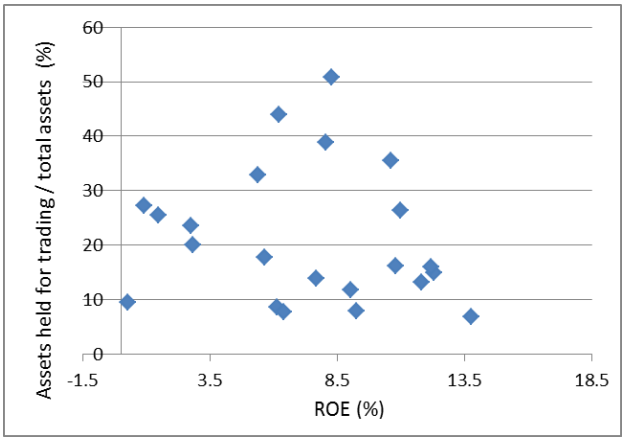


Chart A3.7

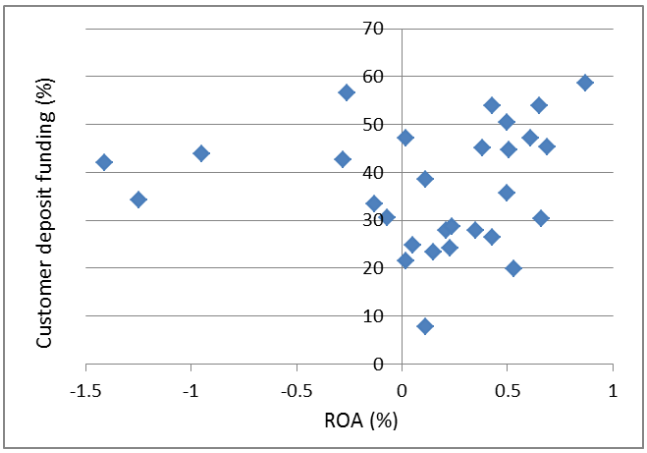
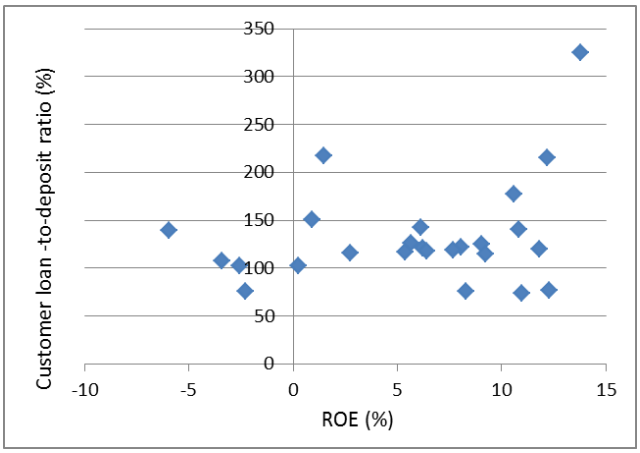


Chart A3.8



Source: Data from SNL Financial.

APPENDIX 4: LITERATURE ON ECONOMIES OF SCALE AND SCOPE

There is a significant body of literature on the economies of scale and scope in banking. This literature helps explain why banks may choose to grow big or to diversify their business models, instead of specialising in a narrow range of activities. Consequently, it also provides an indication of the potential costs of imposing alternative structures on banks.[71] However, some topics are covered in more depth than others, and there is a general lack of empirical evidence to understand the effects of specific reform proposals.

This appendix provides a short overview of the main findings in the literature, first on economies of scale (section A4.1) and then on economies of scope and functional diversification (section A4.2). The benefits of geographic diversification are not considered.

A4.1 Economies of Scale—What are the benefits (and costs) of large banks?

The benefits of large banks are mainly related to the existence of economies of scale that reduce unit operating costs. Size can also enhance the ability of banks to realise economies of scope, as large banks are more likely to achieve scope in multiple activities while at the same time maintaining scale in an individual activity; scope economies are separately discussed in section A4.2.

There may be additional benefits in the context of European banks that may stem, for example, from the ability of large European banks being key players in international markets—a potential benefit that may be lost if banks were much smaller and not able to compete internationally. Note however that some European banks tend to be large by international standards. The literature reviewed below does not capture this dimension and mainly focuses on economies (and diseconomies) of scale.

The literature tends to look either at the cross-sectional efficiency of banks of different sizes or at the time-series efficiency of banks on either side of a bank merger.

