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COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

**Proposal for a Regulation of the European Parliament and of the Council
on structural measures improving the resilience of EU Credit Institutions
and
the Proposal for a Regulation of the European Parliament and of the Council
on reporting and transparency of securities financing transactions**

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1. INTRODUCTION

1.1. Policy context

Since the start of the financial crisis, the European Union (the "EU") and its Member States have engaged in a fundamental overhaul of bank regulation and supervision. This exercise has to a large extent been based on the reforms to strengthen global financial markets, agreed upon 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 ("BCBS").

In the area of banking, the EU has initiated a number of reforms to increase the resilience of banks and to reduce the impact of potential bank failures, the objectives being to create a safer, sounder, more transparent and responsible financial system that works for the economy and society as a whole (see in particular the new Capital Requirement Regulation and Directive ("CRR"/"CRDIV") as well as the proposed Bank Recovery and Resolution Directive ("BRRD")).¹

In line with these objectives several EU Member States (Germany, France, Belgium and the United Kingdom ("UK")) as well as third countries (United States ("U.S.)) have taken a step further and introduced, or are in the process of introducing, structural reforms of their respective banking sectors to address concerns related to financial institutions that are too-big-to-fail ("TBTf")². Structural reform measures have also been suggested in reports published in the Netherlands. See Annex A1 for an overview and summary of the main legislative initiatives.

Also international institutions such as the FSB, the Bank for International Settlements ("BIS"), the International Monetary Fund ("IMF"), and the Organisation for Economic Cooperation and Development ("OECD") have been working on a number of initiatives to improve the resilience of the financial sector and not long ago called for a broad and global debate on bank business models, which includes a review of bank structural measures. This review of structural measures was called for because of the continued growth of TBTf banks in relation to the size of the financial system, as well as because of the adoption or planned adoption of structural measures in several jurisdictions (e.g. separation of activities into different legal entities, intra-group exposure limits, etc.).

In this context, Commissioner Barnier announced in November 2011 the setting up of a High-level Expert Group ("HLEG") with a mandate to assess the need for structural reform of the EU banking sector and, with the objective of establishing a safe, stable and efficient banking system serving the needs of citizens, the EU economy and the Internal Market, to make relevant proposals for further action at EU level. In agreement with President Barroso, he appointed Erkki Liikanen, Governor of the Bank of Finland as chairman of the HLEG.³

The HLEG presented its report to the Commission in October 2012 (Liikanen (2012)). It concluded that the existing and on-going regulatory reforms do not address all the underlying problems in the EU banking sector, as these reforms do not fully correct incentives for excessive risk-taking, complexity, interconnectedness and intra-group subsidies. The HLEG

¹ For reform efforts to date and the complementarity of structural reform, see Section 2.3 and Annex A3.

² Too-big-to-fail is meant to cover too-interconnected-to-fail (TITF), too-complex-to-fail (TCTF), and too-systemically-important-to-fail (TSITF). See also European Commission (2013b).

³ For a mandate and list of members, see http://ec.europa.eu/internal_market/bank/docs/high-level_expert_group/mandate_en.pdf

stated that reforming the structure of banks is necessary to complement the existing and on-going banking reforms and recommended the mandatory separation of proprietary trading and other high-risk trading activities into a separate legal entity within the banking group. The HLEG envisaged that this separation would be mandatory only for banks where the activities to be separated amounted to a significant share of the bank's business.⁴

Following a public consultation on the HLEG recommendations, the College of Commissioners debated bank structural reform in early 2013. President Barroso concluded the debate by noting a: "*broad consensus in favour of an approach at European level, while stressing that the impact analysis would provide essential clarification.*" The President called for an impact assessment to: "*examine the various possible options and their implications*".⁵

On 3 July 2013, the European Parliament ("EP") adopted an own initiative report called "Reforming the structure of the EU banking sector"⁶ with a large majority. The EP welcomes the Commission's intention to bring forward a proposal for structural reform to tackle problems arising from banks being TBTF in order to provide greater resilience against potential financial crises, restore trust and confidence in banks, remove risks to public finances and deliver a change in banking culture. The EP calls on the Commission to: (i) provide for a principles-based approach to structural reform of the European banking sector and to that end stresses e.g. the need to reduce risk, complexity and interconnectedness; (ii) ensure the continuity of retail activities; (iii) ensure that trading activities reflect underlying risk and do not benefit from implicit public subsidies; and (iv) ensure that the separated entities have different sources of funding, with no undue or unnecessary shifting of capital and liquidity between these entities and activities. The EP also calls for further measures to strengthen bank governance and promote competition.

1.2. Procedural aspects

1.2.1. Consultation of stakeholders

During the process of considering structural reform of banks, stakeholders have been consulted on a number of occasions. The HLEG met with a variety of stakeholders during its mandate (e.g. different types of banks, bank investors, large corporates, SMEs, retail client associations, supervisors and European and international regulators) and held a public consultation targeting banks, corporate customers and retail clients and their associations.⁷ The HLEG received 83 responses, the large majority of which were from banks and other financial institutions, followed by retail customers and their associations and, lastly, corporate customers.

⁴ The other recommendations of HLEG included (2) that a separation of additional activities may be necessary conditional on the recovery and resolution plan; (3) the use of bail-in as a resolution tool; (4) a review of capital requirements on trading assets and real estate related loans; and (5) measures aimed at strengthening the governance and control of banks so as to strengthen bank scrutiny and market discipline. This Impact Assessment focuses on the mandatory separation recommendation.

⁵ See <http://ec.europa.eu/transparency/regdoc/rep/10061/2013/EN/10061-2013-2037-EN-F-0.Pdf>.

⁶ European Parliament (McCarthy 2013), Reforming the structure of the EU banking sector, 2013/2021 (INI)

⁷ Consultation by the High-level Expert Group on reforming the structure of the EU banking sector, May/June 2012. http://ec.europa.eu/internal_market/consultations/2012/banking_sector_en.htm

The Commission also held a public stakeholder consultation after receiving the HLEG final report in October 2012.⁸ Out of the 89 replies received, almost half came from the banking industry.

Structural bank reform has also been subject to discussions with Member States in the Financial Services Committee on 14 November, in the Economic and Financial Committee on 23 November and at the ECOFIN meeting on 4 December. The need for a coordinated action at EU level was clearly highlighted.

As part of preparing this Impact Assessment, the Commission services held an additional public stakeholder consultation during the course of spring 2013 based on a consultation paper. Amongst others, the consultation invited banks to model the impact of different types of structural reforms.⁹ Annex A2 summarises the replies.

The Commission services received 540 replies. These responses came from the expected type of respondents: banks and other financial institutions, corporate clients, investors, public authorities, and consumer associations and individuals. The number of responses from individuals (439) and consumer associations (11) stand out.

The consultation responses highlight a clear distinction between the responses of banks, on the one hand, and consumers and non-bank financials on the other hand. The former are to an overwhelming extent against structural separation (with the exception of some cooperative banks). The latter are largely in favour. The views of other categories are more balanced. Corporate customers, while acknowledging the need to address TBTF, express opposition, based on the potential impact of such reforms on their cost of financing.

Regarding the type and strength of structural measures and what activities to separate diverging views show up again. A large portion of banks express a strong opposition to structural reform or endorse only the plain separation of proprietary trading from deposit taking. Consumer associations and individuals on the other hand argue that separation of proprietary trading and market making activities along the recommendations of the HLEG was the minimum effective, and expressed a preference for either separating all investment banking activities from deposit taking or prohibiting credit institutions from carrying out any investment banking activity.

1.2.2. Impact Assessment Steering Group and Impact Assessment Board (IAB)

An Inter-service Steering Group on bank structural reform was established in March 2013 with representatives from the Directorate Generals COMP, ECFIN, EMPL, ENTR, JUST, MARKT, SG, SJ, TAXUD and the JRC. The Impact Assessment Steering Group met in March 2013, April 2013 and September 2013 and supported the work on the Impact Assessment.

The draft Impact Assessment was submitted to the Impact Assessment Board (the “IAB”) of the Commission on 19 September 2013 and discussed with the IAB on 16 October 2013. The IAB initially issued a negative opinion and provided its recommendations for improvement on 18 October 2013. The main recommendations were (i) to improve the problem description and baseline scenario, (ii) to better describe and explain the reform options, (iii) to better assess impacts and better demonstrate the effectiveness of the retained reform options, (iv) to better present stakeholder views, and (v) to add a glossary. The Commission Services

⁸ Consultation on the recommendations of the High-level Expert Group on Reforming the structure of the EU banking sector, http://ec.europa.eu/internal_market/consultations/2012/hleg-banking_en.htm

⁹ Consultation by the Commission on the Structural Reform of the Banking Sector, http://ec.europa.eu/internal_market/consultations/2013/banking-structural-reform/index_en.htm

resubmitted a revised Impact Assessment on 18 December 2013, alongside with a separate document explaining to the IAB how the IAB recommendations had been incorporated. The IAB subsequently issued a positive opinion on 15 January 2014, whilst providing further recommendations for improvement, asking in particular to strengthen the analysis of the justification, alternative reform options, impact, and stakeholder views with respect to the transparency measures that had only been introduced in the resubmission of the impact assessment. The IAB also recommended further strengthening the structural reform options presentation and the assessment of the impact and effectiveness of the retained reform options. The current, final version of the impact assessment has significantly expanded the analysis of the transparency reform measures and has further elaborated on the other two IAB recommendations.

2. PROBLEMS RELATED TO THE CORPORATE STRUCTURE OF LARGE, COMPLEX, AND TRADING-INTENSIVE EU BANKING GROUPS

Banks play an important role in channelling funds from savers to borrowers. This intermediation role is particularly important in Europe, as reflected in the absolute and relative size of the EU banking sector compared to those in other major economies (Table 1 and Chart 1).¹⁰

Table 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%

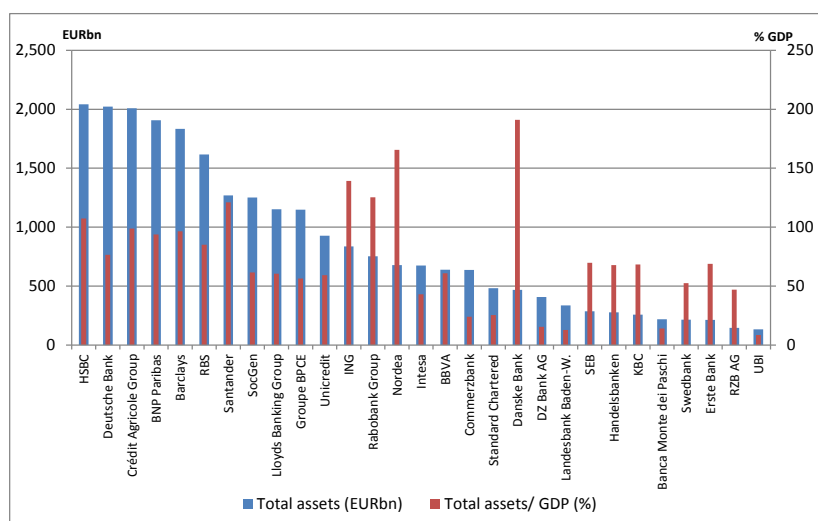
Notes: Top 6 banks only for Japan. Source: European Banking Federation (2011).

The EU banking system is also a highly diversified eco-system made up by around 8000 banks that operate according to different business models and different ownership structures. However, over time the market evolved to produce a few very large, complex, interconnected banking groups that offer a diversified set of services such as commercial banking, traditional investment banking, asset and wealth management services, and capital market activities such as market making, brokerage services, securitisation and proprietary trading.¹¹

¹⁰ Next to the higher importance of bank intermediation compared to market intermediation in the EU compared to the US, there are two other important factors that explain the discrepancy of total banking sector size between the EU and US. First, large EU banks apply IFRS to report their financial statements, whereas US banks apply US GAAP. The latter allows to net financial derivatives, implying that an identical bank can report a significantly smaller balance sheet size under US GAAP rules than under IFRS reporting rules. Second, whereas mortgages are recorded on balance for large European groups, a significant amount of US mortgages is recorded on the balance sheets of the US Government Sponsored Entities (GSEs) which are not included in Table 1.

¹¹ Commercial banking activities include notably deposit taking and lending to individuals and businesses, traditional investment banking activities include securities underwriting and advisory services.