Early empirical analysis found limited scale economies, which tended to peak at relatively low levels of assets. Saunders (1996) and Berger and Mester (1997) find that economies of scale in banking get exhausted at more moderate levels of assets, perhaps around $10 billion. As put in Berger et al (1993), "the average cost curve has a relatively flat U-shape with medium-sized firms being slightly more scale efficient than either very large or very small firms".

More recent research, using more recent data and improved methods, finds substantially stronger evidence of economies of scale.[72] Thus, scale is shown to matter and bring benefits, at least up to a certain scale.

However, there is no consensus on the optimal size of banks, and there is also no evidence to indicate that scale economies continue increasing after a bank approaches a very large size. For example, McAllister and McManus (1993) and Wheelock and Wilson (2001) find that banks face increasing returns to scale up to at least $500 million of total assets. Amel et al. (2004) report that commercial banks in the USA with assets in excess of $50 billion have higher operating costs than banks in smaller size classes. This would suggest that, even allowing for growth in the minimum efficient scale over time, today's largest banks may be well beyond the technologically optimal point.

The existence of economies of scale differs between bank activities. For example, scale economies are more prominent, say, in payment and clearing services (which require heavy fixed-cost

[71] The below does not capture the transition costs of moving from one structure to another. Rather, it compares economies of scale and scope of different structures. As such, it captures the permanent (or steady-state) benefits and costs associated with banks of different scale and scope.

[72] See Wheelock and Wilson (2009) for a discussion of early and recent research.

investment in technologies and building up the relevant networks) than in securities underwriting (which requires a more individual risk assessment of the relevant deal). Note also that small banks may be able to replicate some of the economies of scale, e.g. by forming consortia or by outsourcing technology functions to vendors that can realise similar economies as large banks.

Evidence from banking mergers is also not overwhelmingly in favour of ever-increasing economies of scale. There is no strong evidence of increased bank efficiency after a merger or acquisition (Berger and Humphrey, 1997). Neither is there convincing evidence that cross-activity mergers create economic value (De Long, 2001). The crisis experience also suggests that few (forced or unforced) mergers and acquisitions outperformed following their consolidation.

The literature raises a number of other points about large banks that indicate disadvantages to size (diseconomies of scale):

- Large banks in more concentrated markets may abuse their market power, resulting in higher credit prices. However, the large body of literature on bank sector competition, and specifically the impact of bank size and sector concentration on market outcomes, is not as clear cut;

- Large banks may benefit from an implicit "too big to fail" subsidy. For example, Huang et al. (2010) conclude that bank size is directly related to how the financial market perceives the net impact of failure of a specific bank on the overall financial sector. Prior to the crisis, several studies showed that the value of large banks reflected the market perception that they were "too big to fail", which may have contributed to increasing their size, reducing their capitalisation and their taking on excessive risk (O'Hara and Shaw, 1990; Brewer and Jagtiani, 2009). Also, Boyd et al. (2006) find that in countries with more concentrated markets, banks have taken on a disproportionate amount of risk, relative to their capital buffer. But this finding is not general—e.g. Beck et al. (2006) found that concentrated systems actually have decreased the probability of financial crisis, potentially due to better diversification of risks within large banks. In a recent study, Demirgüç-Kunt and Huizinga (2011) distinguish between a banks absolute size and its systemic size measured with respect to the size of the economy. They conclude that while there may be some benefits to banks from absolute size, systemic size is unambiguously bad (with these banks being "too-big-to-save"), meaning also that the optimal bank size may be larger for banks in larger economies. Boyd and Heitz (2012) estimate that the social cost of too-big-to-fail banks (due to increased systemic risk) is significantly higher than the benefits (due to economies of scale);

- A distinct set of studies examines the impact of consolidation and how the resulting loss of small banks affects credit availability, in particular for small firms. While the issue is not fully resolved, the research tends to show that small banks are more inclined to lend to small businesses (proportionately) and make more small business loans (Cole et al., 2004; Avery and Samolyk, 2004); indeed, one study states that large banks systematically try to pick off the largest, safest and easiest to evaluate credits (Berger et al., 2001). Based on Berger et al. (2004), small banks tend to be better at relationship-lending that is based on "soft information", such as reliability of the firm's owner versus lending by big banks that is based on "hard information" such as financial statements and credit scoring. However, other studies show that big bank merger entry into a market tends to reduce loan prices to the benefit of small firms, and that market consolidation is correlated with more business start-ups. Overall, this may indicate that a range of banks, from small to medium to large, is needed to serve different customer groups; and

- Other studies have focused on managerial benefits related to bank size, whereby the merger mania may be better explained by manager motivations such as empire building rather than

economies of scale (Berger et al., 1999; DeYoung, 1999; Boyd and Graham, 1991). Anderson and Joeveer (2011) show that there is stronger evidence of returns to scale to bankers as compared to returns to investors, and that these returns to bankers are particularly strong in banks that have a large share of non-interest income. As concluded in a recent paper by Demirgüç-Kunt and Huizinga (2011) for an international sample of banks:

> "bank growth has not been in the interest of bank shareholders in small countries, and it is not clear whether those in larger countries have benefited. While market discipline through increasing funding costs should keep systemic size in check, clearly it has not been effective in preventing the emergence of such banks in the first place. Inadequate governance structures at banks seem to have enabled managers to pursue high-growth strategies at the expense of shareholders, providing support for greater government regulation"

A4.2 Economies of Scope—What are the benefits (and costs) of functional diversification of banks?

There are different reasons why banks may choose a diversified business model in terms of functions or products offered.[73] These can be generally attributed to:

- **Revenue economies of scope**—Clients may value the "one-stop-shopping" offered by a bank with diversified services. Also, by providing a service, banks gain valuable information on their clients that might provide advantages in the provision of other services, such that these banks may better serve their clients; [74]

- **Cost economies of scope**—By engaging in a wide range of activities, banks may reduce their operating costs, e.g. by pooling resources across a broader range of activities (e.g. centralised IT and finance functions; economies in the single information acquisition about clients that can be used for multiple services); and

- **Risk diversification—**this is part of the cost economies of scope and means that banks providing diversified services (with less than perfectly correlated income streams) may be able to diversify the overall risk of their operations and thereby reduce funding costs (e.g. bancassurance may benefit as long-term interest rate risk works in opposite directions when comparing the banking and insurance arm).

On the downside, the literature refers to the following problems associated with diversified business models, including:

- Conflicts of interest—potential conflicts of interest (between traditional banking and securities underwriting business) were the main reason for imposing the restrictions under the 1930 Glass-Steagall Act in the USA;

- Increased complexity—diversification of large banks tends to increase their complexity, which may raise their risk management cost, reduce transparency and complicate resolution;

- Increased risk-taking—the reduced costs of funding due to diversification may contribute to large diversified banks taking on additional risk. While authors generally acknowledge the

[73] There is also diversification of funding strategies. This is not discussed but often goes hand in hand with functional diversification—e.g. the growth in short-term funding in the interbank and wholesale markets is an offshoot of the increasing trading activities (although the picture is not so clear as traditional commercial banks have also increased wholesale funding). See CEPS (2011), for a literature review on this.

[74] See Sharpe, 1990, Diamond 1991 and Rajan, 1992.

potential risk-diversification benefits, they note that the expansion of activities usually entails diversification into riskier activities (e.g. trading), and that expanding banks often hold less capital; and

- Increased systemic risk—Individual diversification by banks can make the system as a whole less diversified. As banks diversify into each other's traditional areas, and most especially in capital markets business, the system can overall become less diverse and potentially more vulnerable to common shocks.[75] This has led many to call for promoting diversity in bank structures.

There is a wide body of literature on this topic, and there are many different literature reviews that seek to summarise the main points emerging from this literature. A useful summary is presented in the "Study of the effects of size and complexity of financial institutions on capital market efficiency and economic growth", by the chairman of the Financial Stability Oversight Council in the USA and published in January 2011.[76] The literature review therein is structured around a number of key questions, including:

What are the costs and benefits of limits on the organisational complexity and diversification of large financial institutions?

The empirical evidence on costs and benefits is mixed. On the one hand, more diversified and organisationally complex institutions can provide a wider array of financial services, which could improve the supply of credit and other financial services. For example, there is evidence of economies of scope in combining deposit-taking and lending, the traditional commercial banking activities. On the other hand, there is less evidence that other forms of functional diversification create value. Moreover, the economic literature has raised the concern that more diversified and complex financial institutions may be perceived as "too big to fail", leading to problems of moral hazard and excessive risk-taking.