Chart 1: Size of selected EU banks (2012 assets in € billion and as % of national GDP)



Source: SNL Financial (total assets), Eurostat (GDP)

Several of these banking groups have weathered the crisis well, helped by extraordinary and unprecedented sector-wide state support. Without state support (which in some cases is on-going) the EU financial system would have faced a far worse banking crisis (European Commission (2011, 2012)).¹² The (contingent) taxpayer support to date that benefit the EU banking sector amounts to 40% of EU GDP (€5.1 trillion in parliamentary committed aid measures) and has undermined the solidity of several Member States' public finances.¹³

The on-going reforms including the BRRD and Single Resolution Mechanism (“SRM”) will undoubtedly ensure that the vast majority of banks will in the future be fully resolvable. The resolution of the largest and most complex banking groups may nevertheless involve specific challenges that could place a significant burden on both creditors and public the safety net. Moreover, to the extent that market expectations remain that government support may be forthcoming in a future systemic crisis, in particular for the largest and most complex banks, the latter may continue to benefit from an implicit public subsidy. Empirical analyses typically confirm that implicit subsidies exist and in most cases are significant with subsidies amounting to billions of euros annually. For example, JRC estimates that implicit public subsidies enjoyed by the largest European banks that jointly represent 60-70% of EU assets amount to approximately EUR 72-95 billion and EUR 59-82 billion in 2011 and 2012 respectively.¹⁴

Section 2.1 of this Impact Assessment argues that several of the problems that have materialised in the EU banking sector can be traced back to the unrestricted co-existence of

¹² The main bank failures (and avoided 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 (see Liikanen (2012)). Size relative to GDP matters, but also the speed at which bank balance sheet growth outpaces GDP growth. If total assets outpace GDP growth, it implies that the banking sector increasingly relies on funding that is not coming from households and corporates, but rather from other financial intermediaries and capital market investors, which implies less funding stability.

¹³ In the case of some Member States it has contributed to turn a banking crisis into a sovereign crisis (European Commission (2011, 2012)). This has had the effect of further increasing the fragility of the banking system since banks hold large volumes of sovereign bonds on their balance sheet and since some of their funding sources are explicitly or implicitly insured by their sovereign.

¹⁴ The findings of the JRC research as well as an extensive review of the relevant literature are provided in Annex A4.1 and A4.2.

core banking activities with trading activities within large and complex banking groups. This problem driver has contributed to banks growing, becoming TBTF and also too complex to fail ("TCTF") and too interconnected to fail ("TITF"). As further elaborated upon in section 2.2, the financial market activities of banks have contributed to the failure of major banks in Europe. These problems have not been fully addressed by current reforms, as outlined in section 2.3. As a result, section 2.4 highlights that several Member States have filled this gap by pursuing national structural reforms. While these national reforms share the same objectives, they differ in several respects, notably as regards the activities subject to separation and the strength of separation. Such divergences create tensions in the internal market. There is therefore a case for action at the EU level to ensure effective, efficient and coherent reforms (section 2.5).

2.1. Problem driver: The unrestricted co-existence of core banking functions and trading activities within large banks

Large European banks typically combine retail and commercial banking activities and wholesale and investment banking activities in one corporate entity¹⁵ or in a combination of closely connected entities with limited restrictions on transactions between them.¹⁶ The unrestricted co-existence of activities gives rise to the following two main problems, as visually summarised in the “problem tree” in Chart 2, and as discussed below:

- **Problem 1: Impediments to effective resolution and supervision;**
- **Problem 2: Distorted incentives for banks:** the implicit public safety net generates moral hazard and leads to excessive trading and balance sheet growth, misallocation of resources, distortions of competition, management and monitoring problems, and the combination of activities within a deposit taking entity can lead to conflicts of interest and flaws in bank culture and standards.

¹⁵ Other activities, notably insurance, are typically carried out in wholly owned but separately capitalised subsidiaries.

¹⁶ The most common regulatory and legal model for large banking groups in the EU is the “universal banking model”, whereas it is the “holding company model” in the USA. Financial holding company structures have a single holding company that typically holds all shares of the separate capitalised subsidiaries (amongst which may be a bank holding company). There is typically complete legal separation between the parent and the subsidiaries, and in case the holding company is non-operating, there is also operational independence and the latter acts solely as an investment company. Under a holding company structure, a group is headed by one entity which does not itself conduct any business but simply owns a series of other businesses and co-ordinates their strategies. Parent-subsidiary structures may consist of a parent bank that operates directly, with separately capitalised subsidiaries carrying out separate activities.

Chart 2: Corporate structure related problem driver, problems and consequences



2.1.1. Problem 1: Impediments to resolution and supervision

Intra-group links arise through, for example intragroup cross-shareholdings, trading operations whereby one group entity deals with or on behalf of another group entity, central management of short-term liquidity within the group, and guarantees and commitments provided to or received from other companies in the group. Amongst others, these economic links are put in place to promote group business activities, to enable the group to operate on an integrated basis across different legal entities, or to ensure competitive financing terms to the entire group (BCBS (2012)).

Intra-group links complicate the resolution and recovery process in the event of failure. They can also impede effective supervision and resolution efforts and increase contagion risk across the group. The financial crisis has highlighted the problems of resolving large banking groups in bad times; the sheer complexity of banks' organizational structures and business models with economic functions and business lines spanning multiple legal entities make it extremely difficult to quickly isolate the problematic and non-viable elements of a banking group. As a result, resolution has up to date been disorganized, involved entire banking groups (as opposed to only the non-viable parts) and has relied significantly on public support. More simplicity in terms of organizational and business structure could therefore lead to easier and more effective supervision and also resolution. Anticipating public intervention in resolution leads to the so-called implicit subsidy which in turns distorts incentives of banks and other relevant stakeholders.

In addition, impediments to resolution can arise from banking groups being highly connected to each other through interbank borrowing and lending and derivatives markets. This is primarily because when highly complex banks are “interconnected” it may not only be difficult for the supervisor/resolution authority to gain insight into the operations of the group but also because it may be difficult to isolate banking groups (or parts of them) that are so connected and resolve them safely and quickly without destabilizing the entire financial system. JRC also finds that banks which are more interconnected are likely to benefit from a higher implicit guarantee (see Annex A4.2).

2.1.2. Problem 2: Distorted incentives for banks

Deposit taking-banks are by nature exposed to potentially damaging depositor runs. Therefore public safety nets in the form of deposit insurance and lender of last resort facilities (as well as bail-outs) have been introduced. Despite these safety nets, deposit-taking banking groups are currently largely unrestricted in the type of banking activities they undertake and benefit significantly from the explicit and implicit public safety nets. The public safety nets distort incentives by encouraging banks to take excessive risks which in turn give rise to excessive trading and balance sheet growth, misallocation of resources, distortions of competition, management and monitoring problems, conflicts of interests and culture shocks as well as flaws in banking standards.

Moral hazard, excessive trading and balance sheet growth and misallocation of resources: Deposit-taking banks are by nature exposed to potentially damaging depositor runs. Therefore public safety nets in the form of deposit insurance and lender-of-last-resort facilities have been introduced.¹⁷ However, the public safety nets also have the effect of incentivising banks to expand and **take excessive risks** with the funds available to them (the so-called "**moral hazard**" problem) because monitoring and market discipline is muted when risk is not appropriately priced. For example, insured depositors do not lose part of their investment upon a bank's failure. As a result, they have no incentives (let alone the ability) to monitor the actions of the banks to which they lend. More generally, explicit and implicit public safety nets reduce disciplining incentives of depositors and/or bank creditors and lower a bank's funding cost. This allows banks to **expand and increase their debt issuance and hence to leverage up** more quickly, in particular if they are not restricted to relationship-oriented banking activities. High leverage in combination with **limited liability** incentivises excessive risk-taking by banks even further given the **asymmetric payoffs** to bank managers and shareholders as upside gains are being privatised, whilst downside losses are being socialised.¹⁸ Even a bank manager that is entirely unaware of the existence of the implicit public subsidy will take advantage of it by assuming high levels of artificially cheap debt and by assuming risky positions that are expected to benefit his shareholders.

Residential real estate bubbles and crashes illustrate that wholesale and investment banking activities do not necessarily have to be more risky than retail and commercial banking activities. However, it is difficult to separate the real estate bubbles from the role of financial innovation, including securitisation of mortgages and derivatives to structure these products for distribution to investors. Moreover, the recent real estate crises, unlike most in history, imperilled sovereigns because sovereigns have been obliged to bail out not only traditional deposit banks, but also banking groups and activities that they should not have had to bail out. Targeting the safety net to those core banking activities that deserve subsidisation and protection because they address a market failure reduces the scope of the public safety net. The nature of the banking activity is what matters the most. The ability to take risks will depend on whether the activity is relationship-oriented or transaction-oriented. Whereas **relationship-oriented retail and commercial banking activities** are difficult to scale up quickly and easily, **market-based and transaction-oriented wholesale and investment**

¹⁷ Deposit insurance refers to the explicit government guarantee related to certain categories of deposits to a certain extent (in the EU up to 100 000 EUR per retail depositor is 100% insured). Lender of last resort liquidity facilities are provided by central banks. Central banks should lend in principle at penalty rates and against adequate collateral to illiquid but solvent banks (Bagehot principles).

¹⁸ Freixas et al. (2007) show that financial conglomerates utilise excessive risk-taking due to their access to the public safety net, and that this effect wipes out any diversification benefits.

banking activities can to the contrary be scaled up more easily.¹⁹ Genuine relationship-oriented banking activities are time-consuming to build and maintain, whereas transaction-oriented banking activities are more deal-oriented and can be replicated more easily.

In addition, JRC analysis points to the possible existence of an **incentive for banks towards trading and away from lending activities** as a result of the current minimum capital requirements. Such an incentives bias is found not be (fully) eliminated by the Basel III minimum capital requirements reform (see Annex A5).

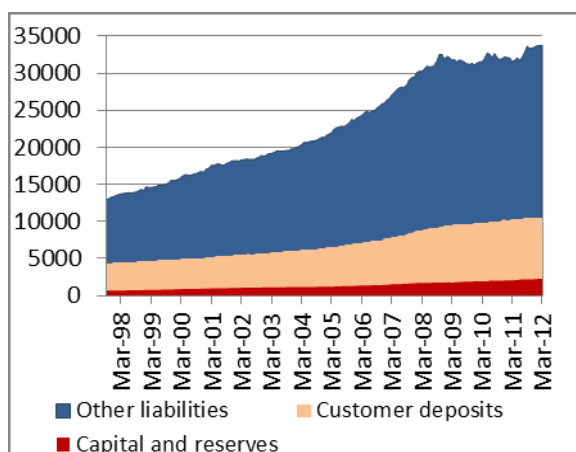
Bank balance sheets in the EU, particularly those of the largest banking groups, grew significantly in the years leading up to the financial crisis (see charts 3 and 4 below).²⁰ Much of the **balance sheet growth** that took place was driven by **intra-financial-sector borrowing and lending, rather than real economy lending**. For the EU aggregate bank balance sheet, loans to households and non-financial corporations only make up 28% of total assets (March 2012). A significant part of banks' explicit and implicit taxpayer-subsidised pre-crisis activity consists in inter-group financial borrowing and lending.

The increasing dominance of intra-financial business is also reflected in global currency and derivatives markets developments, where large (“broker-dealer”) banks’ trading with non-financial customers (e.g. corporates, governments) has decreased substantially over time both for foreign exchange and interest rate derivatives (BIS (2013)). Recent OECD research raises important concerns about derivative trading giving rise to excessive leverage, interconnectedness, and conflicts of interests (Blundell-Wignall et al. (2012, 2013)). The notional value may not be informative about the riskiness of the derivative positions. Chart 5 Plots the “gross credit exposure” of derivatives positions for the biggest systemically important banks. First, the Gross Market Value (GMV) measures what it would cost to replace all trades at current market prices. It is typically significantly smaller than the notional value. While the notional value of global derivatives was 586 trillion USD in December 2007, the GMV at the same time was only 16 trillion USD. Even when valued at GMV, derivatives will still be important as a proportion of the balance sheet. Second, financial firms have offsetting positions that can be netted and banks expressly hedge most of their positions. The GMV minus netting is the Gross Credit Exposure (GCE). It is against the GCE that collateral is held. It amounted to 3.3 trillion USD in December 2007, against which 2.1 trillion USD was held. The final global open exposure hence amounted to 1.2 trillion USD. Changes in volatility may shift the GMV quickly and netting provides no protection against such shifts in market risks, because netting is about settlement amounts using prices at the point of close out. When the crisis hit in 2008, the GMV more than doubled from 15.8 trillion USD to 35.3 trillion USD, the GCE increased from 3.3 trillion USD to 5 trillion USD and the estimated collateral had to rise from 2,1 trillion USD to 4 trillion USD. Banks faced significant margin calls in a highly risky environment.

¹⁹ See Liikanen (2012) and Buitter and Rahbari (2012) for an overview of the changing business models in this respect.

²⁰ At the end of 2011, each of the ten largest EU banking groups had total on-balance-sheet assets exceeding 1000 billion euro. Unlike their US peers, several large EU banking group balance sheets exceed domestic GDP. The geographic scope of large European banking groups’ is also significant in relative terms, as EU banking groups hold a far larger percentage of their assets abroad, compared to North American or Asian banking groups (65% compared to 32% and 26%, respectively, according to Claessens et al. (2011)).