- Most studies find a diversification discount in the equity prices of diversified banks. That is, diversified banks trade at a discount relative to a portfolio of comparable stand-alone firms (see Laeven and Levine, 2007). Although the evidence is not all clear-cut, this seems to be evidence of diseconomies of scope;

- The rating agencies commonly consider "diversification" as one of the relevant factors when rating banks;

- Templeton and Severiens (1992) argue that diversified financial institutions are less exposed to income shocks and are therefore more stable. Also, ECB (2010) concludes that diversified banks fared better in the crisis than specialised banks; however, the comparison was between diversified and more specialised investment banks;

- Stiroh and Rumble (2006) find little evidence of gains in risk-adjusted returns from the shift towards fee and other non-interest income for US commercial banks. Rather, managers shifted to these activities because managers focus more on the benefit of higher expected profits than on the cost of higher return volatility;

- On organisational complexity, Klein and Saidenberg (2010) show that the diversification discount can be attributed also to the effects of having a more complex organisational

[75] See Haldane (2009)
[76] Chairman of the Financial Stability Oversight Council (2011).

structure. The authors argue that the cost of managing complex organisation increases with the heterogeneity of its subsidiaries;

- On complexity, banks are seen by many as less transparent than other companies, thus making the monitoring of operations difficult (Flannery et al., 2010; Bhattacharya et al., 1998). Morgan (2002) finds that rating agencies disagree more frequently when it comes to financial institutions than companies in other industries. He concludes that financial institutions are more opaque. The level of opacity does, however, differ with the operational characteristics of the bank. Flannery et al. (2004) and Iannotta (2006) suggest that the greater complexity of large, diversified banks results in greater opacity. Jones (2000) shows that the increasing complexity and rapid development of new products and services have made it challenging for regulatory and supervisory authorities to monitor non-traditional banking operations;

- De Nicolo and Kwast (2002) argue that the increased scope of financial firms' activities may lead to increased systemic risk, since a large fraction of firms will become more "complex" to manage, and their interconnectedness will become more difficult to monitor. They also find that the stock returns of large US banks became more positively correlated with one another over the period 1988-1999;

- Wagner (2010) shows how diversification can make financial institutions more similar to each other by exposing them to the same risks. Full diversification is not optimal, because the marginal benefit of diversification is declining and becomes zero at full diversification, while the marginal cost of correlated failures increases in the degree of diversification; and

- De Nicolo et al. (2004) use data on the 500 largest financial institutions worldwide to show that complexity resulting from conglomeration and consolidation increases systemic risk.

However, there is little research on the effects of specific limits on diversification and organisational complexity. The literature does not help addressing: which type of limits would guard against excessive risk-taking, and what are the costs of those limits?

What are the costs and benefits of requirements for operational separation between business units of large financial institutions in order to expedite resolution in case of failure?

The main benefit of requiring separation of business units is that ex-ante separated units could facilitate resolution—e.g. separated units can potentially be sold more quickly in the event that resolution is necessary.

Baxter and Somner (2005) examine the resolution of BCCI and show that the US authorities were able to separate and reorganise First American, a bank holding company owned by BCCI, precisely because it had few interaffiliated operational, credit, or reputational relationships with BCCI. They also argue that most complex organisational structures with a large number of interdependent legal entities are established to achieve tax efficiency, but not necessarily economic efficiency once the cost of supervision in the event of resolution is taken into account.

Overall, the literature on the separation of business units is sparse.

What are the costs and benefits of limits on risk transfer between business units of large financial institutions?

Risk transfer among consolidated business units is common and an integral part of internal capital allocation decisions of firms. Most studies imply that restrictions on risk transfer are likely to be

costly for firms (Cumming and Hirtle, 2001; Saita, 1999), and thus could increase the cost of credit and other financial services.

For example, Cumming and Hirtle (2001) show that complementary activities at different units often serve as "natural hedges" for each other. Restrictions may force business units to seek external counterparties for transactions that could be more efficiently carried out internally. However, the issue is not as clear-cut, also because the internal capital allocation and risk management process may not work adequately.

What are the costs and benefits of segregation requirements between traditional financial activities and trading or other high-risk operations in large financial institutions?

The literature on this is overall limited and does not support either strict separation or unrestricted mixing. Some researchers find that allowing banks to engage in non-traditional activities appears to have been socially beneficial, whereas others find that removing barriers separating bank and nonbanks appears to have increased risk.

… as regards the mix of traditional banking and securities underwriting:

The Glass-Steagall Act prohibited commercial banks from underwriting or dealing in corporate securities. Supporters argued that this prohibition was necessary to prevent lenders with adverse private information from selling securities of weak firms to an unsuspecting public in order to offload credit risk.