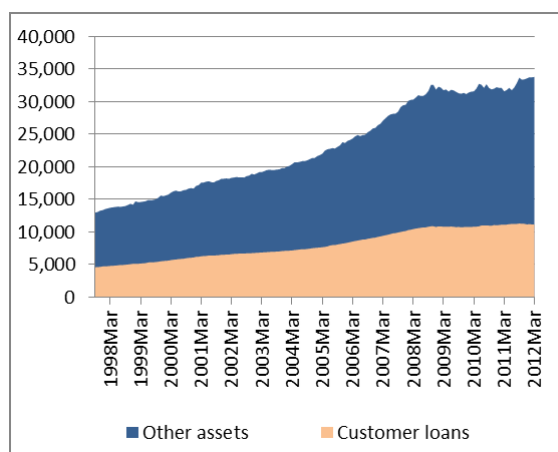
Chart 3: Evolution of liabilities 1998-2012 (euro area, € billion)



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

Source: ECB data.

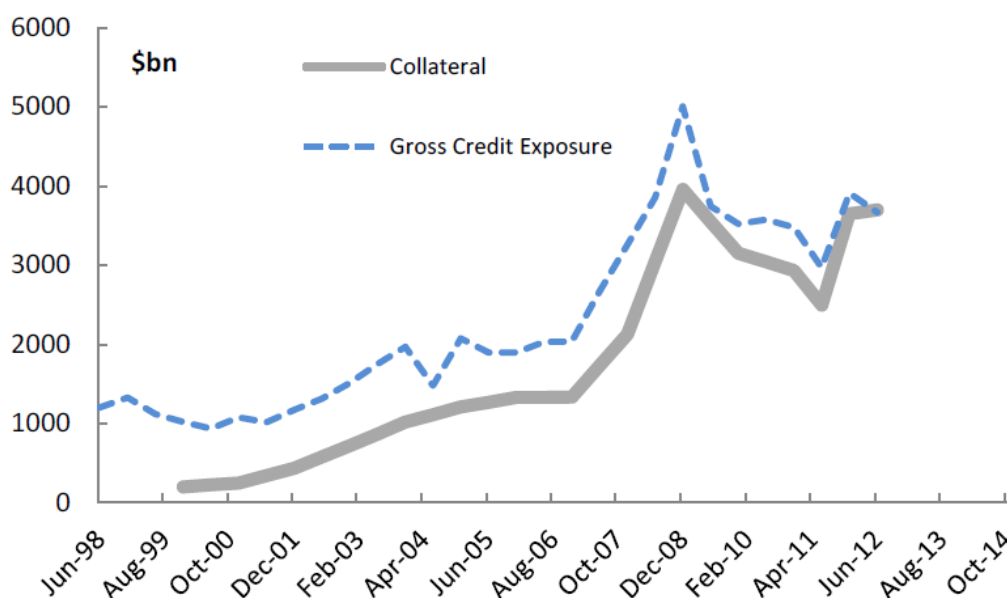
Chart 4: Evolution of assets 1998-2012 (euro area, € billion)



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

Source: ECB data.

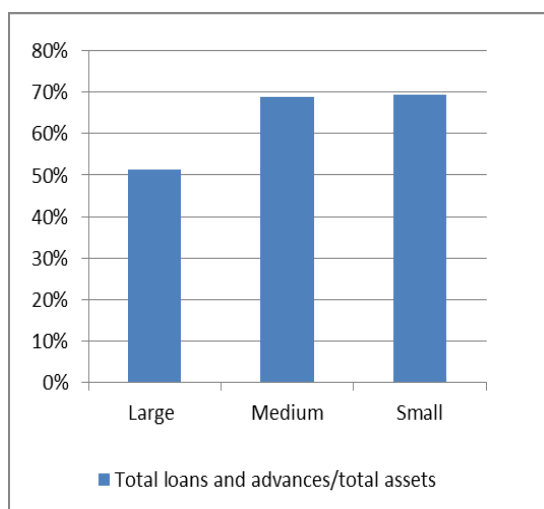
Chart 5: The gross credit exposure (gross market value minus netting) of derivatives and collateral



Source: BIS, ISDA, OECD

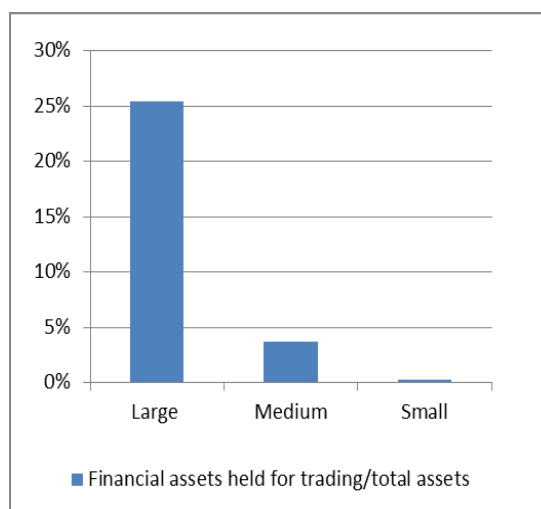
Research also suggests that the deepening of financial markets in the last 10 to 15 years has fundamentally destabilised banks by **introducing a trading and fee-based culture in large banking groups**. As a percentage of total assets, smaller banks tend to engage more in traditional commercial banking business, resulting in a balance sheet that has more loans (chart 6) and fewer assets held for trading (chart 7) compared to larger banks. These average figures hide significant variations between banking groups, though (chart 8).

Chart 6: Importance of loan making for EU banks (2011)



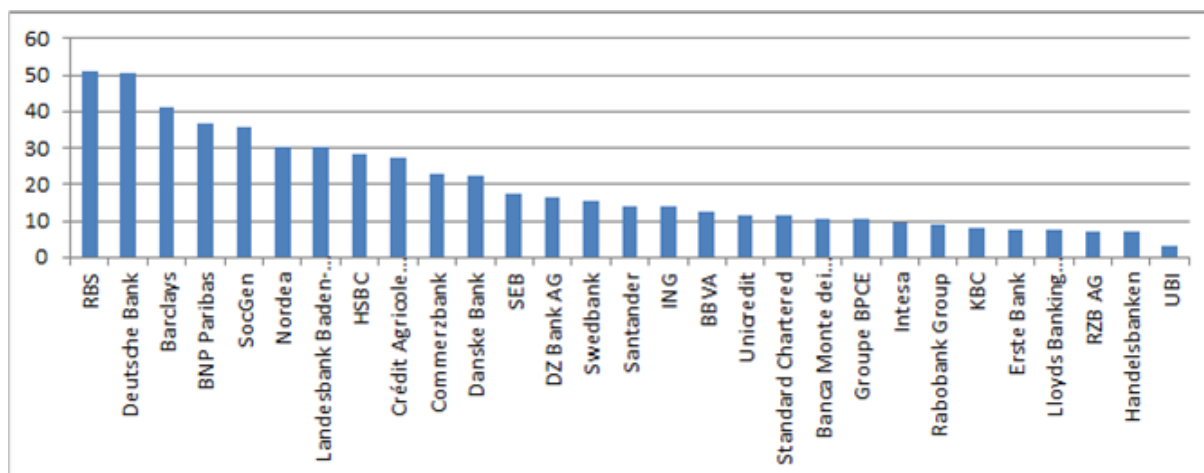
Source: ECB consolidated banking data.

Chart 7: Importance of trading activity for EU banks (2011)



Source: ECB consolidated banking data.

Chart 8: Assets held for trading, share of total assets (2012)



Source: SNL Financial

The implicit public safety net also leads to a **misallocation of resources**. The expectation of public support artificially increases the size of the financial sector in aggregate and hence **diverts resources away from other sectors of the economy**. According to academic research, the benefits of more banking activity may not always compensate for increased financial stability risks and other disadvantages. Cecchetti and Kharroubi (2012) empirically find that **the enlargement of the financial system beyond a certain size is associated with reductions in real productivity growth**. In part this may be due to the financial sector competing with the rest of the economy for **scarce resources**. Arcand et al. (2012) also find that there can be “too much” finance. When private credit reaches 80% to 100% of GDP (which is largely exceeded for several crisis-affected EU Member States such as Cyprus, Denmark, Ireland, the Netherlands, Portugal, Spain and the UK) further private credit is found to be negatively associated with GDP growth. The hypothesis is that excessively large financial systems may reduce economic growth because of the increased probability of a

misallocation of resources, the increased probability of large economic crashes²¹, or the endogenous feeding of speculative bubbles. Philippon (2008) observes that outstanding economic growth was achieved in the 1960s with a much smaller financial sector.²²

Competition distortions: Implicit public subsidies distort competition in the market place and raise barriers to entry to the extent that: (i) small and medium-sized banks are less likely to benefit from such subsidies to the same extent as the large ones and are therefore being disadvantaged; and (ii) weak banks in strong Member States are more likely to enjoy a good support rating²³ and are not disciplined by the market place. These findings have been confirmed by the work undertaken by JRC (see Annex A4.2) as well as other papers (Schich and Lindh (2012) and De Grauwe and Ji (2013)).

Managing and monitoring problems: The financial crisis has highlighted the problems associated with the complexity of banks' businesses and the scope of their operations. There are increasing signs that investors shun this complexity²⁴ and find it difficult to monitor and therefore understand the underlying risks.²⁵

Banks with a variety of activities also require more complex management and are more difficult to regulate.²⁶ More simplicity in terms of corporate structure could lead to easier and more effective management and regulation. The prudential regulation of banks is also difficult

²¹ Popov and Smets (2011) analyse the role of direct intermediation through financial markets with the indirect intermediation through levered banks. They argue that less deep financial markets in the EU relative to those of the US are, to a large extent, responsible for the smaller increase in productivity and slower pace of industrial innovation. They also compare the liquidity spirals, asset fire sales, and interbank market freezes of the recent financial crisis with the much more orderly burst of the dot-com bubble. They argue that the credit boom of the 2000s was driven by debt finance, while the dot-com bubble was mostly driven by an expansion in equity ownership, and equity is not held in levered portfolios.

²² Haldane (2010a) discusses the earnings of the financial sector in detail and concludes that “risk illusion, rather than a productivity miracle, appears to have driven high returns to finance”. Philippon and Reshef (2008) study wages earned in the financial sector and conclude that a large part of the observed wage differential between the financial sector and the rest of the economy cannot be explained by observables like skill differences. Philippon (2012) provides a quantitative interpretation of financial intermediation in the USA over the past 130 years and concludes that “...the unit cost of intermediation has increased since the mid-1970s and is now significantly higher than it was at the turn of the twentieth century. In other words, the finance industry that sustained the expansion of railroads, steel and chemical industries, and later the electricity and automobile revolutions seems to have been more efficient than the current finance industry. Surprisingly, the tremendous improvements in information technologies of the past 30 years have not led to a decrease in the average cost of intermediation. One possible explanation for this puzzle is that improvements in information technology have been cancelled out by zero-sum activities, perhaps related to the large increase in secondary market trading”.

²³ Credit Rating Agencies often provide two different types of credit ratings in their assessment of the probability of default of a bank's issued debt: a stand-alone rating and a higher support rating which not only takes the intrinsic strength of the bank into account, but in addition the agencies' estimate of the external support that the bank under consideration would receive from public authorities (and parent companies).

²⁴ Investors that have replied to the Commission's consultation on the HLEG report chaired by Liikanen stated that “*All banks fail to provide sufficient transparency of their circumstances, meaning that investors tend to mistrust almost all of them with equal fervour*” (Hermes 2012, page 5).

²⁵ This is reflected in the price-to-book ratios of large and complex EU banking groups, which hover around 0.5 (i.e. the market values their assets at half the price at which they are accounted for), whereas they were as high as 2.0 in the run-up to the crisis. Part of that value destruction reflects the legacy of the past (and possibly on-going forbearance), and another part may reflect weak perceived profitability going forward. However, it is clear that a significant part may reflect the difficulty of valuing the individual components of large and complex banking groups with any degree of certainty.

²⁶ See for example Hoenig and Morris (2011) and Haldane (2012).

for investors to understand. Accordingly, investors do not fully exercise the “watch-dog” monitoring function granted to them under Basel's “pillar 3” (market discipline).²⁷

Conflicts of interests, bank culture shocks and flawed standards: There are significant cultural divides within banking groups. In general, conflicts of interest are more likely to materialize when an institution provides multiple financial services. The main concern is that the bank uses the informational advantage it gains from conducting different activities to its own advantage, instead of seeking to meet the best interest of customers and investors. Whereas regulation and self-regulation aim to address such conflicts of interest, it is difficult to monitor and control the flow of information within large banks. Recent and large-scale events such as the rigging of the Libor benchmark rate – legal fines to date amount to more than USD6bn²⁸ – and ongoing investigations by several regulators relating to trading on global foreign exchange markets illustrate the limited effectiveness of softer forms of governance separation (e.g. Chinese walls). It is also illustrative of how banks have increased their profits to the detriment of their customers by exploiting proprietary customer information to their own benefit.

2.2. Manifestation of problems during the financial crisis

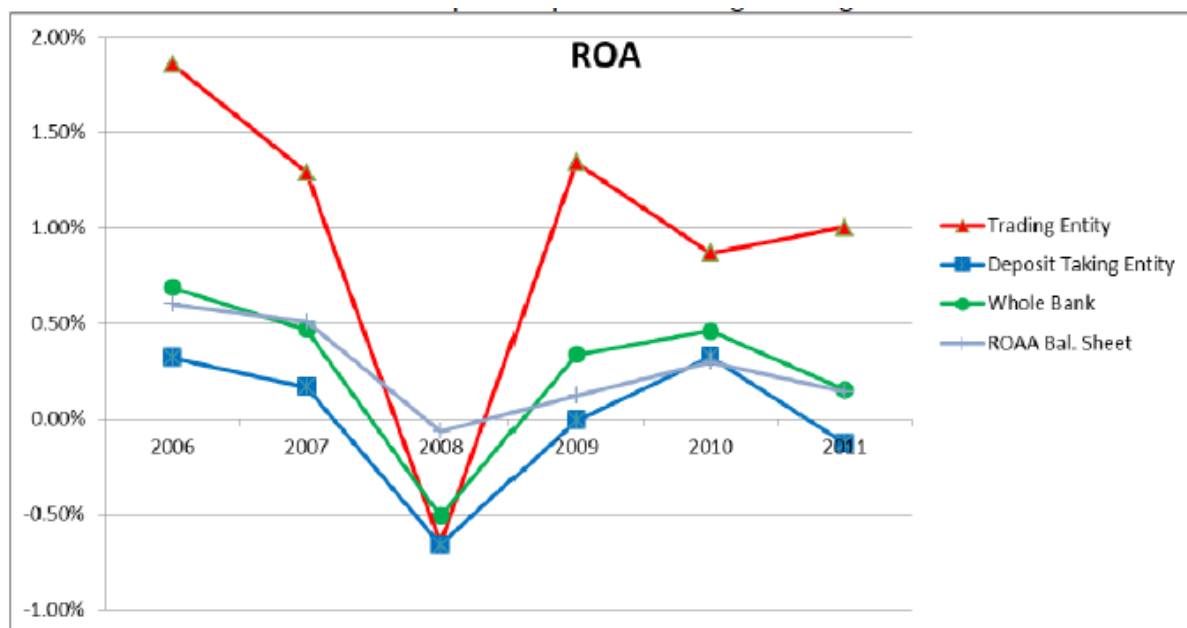
The problems highlighted in section 2.1 are at the root of the financial crisis. Capital market-based activities have contributed to the failure of major banks in Europe. The majority of the large and complex EU financial institutions that received state support in 2008 and 2009 had trading income to total revenue ratios that were relatively large. For example, having analysed a sample of large and complex EU banking groups, IMF research suggests that almost 80% of all supported banks that received official support in 2008/2009 traded significantly more than average (Chow and Surti (2011)).

Deeper markets have allowed banks to trade more and take larger trading positions with higher associated profits in the good times. However, the higher profitability comes with higher risks, which may compromise bank stability in the bad times. Analysis by the JRC allows disentangling the return on assets (ROA) by type of activity (see also Annex A5). Chart 9 below illustrates the higher profitability and volatility of trading activities.

²⁷ Besides minimum capital requirements (pillar 1) and supervisory review process (pillar 2).

²⁸ Several international regulators have been investigating suspected cartel arrangements between traders involving a number of international banks. The purpose is to find out if traders of interest-rate derivatives colluded to manipulate the interest rate benchmarks (such as Euribor and Libor) in order to obtain a benefit in their own trading positions. In December 2013, the Commission settled on fines of more than EUR 1.7bn with several international banks and brokers (Deutsche Bank, Société General, RBS, JPMorgan, Citigroup and RP Martin). See http://europa.eu/rapid/press-release_IP-13-1208_en.htm. Two international banks, UBS and Barclays benefited from immunity from the leniency program. Other international regulators have set fines that amount to USD 454m for Barclays, USD 87m for ICAB, USD 1.1bn for Rabobank, USD 1.5bn for UBS, and USD 612m for RBS for Libor rigging (by October 2013).

Chart 9: Average return on assets of European banks as a percentage of total assets by type of activity



Source: SNL and JRC. See Annex A5.

The shift towards a transaction-oriented banking model and the corresponding excessive trading also contributed to boost the size of bank balance sheets. The expansion of bank balance sheets outpaced GDP growth and hence could not be funded by retail funding sources which are more tightly linked to GDP growth and increasingly pushed large banking groups towards short term wholesale funding (repo, money market funds, interbank borrowing, etc.). As a result of their trading activities and increasingly transaction-oriented banking model, banks such as RBS and Allied Irish Bank had significant exposures to structured credit and securitised assets. Also, the capital market activities of TBTF banks effectively enabled other banks to inappropriately rely upon short-term wholesale funding to finance their activities (e.g. Spanish cajas). If Lehman Brothers or any large European bank would have been less connected to deposit taking banks, the impact of their failure would have been less disruptive (see also section 5.8).

As a result, governments would have a smaller incentive to resort to bail out policies, as concerns on contagion and on the continuity of business for deposit banks concerns would be more contained.

2.3. Reform efforts to date and complementarity of bank structural reform

The EU has already initiated a number of reforms to increase the resilience of banks and to reduce the probability and impact of bank failure. These reforms include measures to strengthen banks' solvency (the capital and liquidity requirements part of the CRR/CRDIV package); measures to strengthen bank resolvability (the proposed BRRD); measures to better guarantee deposits (the revision of the Deposit Guarantee Schemes directive (the "DGS")); measures to improve transparency and address the risks of derivatives and to improve market infrastructures (European Market Infrastructure Regulation (the "EMIR") and related revisions to the Markets in Financial Instruments Directive ("MiFID")). Additionally, in order to break the negative feedback cycle between the sovereign and banking risks and to restore confidence in the euro and the banking system, the European Commission has called for further development of a Banking Union, building on the single rule book that will be applicable to all banks in the entire EU. This will include a Single Supervisory Mechanism

("SSM") and a Single Resolution Mechanism ("SRM), which will be mandatory for members of the euro area but open to voluntary participation for all other Member States.

Despite this broad-ranging reform agenda further measures are needed to reduce the probability and impact of failure of TBTF banks. Such measures have global support, as evidenced by recent statements by G20 leaders and ministers.²⁹

As regards the **probability of failure**, the business of credit intermediation is inherently unstable and prone to liquidity and solvency shocks. Banks are therefore required to put in place adequate shock absorbers, in the form of liquid assets that can be sold without loss to meet unexpected cash outflows ("liquidity buffers") and in the form of sufficient own funds to absorb potential losses ("solvency buffers"). The CRR/CRDIV reform package has increased the quantity and quality of such funds and will thus enable banks to absorb more losses before defaulting.

However, capital requirements are not a panacea and there are limits to what they can achieve. More specifically:

- Addressing remaining TBTF problems by means of higher capital requirements would not address the fundamental inconsistency of on the one hand "taxing" systemic risk and excessive trading with high capital requirements while at the same time allowing these activities to be performed by entities that enjoy explicit coverage of public safety nets;
- Irrespective of the changes to the market risk capital requirements that increase the amount of capital that is required, banks could still have significant incentives for engaging in trading activities given the particularly substantial profits of such activities (see Annex A5). This has induced a broad-based shift towards these activities, at the expense of traditional activities, with an increase in systemic risk being the consequence (Boot and Ratnovski (2012));
- The ratio of risk weighted assets to total assets is significantly lower for TBTF banks, which typically have an important trading book, than for other banks (see chart 10).³⁰ In addition, the risk-based capital requirements based on value-at risk ("VaR") model calculations can still be small compared to the size of trading assets.³¹ Standard setters at both international and European level are currently critically assessing the consistency and accuracy of the risk-weighted asset approach;³²

²⁹ G20 Leaders, September 2013: "We recognize that structural banking reforms can facilitate resolvability and call on the FSB, in collaboration with the IMF and the OECD, to assess cross-border consistencies and global financial stability implications."

G20 Ministers, October 2013: "We will pursue our work to build a safe and reliable financial system by implementing the financial reforms endorsed in our Leaders' Declaration, which are aimed at building upon the significant progress already achieved, including in creating more resilient financial institutions, ending too-big-to-fail, increasing transparency and market integrity, filling regulatory gaps, addressing the potential systemic risks from shadow banking and closing information gaps."

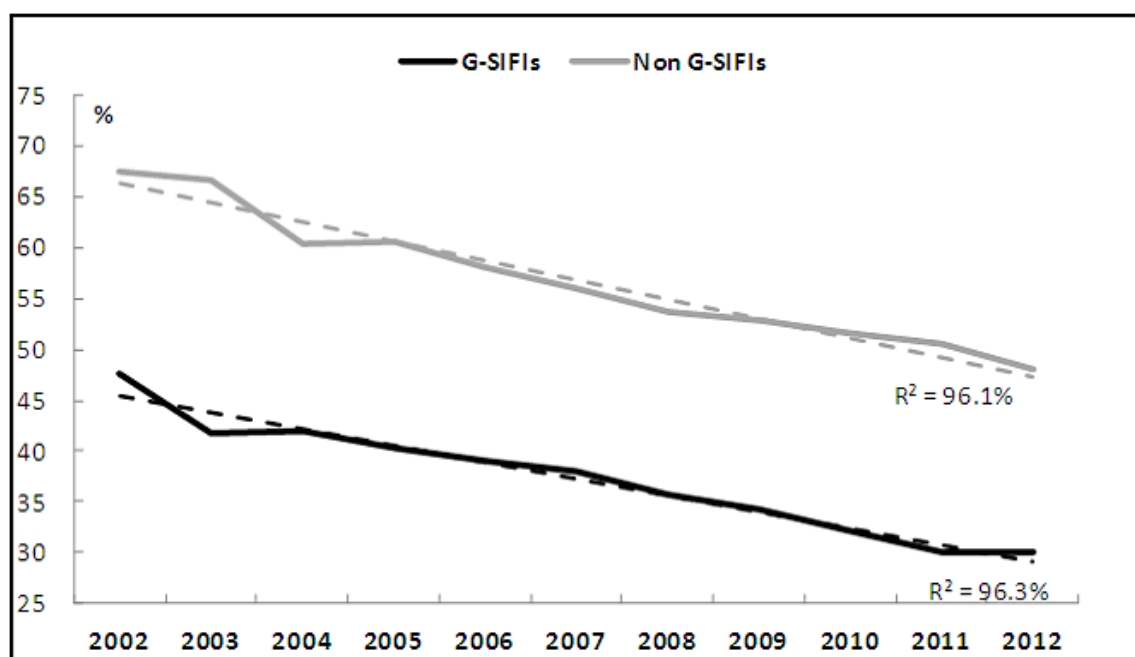
³⁰ "The ratio of risk-weighted assets to total assets differs significantly between banks. It is remarkable that the banks with the highest amount of trading assets, notional derivatives, etc. (i.e. banks that are least "traditional") tend to have the lowest ratio." Report of the HLEG, p. 43.

³¹ "[...] 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%." Report of the HLEG, p. 48. This explains why some measures have been taken, e.g. the use of stressed VaR as part of Basel 2.5's revisions to the market risk framework.

³² European Banking Authority (2013), "Interim results of the EBA review of the consistency of risk-weighted assets. Top-down assessment of the banking book", February 2013; Basel Committee on Banking Supervision (2013), "Regulatory consistency assessment programme (RCAP) – Analysis of risk-weighted assets for market risk", January 2013.

- Whereas nominal, non-risk weighted capital buffers could be considered to address these risks, such buffers are blunt and also distort adequate risk-taking incentives. They would have to be set at a high level to fully off-set the remaining incentives in favour of trading. Introducing such additional buffers would also further complicate the prudential framework. This complexity also stems from the increased variety and complexity of bank activities that have required much more complex capital standards (Hoenig and Morris (2011)). These complex standards are difficult to monitor and understand for banks, supervisors, and the market.³³ Structural reform may help to simplify supervision and enforcement of capital requirement regulation;
- Capital requirements also do not address several problems referred to above, such as conflicts of interest and a misalignment between a commercial banking and an investment banking culture within a single “unstructured” banking group;

Chart 10: RWA to total assets: G-SIFI banks versus Non G-SIFI banks



Source: Bloomberg, OECD, Blundell-Wignall et al. (2013)

While capital requirements are a major instrument in reducing the probability of failure, it would appear unwise to rely on one instrument only to address the TBTF problem. Structural bank reforms complement the reforms related to capital requirements by imposing direct constraints on specific activities, as opposed to capital requirements that depend on the riskiness of the individual entity and/or of the consolidated group. Structural reform would also be a more direct way of making sure that insured deposits are not used freely throughout integrated groups to fund transaction-oriented activities that are not customer-oriented and hence should not benefit from the implicit government support. It could also complement the systemic risk charges for systemically important banks by adding another disincentive towards banks excessively expanding their risky trading activities, thus putting a break to the main source of unsustainable bank growth in recent years.