However, a number of papers in the literature point to positive effects of mixing these activities. They show that commercial banks would want to establish a reputation for underwriting quality, and that the public could regard lender underwriting as a signal of quality (e.g. Krozner and Rajan, 1994; Ang and Richardson, 1994; Puri (1994, 1996). Also, several studies show that there may be economies of scope from spreading the fixed costs of information acquisition over multiple intermediation outputs—e.g. commercial banks may be able to charge lower rates on new loans when they have a concurrent underwriting relationship with the firm (Drucker and Puri, 2005).

… as regards traditional banking and derivatives:

There are a number of studies on banks' use of derivatives. Brewer et al (2000) find that commercial banks using interest rate derivatives had more rapid growth in lending over the period 1985-1992 than comparable banks not using derivatives.

Wagner and Nijskens (2010) examine the impact of credit risk transfer on systemic risk using data from 1996-2007. They find that banks experienced a large increase in their stock price sensitivity to market movements after they began trading CDS. The authors conclude that credit risk transfer reduces bank idiosyncratic risk, but actually increases systematic risk by increasing banks' exposure to aggregate risk.

… as regards traditional banking and non-traditional activities:

The literature on restricting banks from trading and other non-traditional activities is not well developed. Stiroh (2004, 2006) examines the increase in non-interest income of banks and shows that this does not appear to have generated diversification benefits for banks—it has little or no impact on returns, while increasing return volatility. However, this does not mean that banks or customers derive no benefit from non-traditional activities. Rather, "non-interest income" is a broad aggregate that includes trading income and other income. Stiroh (2004) finds that trading income has the highest volatility of any component of non-interest income, but also the lowest correlation with

interest income, which he argues may imply potential diversification benefits. More research would be needed to look at different types of non-traditional activities.

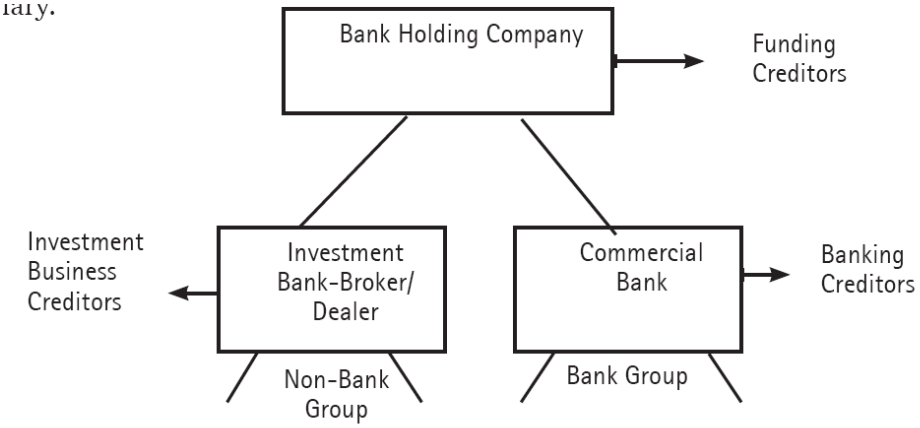
Brunnermeier et al (2012) report that banks with higher non-interest income (reflecting non-core activities like investment banking, venture capital and trading activities) have a higher contribution to systemic risk than traditional banking (deposit taking and lending). After decomposing total non-interest income into two components, trading income and investment banking and venture capital income, they find that both components are roughly equally related to systemic risk. Fang, Ivashina and Lerner (2010) find private equity investments by banks are highly procyclical, and perform worse than those of nonbank-affiliated private equity investments.

APPENDIX 5: CORPORATE AND LEGAL STRUCTURES OF BANKING GROUPS

The corporate and legal structure between banking groups differs significantly. An IIF (2012) study provides an overview of the main five types of banking group models (excluding cooperative and saving bank models). The following repeats the IIF typology.