³³ See e.g. response of Algebris Investment’s to the Commission’s 2012 consultation on the recommendations of the HLEG: http://ec.europa.eu/internal_market/consultations/2012/hleg-banking/other-organisations/algebris-investments_en.pdf

As regards **impact of failure**, implementation of the BRRD will pave the way for the orderly resolution of normal EU banks and thus significantly reduce the impact of failure of such banks on public finances.³⁴ The resolution powers will be challenging to exercise for TBTF banks, given their particularly large, complex and integrated balance sheets and corporate structures. As a result, while the potential for eventual public support is certainly reduced, it may still not be eradicated if the powers are not in all instances fully applied. The impact of a failure of a large and complex bank may still be significant. Structural reform will increase the options available to authorities when dealing with failing banking groups. By increasing orderly resolution credibility, it will also improve market discipline and bank balance sheet dynamics ex ante.

The resolution planning offers a vehicle to address potential impediments to resolution. However, it is built on judgement by authorities in individual cases. In the absence of a more clearly structured corporate group structure, it might be extremely difficult for a supervisory authority to exercise its discretionary judgment and impose e.g. a divestment of a part of a large and complex diversified banking group, especially if other competent authorities are not responding with similarly harsh measures in comparable cases.³⁵ All this may explain market perceptions of remaining implicit subsidies and call for further clarity as regards potential additional structural measures.³⁶

Structural reforms could help the orderly resolution of TBTF banks. It could make the newly granted powers in BRRD more effective for TBTF banks, as resolution authorities would deal with separate, segregated and simpler balance sheets. This would make it easier to monitor and assess the different entities of a banking group and it expands the range of options at the disposal of resolution authorities. Additional measures for TBTF banks would be in line with the BRRD's proportionality principle.

Structural reform can potentially curtail contagion by clearly mapping and controlling intra-financial sector exposures. If left uncontrolled, bail-in may give rise to undue contagion (as bail-in related losses may create losses and distress at other linked financial institutions). As a result, the credibility and effectiveness of the bail-in tool may be hampered.

Ex ante structural reform would also complement the available preventative powers of the BRRD that imply a more institution-specific reorganisation of selected banking groups and which have a narrower resolution objective only. Combining structural reform legislation with the BRRD could over time lead to a greater alignment between business lines and legal structures.

Banking Union is meant to reduce the inappropriate links between sovereigns and their banks. However, by doing so, implicit subsidies and the corresponding problems of moral hazard, aggressive balance sheet expansion, and competition distortions discussed in section 2.1.2

³⁴ Banks cannot enter normal bankruptcy and suddenly stop performing their special and critical role in the payment system, nor can they freeze their deposits, because of the financial panic that would result and because their business model and *raison d'être* is to provide liquidity to its depositors.

³⁵ See EBA (2012), "Opinion of the European Banking Authority on the recommendations of the High-level Expert Group on reforming the structure of the EU banking sector", December 2012.

³⁶ See e.g. Moody's (2013) assessment of the BRRD: "*Taken at face value, the draft is credit-negative for senior unsecured creditors of the roughly two-thirds of EU banks whose ratings incorporate some level of systemic support uplift. It is unlikely we would remove all systemic support from every EU bank's rating in the foreseeable future, but a change to our assumptions would imply lower ratings for some or all banks. However, there are a number of important areas in which we need greater clarity before we can take a definitive view on the implications for EU bank ratings. For example, to be able to assess the Directive's impact we would ideally want to understand [...] the plans for broader structural changes in the EU banking industry*"

become even more prominent. As a result, Member States may be reluctant to mutualise (future) risks through Banking Union, in the absence of structural reform and credible orderly resolution mechanisms. Targeting the safety net to those core banking activities that deserve subsidisation and protection because they address a market failure reduces the scope of the public safety net and will be a catalyst for the willingness of EU Member States to push ahead with Banking Union.

Chapter 4 develops different forms that structural separation could take. These different reform options are then assessed and compared in chapter 5. That comparison demonstrates in both qualitative and quantitative ways that structural reform has value added in further addressing the problems of TBTF banks. While the exact impact depends on the specific design of the reform option in question (e.g. range of activities to be separated, strength of separation), in general structural reform along the lines outlined in chapter 4 would increase the private cost of engaging in excessive trading activities of primarily intra-financial nature, thus leading to a contraction of such activities as banks adjust to the new reality and hence, other things being equal, a reduction in bank size. It would thus contribute to a better deployment and allocation of resources towards the real economy. It would also facilitate the task of resolution authorities, which in times of stress would imply lower costs related to bank failures. This would benefit the EU economy, as public finances would no longer need to be imperilled to support failed banks. Targeting the safety net to those core banking activities that deserve subsidisation and protection because they address a market failure reduces the scope of the public safety net. At the same time, depending on the scope of activities to be separated and strength of separation, a degree of efficiency might in principle be lost owing to notably reduced economies of scope (see Annex A9). As stated above, the magnitude of these benefits and costs depend on the specific reform option chosen.

2.4. How would the situation evolve without EU action (baseline scenario)

As a response to these concerns, several EU Member States (Germany, France, Belgium and the UK) as well as third countries (U.S.) have introduced or are currently in the process of introducing structural reform measures applying to their respective banking sectors. The reforms in France, Germany, Belgium, the UK and the U.S. all have in common that they prescribe the separation of selected banking activities from a deposit taking entity (for banks above certain thresholds in all countries except the U.S.). Structural reform measures are also under consideration in the Netherlands (Annex A1).

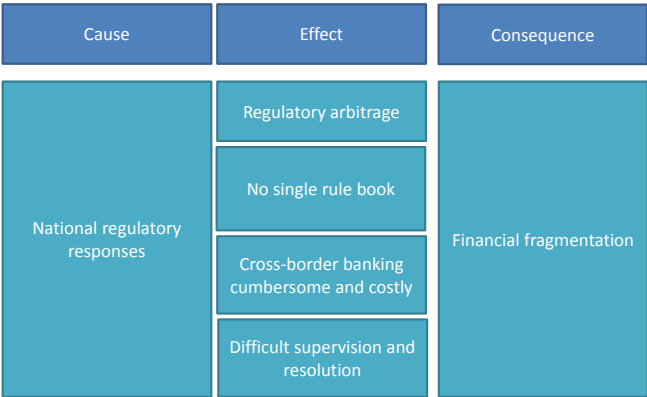
Given the fundamental freedoms set out in the Treaty of the Functioning of the European Union (the "TFEU") divergent national legislation may affect capital movements and establishment decisions of market participants. Under the freedom to provide services, banks authorised in one Member State can freely provide all banking services in other Member States. Under the freedom of establishment, banks can either open a branch or a subsidiary in other Member States. The rights and obligations linked with the two differ. Branches are legally dependent parts of the credit institution. As such, they continue to be supervised as a part of the whole bank by the home Member State supervisory authority. A subsidiary is an independent legal part – and considered as any other legal entity – and becomes subject to supervision in the Member State where it is established, which is thereby considered its 'home'. National structural reforms can accordingly only apply to institutions that are headquartered in that Member State – and their branches in other Member States – as well as locally incorporated subsidiaries of banks from other Member States. Local branches of banks from other Member States are not affected.

This means that under national structural reform, banks operating in the same national market would be subject to different rules depending on whether they are subsidiaries (subject to

reform) or branches (not subject to reform).³⁷ National reforms accordingly run the risk of becoming ineffective, if locally incorporated banks were to relocate and branch back in (for local banks subject to reform) or switch from subsidiary to branch status (for banks from another Member State).³⁸ However, the effects could also be more pervasive in the sense that banks, rather than relocating by legal means, could relocate in "economic" terms and thus avoid national rules by moving particular activities (by e.g. booking certain transactions in another part of the banking group located in another Member State).

Regulatory arbitrage could over time, and to the extent it became material, compound some of the underlying problems. Divergent national legislation may also undermine efforts to achieve a single rulebook applicable throughout the Internal Market. This is a general problem, as the financial crisis has highlighted that the single financial market does not work optimally if national legislation is significantly different from one country to the other. It can also create specific problems regarding supervision, notably for the future SSM, where the ECB would have to supervise banks subject to different legislation regarding bank structure, thus undermining the establishment of a single rulebook within the EU. Divergent legislation would also make the management of cross-border institutions more difficult and costly, notably in terms of ensuring compliance with divergent and possibly inconsistent rules. It would also lead to safety net distortions, as the DGS of the Member State subject to relocation would face a heavier burden. In sum, if not all Member States address TBTF banks in a roughly consistent way, not all relevant TBTF banks would be subject to reform.³⁹ Moreover, even those banking groups subject to national reforms would be able to circumvent the rules thanks to the Treaty freedoms, their existing cross-border network of branches and subsidiaries and their right to transfer capital and liquidity across EU borders. Conversely, those arbitrage opportunities would be closed if common rules were to be adopted at EU level. In sum, addressing TBTF banks in an effective manner requires a coordinated EU approach (chart 11).

Chart 11: Potential problems and consequences of uncoordinated national reforms



The default option for this Impact Assessment is to take no policy action as regards structural bank reform at the *European* level. This represents the baseline against which the incremental

³⁷ For example, the forthcoming UK retail ring-fencing rules would apply to UK-incorporated subsidiaries of EU banks (e.g. Santander UK) but not to branches (e.g. Deutsche Bank’s UK branch).

³⁸ The former risk has been acknowledged in some of the national reform debates. For example, the UK ICB acknowledged the risk but dismissed it due to disproportional net cost for banks as well as reputational concerns. The National Bank of Belgium (2012, 2013) highlighted the difficulty for a small country like Belgium to impose unilateral structural reforms due to banks’ ability to switch into branches and the unlevel playing field this would give rise to.

³⁹ Of the banks that would exceed the thresholds considered in Chapter 5 on the basis of historical data, a majority would be subject to distinct national structural reforms.

impact of structural bank reform options will be evaluated. That baseline includes the non-structural reform elements of the current reform agenda, notably CRR/CRD, BRRD and the first two pillars of the Banking Union (SSM, SRM). The incremental impact will be measured by means of relevant social benefits and costs of the different reform options (see Chapter 5).

2.5. The EU's right to act and justification for acting

In accordance with the principles of subsidiarity and proportionality set out in Article 5 of the TFEU, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, while the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties.

In this case, only EU action can ensure that EU banking groups, many of which operate in several Member States, are regulated by a common framework for structural reform. If the EU does not provide a common framework, divergent national legislation have the potential to distort the Internal Market for the reasons highlighted above. Uniform rules on bank corporate structure are needed to enhance financial stability, facilitate the orderly resolution and recovery of the group, enhance cross-border provision of services and the establishment in other Member States, and prevent regulatory arbitrage.

Common rules on bank structural reform are particularly important for an effective Banking Union. Different national rules would make the task of the ECB in its capacity as a single supervisor difficult, as it would have to supervise banks subject to different, and potentially inconsistent, national rules. Similarly, the future SRM would have to resolve banks subject to potentially different national requirements regarding their organisational and operational structure. The advantage of uniform rules are particularly clear for TBTF banks in Banking Union participating Member States by (1) making supervision easier, by providing for one set of rules that would over time contributing to simpler and more transparent group structures with clearer delineation of business lines; (2) facilitating the task of the Single Resolution Mechanism; and, (3) limiting the risks to be insured by a future EU DGS subject to risk mutualisation (and hence increased implicit subsidies).

The objective of an EU initiative on structural reform would be to adopt uniform measures which have as their objective the establishment and functioning of the Internal Market in financial services. The appropriate legal basis is Article 114 of the TFEU. Article 114 leaves the choice of legal instrument open (either directive or regulation). The advantage of using a regulation is that it would be directly applicable to relevant institutions and create legal certainty as opposed to a directive which would require national implementing legislation that could well be divergent. With a regulation institutions would know when and how the rules apply and be ensured that they apply in a similar fashion to all banks across the EU. A regulation is particularly important for the SSM and SRM for the reasons elaborated upon above.

3. OBJECTIVES OF REFORMING BANK STRUCTURES

The objective of bank structure reform is to address the problems and underlying problem drivers highlighted in Chapter 2. To that end, Chapter 3 distinguishes macroeconomic (Section 3.1), specific or microeconomic objectives (Section 3.2), and operational objectives (Section 3.3).

3.1. General objectives

Reducing the risk of systemic instability – reducing the risks of banks becoming or wanting to become TBTF, TCTF and TITF: A key objective of structural reform is to make banks that provide essential services to the real economy more resilient in the event of endogenous or exogenous shocks but also more resolvable in the event of a failure, thus reducing the severity of future financial crises.

Reducing Single Market fragmentation: Many of the banks that will be affected by structural reform legislation operate across borders and seek to benefit from the opportunities created by the single financial market. A common legislative framework on structural reform would prevent the fragmentation of the Internal Market and increase the effectiveness of the future SSM and SRM.

3.2. Specific or microeconomic objectives

The objectives of structural reform should be to address the problems highlighted in chapter 2. Accordingly, the different options outlined in chapter 4 will be assessed on the extent to which they achieve the following micro-economic objectives:

- (1) Facilitate bank resolution and recovery;
- (2) Facilitate management, monitoring and supervision;
- (3) Reduce moral hazard;
- (4) Reduce conflicts of interest, improve bank culture and standards;
- (5) Reduce capital and resource misallocation; and
- (6) Improve competition.

3.3. Operational objectives

On the basis of the above, the operational objectives of structural reform would be to reduce the magnitude of the problems currently encountered. The following set of quantifiable operational objectives would form the base of future evaluations:

- (1) Reduce the size of implicit public subsidies, i.e. reduce the artificial funding cost advantage of TBTF banks (after controlling for bank characteristics such as size, risk-taking, etc.);
- (2) Reduce excessive trading by TBTF banks; increase the lending to non-financial customers as a percentage of total assets.

4. REFORM OPTIONS

This chapter develops the policy options that will be subject to further assessment. In particular, sections 4.1, 4.2, 4.4, and 4.5 introduce options regarding (i) the scope of activities to be separated; (ii) the strength of separation; and, (iii) the institutional scope of separation, and considers the timeline for implementation. As each of the examined options may lead to a situation whereby certain banking activities may migrate away from regulated banking groups towards “shadow banks”, the structural reform options must necessarily be accompanied by measures improving transparency and data reporting of the shadow banking activities (section 4.3).

4.1. Activities to be separated

The Single Market has brought significant benefits to EU Member States. It contributes to solid economic growth and supports employment (ECB (2012)). Integration in the markets for banking and other financial services is one key element of the Single Market. Among other benefits, financial integration has contributed to the convergence of and decline in financing costs for corporations and households and the opening up of investment and diversification opportunities across Europe.

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

Financial institutions and banks in particular have adapted to this new economic reality by expanding in scale, reach and scope of activities. This has led to the emergence of large financial "one-stop shops" combining within one entity or group the provision of a diverse set of services. Moreover, in their quest for economies of scale and scope, banks have also consolidated; first within national borders, then beyond. This process has allowed banks both to provide a broader range of services to their clients, as well as serving clients operating across borders. This process was particularly pronounced in the EU, given the Single Market and enshrined treaty freedoms. This has enabled banks to respond to the increasingly sophisticated needs of their global clients. The financial crisis has clearly illustrated the impact on financial stability arising from an ever more global and integrated financial system with ever larger units of financial service providers.

As a result, the banking activities undertaken by large EU banking groups today range from retail and commercial banking (RCB) activities to wholesale and investment banking (WIB) activities. Examples of RCB activities include, amongst others, insured deposit taking, lending to households and SMEs, and the provision of payment system services. Examples of WIB include, amongst others, underwriting, market making, brokerage services, and proprietary trading.

Notwithstanding the benefits highlighted above, the financial crisis has clearly illustrated the impact on financial stability arising from an ever more global and integrated financial system with ever larger units of financial service providers. Therefore, the basic rationale of structural reform is to separate certain risky trading activities in order to facilitate the resolvability of banks and to ensure that these activities do not endanger bank activities that are regarded as critically important for the real economy. In the national structural reform efforts to date, the separation has been applied at different “locations” between and within the range of RCB and WIB activities. Depending on the strength of separation and the scope of targeted activities, separation leads to different degrees of restrictions on some banks’ ability to provide certain services.

Accordingly, concrete options to separate banking activities logically end up between, at one end of the spectrum, a narrow trading entity and a correspondingly broad deposit-taking entity and, at the other end, a broad trading entity and a correspondingly narrow deposit entity. In the first case, relatively few activities are being separated from the deposit entity (funded by guaranteed deposits in contrast to the trading entity), and it accordingly remains relatively free to provide a broad set of trading and capital market activities. In the latter case, a much broader set of activities is separated, and the deposit entity is accordingly much more constrained in the activities it can engage in.

- **“Narrow” trading entity and “broad” deposit entity:** A first polar case is that in which only relatively few trading activities are being separated from a broad deposit entity, namely those types of trading activities where traders are speculating on markets using the bank’s capital and borrowed money, for no purpose other than to make a profit and without any connection to trading on behalf of customers (i.e., proprietary trading). Proprietary trading is the purchase and sale of financial instruments for own account with the intent to profit from subsequent price changes. The importance of dedicated proprietary trading desks has decreased over time and currently appears to be of relatively limited importance for many large EU banking groups. Internal hedge funds are similar in spirit. This would also involve trading in physical commodities.⁴⁰ In this polar case, the set of activities to be separated from the deposit entity would roughly correspond to the French banking law and the German law (where the separation largely takes place within the group), as well as the Volcker rule in the US (where the separation amounts to a prohibition and a banning of the activity from the group altogether). See Annex A1.
- **“Medium” trading entity and “medium” deposit entity:** A second case is one in which market making (and possibly more) is added to the above set of activities to be separated from the deposit entity. Separating customer-related market-making, proprietary trading and selected similar activities is roughly aligned with the proposals made by the HLEG.

In general terms, market making is the purchase and sale of financial instruments (government bonds, corporate bonds, equities, derivatives, etc.) for own account at prices defined by the market maker, on the basis of a commitment to provide market liquidity on a regular and on-going basis. Market makers provide "immediacy" to clients and investors by facilitating their requests to buy and sell quickly and, arguably, in a cost-effective way for them. For example, an investor anxious to sell an asset relies on a market maker's standing ability to buy the asset for itself immediately. Likewise, an investor who wishes to buy an asset often can call on a market maker to sell the asset out of its inventory. By doing so, market makers can instil greater investor confidence in the functioning of financial markets and encourage investors to trade confidently. Market making makes up a significant part

⁴⁰ In order to better understand and make markets in commodity derivatives, some banks have in recent years engaged increasingly in the trading of physical commodities. The involvement of banks has given rise to a number of concerns, ranging from possible market manipulation to potential risks to the solvency of banks due to their exposure to volatile commodities prices. Both the French law on banking structural reform and draft secondary legislation published by the UK government restrict trading in physical commodities such as metals, oil or agricultural commodities (only the latter in the case of the French law). In the US, the Federal Reserve currently interprets US legislation such as to allow certain Bank Holding Companies (BHCs) to engage in trading of physical commodities, subject to specific conditions and restrictions. However, on 19 July 2013 the Federal Reserve announced that it was reviewing its 2003 decision that first allowed banks to engage in trading of physical commodities.

of large banking groups' trading revenues. Without market makers, customers would face higher transaction costs, and security prices would be more volatile. However, from a legal and economic point of view, market making (and the securities inventory used to facilitate customer trading) is difficult to distinguish from proprietary trading, in particular for “outsiders”. A market maker acquires a position at one price and then lays off the position over time at an uncertain average price by providing liquidity to customers. The ultimate goal is to “buy low, sell high”. In order to accomplish this goal on average over many trades, with an acceptable level of risk for the expected profit, a market maker relies on its expectation of investors’ needs and the future path of market prices. Although traders involved in the actual trade are able to identify any given transaction as being of a market making or proprietary trading nature, such a distinction no longer is simple from the perspective of an outsider such as a manager, regulator, supervisor, creditor, or judge. Indeed, a market maker might legitimately choose to take a long position in an asset either in anticipation of client demand to allow the order to be fulfilled quickly or to facilitate a quick sale by a client of an illiquid asset.

While it is possible for institutions other than banks (such as funds) to take on a similar role to market makers, banks do have a natural advantage in acting as market makers because of the fact that banks have a variety of other relationships with the clients who want to make trades and the fact that acting as a market maker for a security is often a natural follow-on activity for securities underwritten by the banking group.

The most active market makers in financial markets today are high frequency traders, many of whom trade as voluntary market makers with no obligations to maintain markets. According to several academic studies, high frequency market making is a profitable enterprise and, more importantly, market quality has improved alongside the growth in algorithmic trading. These results are frequently interpreted as support for a structure where participants supply liquidity because it is a profitable and viable activity on its own (see Anand and Vankatamaran (2013) for a more in-depth analysis). Several important market makers are not taking any deposits, suggesting that market making is a viable activity on its own.

- **“Broad” trading entity and “narrow” deposit entity:** This case corresponds to a relatively broad range of activities being separated from the deposit entity and is one in which all wholesale and investment banking activities are to be separated. In this stylised option, trading entities would perform activities such as underwriting⁴¹, advisory services, brokerage services, derivatives transactions, investing, sponsoring and structuring activities related to certain securitisation activity⁴², in addition to proprietary trading and market making (See Annex A6 for a more elaborate description and assessment of these additional WIB activities). Separating a broad range of investment banking activities will result from the UK structural reform. The US also organises banking groups as bank holding companies that perform core banking activities and other banking activities through different affiliates.

⁴¹ Securities underwriting is a typical investment banking activity in which banks raise investment capital from investors on behalf of corporations and governments that are issuing securities (both equity and debt securities) in return for a fee. It is a way of selling newly issued securities, such as stocks or bonds, to investors.

⁴² Securitisation involves the creation and issuance of tradable securities, such as bonds, that are backed by the income generated by e.g. an asset, a loan or another revenue source.

In determining which activities should be subject to separation, the Commission services have considered: (i) the extent to which losses related to an activity would impact a bank's balance sheet; (ii) the extent to which an activity gives rise to market or counterparty risk; (iii) the importance and potential impact of the activity on systemic risk; (iv) the customer-oriented nature and usefulness of an activity for financing the real economy, and (v) the extent to which the banking activity resolves a market failure (such as asymmetric information) in the economy. The application of these criteria leaves a narrow range of wholesale and investment banking activities that require further analysis, e.g. proprietary trading, market making, underwriting, investing, sponsoring and structuring activities related to certain securitisation activity, and derivatives transactions. The focus on wholesale and investment bank activity is consistent with the significant increase in trading and market-based activities, documented in Chapter 2.

There are certain activities, however, that are critically important for the continuity of a banking group (i.e. the taking of deposits and provision of retail payment services). Those activities would under any of the options outlined above always reside with the deposit-taking entity.

4.2. Strength of separation

When determining the strength of separation, a starting point is to consider three broad forms of separation: (i) accounting separation; (ii) subsidiarisation; and (iii) ownership separation, i.e. prohibition of certain business lines. These forms of separation display a varying degree of severity and intrusiveness in banks' business structure. They are not mutually exclusive but build on each other. For example, subsidiarisation presupposes a degree of accounting separation. Furthermore, subsidiarisation can coexist with prohibition (ownership separation) of certain activities.

- (a) **Accounting separation:** The lightest degree of intervention is accounting separation. This would require banks that provide integrated financial services to make separate reports for their different business units and make them publicly available. A certain degree of accounting separation already exists in the EU. Accounting separation would increase transparency, as it would lead to banks having to put more information in the public domain, thus in theory facilitating market monitoring and supervision. However, it would not significantly affect economic incentives. For example, it would not impose any restrictions on intra-group legal and economic links, and it is thus unlikely to be sufficient to address the major policy objective of this exercise. Accordingly, it would not contribute to addressing the TBTF problem. Even so, while insufficient to address the main objectives, a degree of stronger separation of accounts by business lines would, by construction, follow from – and be necessary for – more ambitious forms of separation.
- (b) **Subsidiarisation:** A second form of separation is to require subsidiarisation, i.e. to require banking groups to separate the activities of different business units into separate legal entities ("subsidiarisation"). Subsidiarisation could also require these entities to maintain separate capital structures, i.e. for the business units to become "ring-fenced" subsidiaries with their own capital and funding and with rules on how the different subsidiaries deal with each other (e.g. limits on intra-group capital flows and arm's length pricing).

Importantly, under subsidiarisation, universal banking groups could continue to provide their clients with a diverse set of banking services. However, they would have to structure their group differently with some of the services provided in legal entities separated from the other parts of the group ("structured universal banking").

Subsidiarisation can take many forms. Under subsidiarisation, there will still be links of legal, economic, operational and governance nature between the banking group and the functionally separate legal entities. As a result, choices need to be made as regards the degree of independence of the subsidiary. More specifically:

- As regards **legal separation**, one could limit oneself to requiring the setting-up of a separate legal entity to which the relevant activities could be separated for banks that fall under the institutional scope of the regulation. Given the activities under consideration, that entity would most likely be an investment firm. Or, one could consider options that would provide a stronger degree of legal separation by governing also the ownership links between this new entity and the rest of the group. For example, one could consider rules limiting certain parent-subsidiary ownership structures (e.g. whereas the group could continue engaging in a universal set of activities, the trading entity of the group could not own the group's deposit bank); or rules prohibiting direct ownership links between deposit banks and trading entities, thus calling for a group holding company on top;
- As regards **economic separation**, the separate legal entity would normally have to respect the CRD/CRR requirements related to capital, liquidity, leverage, and large exposures on an individual basis. To provide a stronger degree of economic separation, further rules could be considered for the relations between the separated entities and other group entities, such that intra-group transactions could be on arm's length basis; whether certain restrictions on exposures, funding pattern and activities should be introduced to further isolate the deposit taking entity from (international and financial-system originated) shocks. In addition, one could consider whether the subsidiary would have to raise funds separately;
- As regards **governance separation**, one could consider the degree of independence of the board of the separated entities (e.g. degree to which directors should be independent from rest of group), as well as whether or not the separated entities should have their own risk management structures even if currently reserved for "significant" institutions by CRD. Also one could require the management body to uphold the objectives of structural reform;
- As regards **operational separation**, one could consider the degree to which infrastructure related to payment systems and IT and data could be shared among group entities, or whether it would also need to be separated.