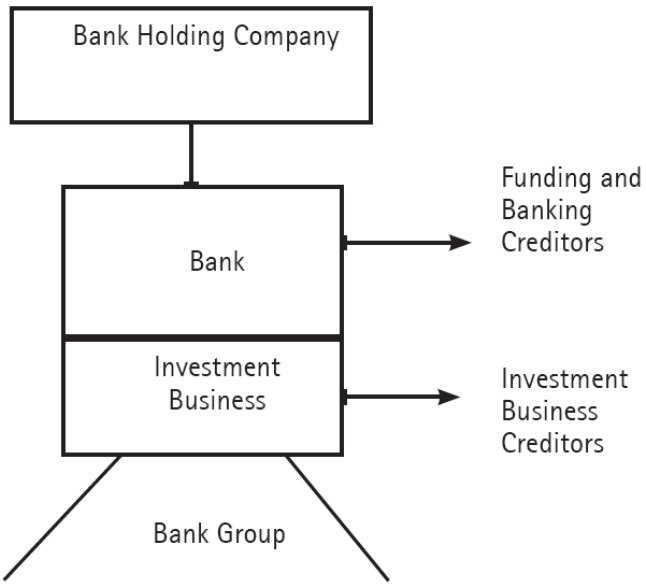
The "HoldCo funded" model

In this model, a holding company holds a bank and an investment business. A portion of the external funding of this entity—including equity, capital instruments and unsecured debt—is raised primarily at the holding company level. Business activities, such as commercial banking and trading activities, are done in the main bank or another subsidiary. This model is not frequently used in Europe, but more common to the US.



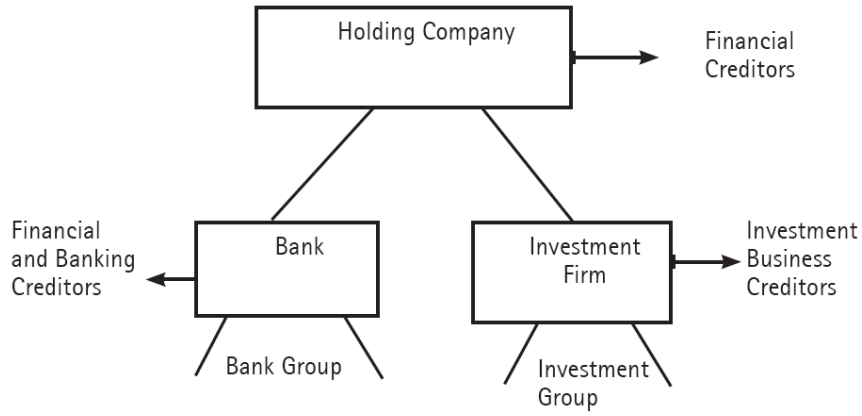
The "Big Bank" model

Here a more or less “empty” holding company holds a bank with a large balance sheet. Assets not held within the bank itself are held by subsidiaries of the bank. Funding often raised primarily at the bank level, since any funding raised at the holding-company level is considered structurally subordinated to bank level funding. In general the “big bank” is likely to do its derivatives, markets, and trading business out of the main legal entity, since this will be the most creditworthy member of the group. A common variant of this structure is where the bank itself is the holding company for the group.



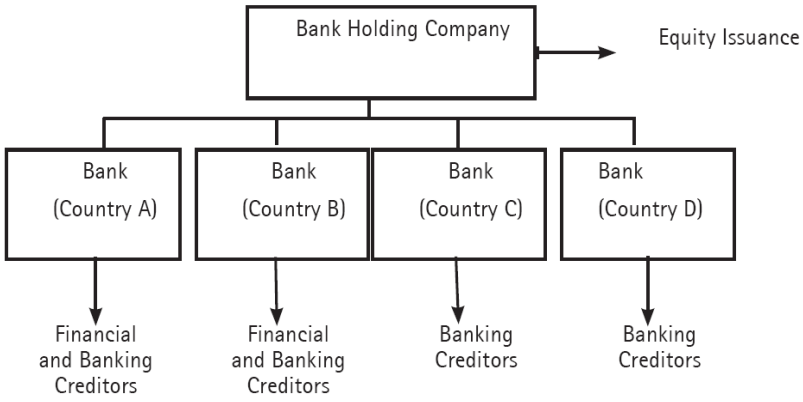
The "Bank/Non-bank" Model

Here, a holding company owns a bank and a non-bank investment firm. There may be little interaction between the two sides of the group below the level of the holding company. In this case, it is possible that all three components—the bank, the investment firm and the holding company—may have raised senior debt. It is highly likely that the bank and the investment firm share the same branding; the same advertising campaign; and the same information technology, processing, and payment systems. As a result, it may well be the case that the survival of the brokerage will be entirely dependent on the survival of the bank.



The "Global Multi-bank" model

Here, a more or less empty holding company owns several banks—generally incorporated in different jurisdictions and subject to some degree of restrictions on their interconnection. In this case, some debt may have been raised at the holding-company level, although it is likely that some (but perhaps not all) of the subsidiary banks will also have raised external financial debt. In principle, the group is structured such that they are not mutually dependent, and the structure is designed to permit a failure in one part of the group without affecting others.



The "Financial Conglomerate" model

Here, an insurance company owns the parent bank.