The reforms pursued to date have chosen different combinations along these separation dimensions, even though there is a large degree of complementarity (see Annex A1).

- (c) **Ownership separation:** The most intrusive degree of structural intervention is ownership separation. Under this form of separation, there would be separate ultimate ownership of assets supporting different activities. Accordingly, those services would have to be provided by different firms with different owners that are not in any way affiliated with each other.

This was the approach followed by the 1933 Glass-Steagall Act.⁴³ The justifications for this strong type of separation were to: (i) prevent inherent conflicts of interest; (ii)

⁴³ The Act originally contained four short sections of the Banking Act of 1933: Section 16 prohibiting banks from underwriting or dealing in securities; Section 21 prohibiting securities firms from taking

reduce the financial power of depository institutions; (iii) reduce depository institutions' ability to engage in risky securities activities; and (iv) prevent managers of depository institutions – focused on prudence – to enter markets that are focused on risk-taking.

For the reasons stated under point A) above, accounting separation will not be subjected to further assessment in this Impact Assessment.

Three degrees of separation will be subject to consideration in the remainder of this Impact Assessment, two based on different forms of subsidiarisation (given the wide range of specific subsidiarisation rules) and one based on ownership separation. A first separation option would contain a limited degree of subsidiarisation in legal and economic terms. It would require the creation of a separate legal entity, but would limit itself to the degree of economic and governance separation that currently follows automatically from such an obligation. A second “moderate separation” option would include an additional, stricter degree of legal, economic, and governance separation, whereas a final “complete separation” option would be equivalent to full ownership separation, as described above, i.e. effective prohibition of certain activities. More specifically:

- (1) **Subsidiarisation with intra-group links restricted according to current rules (“SUB”)**: in terms of legal separation, this option would require a separate legal entity. In terms of economic separation, it would restrict itself to the economic and governance requirements that currently result from this degree of legal separation. That entity should be subject to the CRD/CRR prudential requirements in terms of capital, liquidity, leverage and large exposures on an individual basis. This would result in a degree of economic and governance separation, depending on whether these requirements would be waived or not;
- (2) **Subsidiarisation with tighter restrictions on intra-group links (“SUB+”)**: in order to more effectively address intra-group funding subsidies, this option would require a more significant degree of subsidiarisation in legal and/or economic terms. In terms of legal separation, it may include rules on ownership links between separated entities within the group. This option may also require a stricter degree of economic separation, such as separate funding for the two entities. It also includes stricter economic separation, notably by considering rules on intra-group relations (e.g. requirements that intra-group transactions be on third party, commercial terms; ensuring that current large exposure restrictions are not waived and possibly apply stricter requirements; providing limits on intra-group guarantees (deposit-taking entity would not support trading entity); and, stipulating a higher degree of governance separation (e.g. limits on cross-use of board directors within the group); or
- (3) **Ownership separation**: under this option, banking groups would not be allowed to engage in certain activities. They would accordingly have to divest or wind down any such activities that they currently engage in.

4.3. Preventing the risks emanating from shadow banking

As each of the examined options may lead to a situation whereby certain banking activities may migrate away from regulated banking groups towards shadow banks where there may be less scope for control by supervisors (whether or not located with the EU). To that end, each

deposits; and two remaining sections (20, 32) prohibiting banks from being affiliated with firms that are principally or primarily engaged in underwriting or dealing in securities (see also Box 2).

of these options must necessarily be accompanied by measures improving transparency and data reporting of the shadow banking activities.

The work done by the FSB has highlighted that the disorderly failure of shadow banking entities can carry systemic risk, both directly and through their interconnectedness, with the regular banking system. The FSB has also suggested that, as long as such entities remain subject to a lower level of regulation and supervision than the rest of the financial sector, reinforced banking regulation could drive a part of banking activities beyond the boundaries of traditional banking and towards shadow banking. The European Commission has recently adopted a Communication setting-out a roadmap for tackling the risks inherent in shadow banking. In line with the 2013 FSB Recommendations endorsed at the St-Petersburg G20 Summit, the measures foreseen in this roadmap include, among others, measures aimed at strengthening transparency and data availability in the shadow banking area.

Because of its size and close links to the regular banking sector, the shadow banking sector poses a systemic risk. The first factor is size. The latest studies indicate that the aggregate shadow banking assets are about half the size of the regulated banking system. Despite the fact that shadow banking assets have decreased slightly since 2008, the global figure at the end of 2012 was €53 trillion⁴⁴. In terms of geographical distribution, the biggest share is concentrated in the United States (around €19.3 trillion) and in Europe (Eurozone with €16.3 trillion and the United Kingdom with around €6.7 trillion). The second factor which increases risks is the high level of interconnectedness between the shadow banking system and the regulated sector, particularly the regulated banking system. Any weakness that is mismanaged or the destabilisation of an important factor in the shadow banking system could trigger a wave of contagion that would affect the sectors subject to the highest prudential standards.

To prevent that banks shift parts of their activity in the less regulated shadow banking sector, it is necessary to ensure that any structural separation measure be accompanied by measures improving the transparency of shadow banking. Due to their size and close links with the banking sector securities financing transactions (SFTs) such as repurchase agreements, securities lending, other equivalent financing structures and re-hypothecation are a particularly relevant issue to address. SFTs display structural similarities with banking activities as they can lead to maturity and liquidity transformation and increased leverage, including short-term financing of longer-term assets.

As explained in detail in Annex A13, when assessing the transparency of the SFTs markets and rehypothecation, three main themes emerge: (1) the monitoring of the build-up of systemic risks related to SFT transactions in the financial system; (2) the disclosure of the information on such transactions to the investors whose assets are employed in these transactions; and (3) reducing the uncertainty about the extent to which assets have been rehypothecated. EU regulatory authorities lack the necessary data to better monitor the use of SFTs and the risks and the vulnerabilities for the stability of the financial system that they imply. At the same time the investors are not properly informed whether and to what extent the investment fund, in which they have invested or plan to invest in, has encumbered or intends to encumber investment assets by means of engaging in SFTs and other financing structures that would create additional risks for the investors. Finally, there is a lack of transparency about the extent to which clients' and counterparties' assets can be rehypothecated, or about the risks posed by rehypothecation.

Because the risks resulting from a migration from the banking sector toward the shadow banking sector are not directly related to the decision that is retained as regards the degree of

⁴⁴ Global Shadow Banking Monitoring Report 2013, 14 November 2013, FSB

the structural separation, the options aimed at increasing the transparency of the shadow banking sector will be assessed separately. The assessment of the impacts for the structural separation is not linked to the assessment of the impacts for the shadow banking transparency, and inversely. However every decision that is taken on the structural separation aspect will have an impact on the shadow banking sector, therefore Annex A13 analyses the potential response to that threat for the financial stability.

The following section presents the nine reform options for the structural separation whereas the Annex A13 presents and assesses the potential options aimed at increasing the transparency of SFTs. For each of the three main themes that have been identified, a series of policy options have been identified and assessed. The reform options on the structural separation are aimed at credit institutions whereas the options on shadow banking are aimed at each financial counterparty that performs SFT activity. This difference in scope is necessary because the entities acting in the shadow banking universe are diverse in nature. A targeted approach would not have achieved a level playing field between all actors.

These elements will notably allow supervisors to better identify interconnectedness between deposit taking entities and some shadow banking entities and will shed more light on some of their funding operations. It will also allow both market participants and supervisors to better evaluate possible risk exposures of shadow banking entities, leading to better-informed investment decisions by the former and better-targeted and timely actions by the latter. Annex A13 provides for details about the impact of introducing more transparency in securities financing transactions.

4.4. Structural reform options

The combination of the different range of trading and capital markets activities to be separated and strengths of separation (see sections 4.1 and 4.2) yields nine stylised reform options, as visualised in matrix form in Table 2. In the remainder of this Impact Assessment, we will refer to the different reform options, according to the labels in Table 2 (reform option A, reform option B, etc.). To the extent possible and for illustration purposes only, the Commission services have mapped the different national and expert group structural reform proposals and/or legislative initiatives into the matrix of stylised reform options. See also Annex A1 for a more elaborate discussion of these reform initiatives.

Table 2: Overview of options

Activities\ strength	Functional separation 1 (SUB) <i>Current requirements</i>	Functional separation 2 (SUB+) <i>Stricter requirements</i>	Ownership separation <i>Ownership separation</i>
Narrow trading entity/ broad deposit entity <i>E.g. Proprietary trading + exposures to HF (PT)</i>	Option A	Option B [≈ FR, DE baseline, BE]	Option C [≈ US Volcker]
Medium trading entity/ medium deposit entity <i>E.g. PT + market-making (MM)</i>	Option D	Option E [≈ HLEG; ≈ FR, DE if wider separation activated]	Option F
Broad trading entity/ narrow deposit entity <i>E.g. all investment banking activities</i>	Option G	Option H [≈ US BHC; ≈ UK]	Option I [≈ Glass-Steagall]

The reform options listed in the first column (A, D and G) all have in common that they require setting up separate subsidiaries for trading and deposit entities (“subsidiarisation” requirement) *without* strengthening the regulatory rules and requirements that are currently in place. The effectiveness of all three of these options thus depends on whether the social benefits are effectively achieved with a separation according to current rules. However, under current rules and regulations, some of the above prudential requirements can be waived in certain circumstances, notably upon approval from the domestic supervisor. Moreover, the current regulatory framework does not regulate legal, economic and governance links and interconnections between separate entities within a group to a significant extent. For example, large exposure rules for intra-group entities are optional (can be waived) and Member States have discretion on their level. Implicit public subsidies arising from the public safety net could accordingly continue to flow freely within integrated groups. Taken together, these options have a very limited effectiveness. The Commission services will therefore not further assess these reform options.

Selected structural reform initiatives have been mapped into Table 2 for illustration purposes only and according to the understanding of Commission Services of the latest proposals and (draft) laws. The conceptual mapping inevitably is a simplification of reality. National initiatives differ from the stylised options and the mapping does not necessarily do justice to the different national initiatives. See Annex A1 for more details on the respective national initiatives.

4.5. Issues related to implementation

The social benefits and costs of the options outlined in table 2 will be compared against each other and against the “no policy change” scenario in the next chapter. Irrespective of the preferred options that will arise as a result of that comparison, there are three more specific implementation issues that need to be addressed in any structural reform option. The first implementation issue concerns the scope of banks that would be subject to structural reform. The second implementation issue concerns the role of supervisors in structural reform implementation, and the third implementation issue relates to the structural reform implementation timeline.

4.5.1. Institutional scope

Irrespective of choices related to activities and strength, given the focus on TBTF banks identified in chapter 2, a structural reform initiative in principle targets large banks only. Hence, it only applies to a small subset of the more than 8000 banks incorporated in the EU. It would in particular not concern the vast majority of local and regional banks, such as small cooperative and savings banks, which put relatively large proportions of their balance sheet at risk to serve the local real economy as well as the banks that primarily focus on customer-related lending. The latter banks are more likely to be resolvable than larger and more trading intensive and interconnected banks.

In light of the focus on TBTF banks, an approach should be found to limit the scope for structural reform to banks that either are very large and/or engage in significant trading activity. To that effect, the HLEG recommended that only banks with significant trading activities should be subject to structural separation. However, the definition of trading activities underpinning the thresholds recommended by the HLEG, which is based on the aggregation of broad accounting categories and includes available for sale assets, has been criticised for being a poor proxy of risky trading activities.

Many financial institutions, as well as public authorities, that responded to the Commission’s public consultation about the options considered in this Impact Assessment also favoured the

use of a **risk-based threshold** to determine the appropriate scope of banks for structural reform (See annex A2). Under a risk-based approach, the threshold would be based on a measure of banks' trading risk. A risk-based threshold would accordingly have the benefit of clearly linking structural separation to existing measures of the risk associated with trading. The most logical source for such a risk-based threshold would be the risk-weighted assets for market and counterparty credit risk, as these are the prudential measure of banks' trading books. However, such a risk-based approach has certain drawbacks. First, risk-weighted data is not always publicly available. In the absence of verifiable and consistent public data, the delineation of the appropriate threshold and hence scope becomes less transparent. Second, there are concerns about risk-based approaches that would rely on risk weighted assets given the reported inconsistencies between banks when presented identical stylised portfolios of assets. Furthermore, both European and international standard setters are currently reviewing the RWA approach. Both concerns led the HLEG to reject using such measures for threshold and initial scope delineation purposes.

Another alternative is to apply structural separation to banks that are designated as **systemically important** by competent authorities. This was also highlighted as an alternative by some respondents to the stakeholder consultation. This approach would have the advantage of linking separation to one of the main drivers of implicit public subsidies. It also has the operational advantage of linking it to a readily available measure of systemic risk that has been translated into European law by the CRDIV. Moreover, analysis by the Commission services (Annex A8) indicates that nearly all banks that are of global systemic importance engage in significant trading activity. However, the systemic risk measure may not be a perfect proxy for significant levels of trading activities, as the analysis carried out by the Commission services also highlight that banks beyond the current G-SII list engage in significant trading activity. So, whereas the list of G-SII may be useful as a starting point, it may not necessarily include all banking groups that may require closer scrutiny. Also, while the provisions related to systemically important institutions have been laid down in the CRDIV, the definitive list of G-SIIs has not yet been finalised. Accordingly, using this approach as a sole base for determining the banks subject to separation would not yield clarity in the short term.

For the above reasons, the Commission services on balance recommend retaining the HLEG recommendation for an **accounting-based approach**. It is likely to be more effective than the other two alternatives referred to immediately above. It would be transparent and would provide for a higher degree of legal certainty for banks and market participants as regards the scope of banks subject to structural reform. While the Commission services do not consider risk-weighted assets to be an appropriate base for setting the institutional scope, they consider that the systemically important institution-approach should be included explicitly in the sample of banking groups that require further examination. Thresholds should further identify banks with significant trading activities. Accordingly, in addition to banks designated as G-SIIs should, banks that are captured by the accounting-based trading activity threshold, in principle should be subject to the provisions of the reform..

The Commission services have therefore assessed and reviewed the recommendations of the HLEG with a view to consider in particular the suggested examination threshold levels and definition of trading activity to be taken into account (see Annex A8). The Commission services have assessed four options in that respect:

- (1) Using the HLEG definition (Assets held for trading and available for sale);

- (2) A more narrow definition that account for the current reform agenda by excluding securities held for liquidity purposes under Basel III, and/or a share of derivative assets that are likely to become cleared by Central Counterparties (CCPs);
- (3) A definition focused on the gross volume of trading activities, as this is likely to focus on proprietary traders and market-makers; or
- (4) A definition focused on net volumes, which is likely to only capture those that have a higher share of unbalanced risk trading (proprietary traders).

Preference for either of these approaches accordingly depends on which of the reform option outlined in Table 2 is being pursued. The assessment of the reform options carried out in Chapter 5 is accordingly done on the assumption that any structural reform would apply to a limited subset of TBTF banks only. A comparison of the alternatives for a threshold stated above will accordingly be carried out following the comparison of the options in Table 2.

4.5.2. *Role of supervisors*

Irrespective of the choice of threshold, a separate issue is whether supervisors should retain some discretion in reviewing the scope of institutions, the activities subject to potential separation as well as whether separation would need to materialise. As regards the institutional scope, any threshold may not always capture the right institutions. As regards the activity scope, there may be a case for allowing flexibility for supervisors in how to address particular activities in light of e.g. local market circumstances (e.g. market-making provisions by banks may be regarded as more useful where public markets are particularly illiquid). Finally, as regards the decision of whether separation would automatically materialise, specific characteristics of banks may be such that the objectives of structural reform are not put at risk or that diseconomies of scale and scope do not arise. Therefore supervisors may want to exempt them from separation requirements. There is therefore an *a priori* case for a degree of supervisory discretion.

However, this needs to be constrained for both practical and legal reasons. First, structural separation decisions go beyond simple prudential matters and ultimately reflect societal and economic choices as regards the reach of the public safety net. Such policy decisions accordingly need to be taken at political level. Second, supervisory discretion cannot be unlimited if the intention is to ensure consistent outcomes across the Internal Market. Third, unconstrained supervisory discretion reduces legal certainty. For all those reasons, structural separation decisions should be anchored at political level with only a degree of carefully framed powers granted to supervisors.

The ways of designing and framing supervisory powers will be assessed after the comparison of the different reform options as outlined in Table 2.

4.5.3. *Timeline for implementation*

The HLEG called on the Commission to consider a sufficiently long implementation and transition period. There are a number of rationales for considering the time dimension. First, structural separation, no matter how beneficial to society, will yield private costs. Imposing restrictions on the structure of a banking group will by construction limit bank flexibility to freely allocate capital and liquidity within the banking group. Moreover, improved market discipline and more credible resolution will get reflected in higher funding costs at unchanged balance sheet size, in particular for the trading entity. To the extent that bank shareholders and/or bank employees do not shoulder this cost, banks may pass the costs on to borrowers or may not provide the activity at all, which in principle could reduce economic growth depending on whether other alternative actors step in (see section 5.2 for a more in-depth discussion of the social costs and benefits of structural reform). Furthermore, the transfer of

existing assets and liabilities to a potentially new separate legal entity requires time and involves one-off costs, the level of which would depend on the timeline available for implementation. The implementation will also depend on the role of supervisors in reviewing the scope of institutions as well as the activities subject to potential separation. Finally, the EU has adopted or will soon adopt several initiatives in related areas, including Basel III, BRRD and the SRM that will not become fully applicable until 2018 or 2019. Accordingly, in order to allow institutions subject to these related legislative initiatives to implement them in a coordinated manner and to gradually absorb related transition costs, it is appropriate to provide for a similar transition period to implement a future structural reform initiative. The latter should not become applicable before 2019.

5. IMPACT AND COMPARISON OF REFORM OPTIONS

The previous chapters list the problems with respect to the current corporate structure of the large, complex and trading-intensive EU banking groups (Chapter 2), describe the corresponding objectives of structural bank reform in trying to resolve the identified problems (Chapter 3), and outline the range of policy options under consideration to achieve the stated objectives (Chapter 4).

This chapter assesses and compares in qualitative terms the relevant reform options under consideration (the two last columns of Table 2). The chapter should allow understanding the rationale, objectives and viability of the preferred structural reform options. The benefits and costs of the different structural reform options will be compared, qualitatively and where possible quantitatively.

Stakeholder views on different reform options will be considered, bearing in mind the clear divergence of opinion between the responses of the banks on the one hand (against any separation and especially any option going beyond separating proprietary trading) and consumer associations and individuals on the other hand (in favour of full ownership separation, and strong subsidiarisation of all wholesale and investment bank activities as second best) highlighted above and beyond those generally held views, the limited degree of more detailed views on different reform options.

Section 5.1 presents the different criteria used to assess and compare the different reform options' effectiveness, efficiency, and coherence). Section 5.2 discusses the different benefits and costs used to assess and compare the different bank reform options according to the retained assessment criteria. It also stresses that the assessment needs to consider social, rather than private, costs and benefits. Section 5.3 assesses the options based on subsidiarisation according to strict rules (options B, E and H of Table 2); and section 5.4 assesses and compares the reform options related to ownership separation (options C, F and I of Table 2). The assessment in these two sections leads to most options being discarded and a limited number being retained for further assessment and comparison. Section 5.5 assesses the retained options against each other and suggests possibilities to further increase their effectiveness and efficiency. 5.6 discusses the retained options aimed at increasing the transparency of shadow banking. Section 5.7 discusses complementary aspects related to (i) the quantitative estimation of costs and benefits and its difficulties, (ii) international aspects such as territorial scope and impact on international competitiveness, and (iii) institutional scope aspects such as thresholds and the role of supervisors. Section 5.8 further discusses the qualitative impact on the different stakeholder groups of implementing the preferred reform options and responds to arguments raised against structural bank reform.

5.1. Comparison criteria

Three key criteria are applied for the purpose of comparing the different reform options within this Impact Assessment.

- (1) **“Effectiveness”** measures the extent to which the specific or microeconomic reform objectives are being met, i.e. the extent to which social benefits, i.e. benefits to society as a whole, are achieved, notably facilitated resolution and recovery in the bad times, facilitated management, monitoring and supervision in the good times, reduced moral hazard, reduced conflicts of interest, reduced capital and resource misallocation and reduced trading culture contamination across the banking group, and improved competition (see section 3.2);
- (2) **“Efficiency”** assesses the social costs, i.e. costs to society as a whole, incurred when implementing the respective reform options (mainly foregone economies of scope); and
- (3) **“Coherence”** measures the alignment of the reform options with the Commission’s overall policy objectives in general and the degree to which they are complementary to on-going banking reforms.

In the remainder of this Impact Assessment, greater social benefits should be taken to imply greater effectiveness, and vice versa. Greater social costs in turn will imply lower efficiency. Structural reform needs to effectively and efficiently target and address the root problems in the corporate structure of large, interconnected, complex, and trading-intensive banking groups, to the extent that the latter remain TBTF, even after taking into consideration other complementary regulatory measures. As regards the third **“coherence”** criterion, the Commission services take the view that the objectives and impact of all options considered are consistent with and supportive of the broad EU policy agenda and the relevant policy initiatives of the financial reform agenda, and thus in general fulfil the conditions for coherence (see e.g. section 2.3 and Annex A3 as regards complementarity with other policy initiatives in the field of banking). Consequently, this criterion has not been part of the initial assessment of the relevant reform options (sections 5.3 and 5.4). However, the extent to which the implementation of the retained options would rely on supervisory judgement may have an impact on the degree of coherence with broad policy objectives (e.g. the need for a single rulebook, the need to limit the potential for regulatory arbitrage, the desirability of legal certainty, etc.). The options that have been retained as a result of the initial analysis and comparison are thus subject to an assessment in terms of coherence in section 5.5.

5.2. Social versus private benefits and costs

When analysing the impact of structural reform, it is important to distinguish “private” (i.e. stakeholder-specific) benefits and costs from “social” benefits and costs (i.e. benefits and costs for society as a whole).⁴⁵ Whereas private costs and benefits focus on the impact on banks, bank shareholders, bank employees, or the EU banking sector, the latter is broader in scope and targets total or aggregate welfare more generally by incorporating the impact on all stakeholders in society, including bank customers (e.g. depositors, borrowers and consumers of financial services), bank creditors, and taxpayers (i.e. the public finances of governments).

Structural reform is expected to result in increased private funding costs for the banking group, in particular for the trading entity which is being separated from the deposit entity and

⁴⁵ In order to support the qualitative assessment and comparison of reform options, the Commission services have on a best-effort basis attempted to quantify to the extent possible some of the costs and benefits referred to here. See section 5.7.1 and Annexes A10, A11 and A12 for further detail.

hence no longer benefits to the same extent from being implicitly linked to the public safety net. Those funding costs are recurrent private costs. However, they do not necessarily result in any social cost, as the increased funding cost merely reflects the *shift* of bank risk and contingent liability away from the taxpayer and toward the unsecured debt bank creditors that should, in principle, bear the risk (and be properly remunerated for being exposed to it). The increased private funding cost for the bank reflects and is being offset by a decreased (implicit) public subsidy to the benefit of taxpayers. In sum, the increase in the private funding cost due to the removal of the implicit public subsidy should not be considered as a social cost.⁴⁶

5.2.1. Social benefits

The social benefits retained in this Impact Assessment correspond to the microeconomic objectives of the structural reform: facilitate resolution and recovery in the bad times, facilitate management, monitoring and supervision in the good times, reduce moral hazard, reduce conflicts of interest, reduce capital and resource misallocation, and improved competition.

With respect to the latter, evidence suggests that competition in the internal market can be distorted as i) larger banks and ii) banks headquartered in countries with a strong sovereign rating are more likely to benefit from implicit public subsidies (see Annex A4.1 and A4.2). Structural reform can therefore contribute towards restoring a level playing field across small and large banks and across EU Member States.

Social benefits are not only static. Dynamic social benefits are also important, as reduced moral hazard also reduces aggressive balance sheet expansion. Structural reform aims to reduce the undue or artificial promotion or subsidisation of specific excessively risky activities, in particular those that are scalable and transactions-oriented, as opposed to relationship-oriented. Hence, the private cost increase may negatively affect specific banking activities, which is welcome and desirable (despite a corresponding funding cost increase) to the extent that these activities, on balance, have a negative impact on the real economy and society as a whole.

⁴⁶ Note that the direct GDP impact of the funding cost increase will initially be zero, as the increased funding cost implies an offsetting benefit for bank creditors (note that risk is not captured in GDP metrics). However, despite this initial offsetting GDP benefit originating in the higher proceeds for bank creditors, a negative impact on GDP on balance will still materialise over time when the private funding cost increase is passed on to other bank stakeholders. When it is passed on to bank customers through higher borrower rates for households and higher cost of capital for SMEs and firms, household consumption and business investment and hence GDP will be negatively affected (the consumption or investment of creditors will not increase correspondingly, as the higher remuneration reflects higher risk exposure). Alternatively, banks may pass on the cost to their shareholders (lower RoE) or their employees (lower wages), which would again lead to reduced consumption by shareholders and employees and a loss of GDP. However, the evidence so far suggests that this GDP cost may be limited even for a broad trading entity and when introducing conservative estimates about the pass-through rates. In the UK, the long-term GDP level is expected to be reduced with 7.5 basis points when opting for a relatively narrow deposit entity and a relatively strong separation (Impact Assessment of HM Treasury (2013)). This GDP reduction social cost estimate is shown to be almost an order of magnitude smaller than the social benefit of the proposed structural reform, following the estimated reduction in the probability or impact of financial crises (and its impact on economic growth). See also Annex A12 for Commission Services estimates of the impact of funding cost advantages on economic growth.

5.2.2. *Social costs*

The costs to society of structural reform need to be defined carefully. They will mainly consist in reduced genuine economies of scale and scope and increased supervisory costs to monitor and implement the reform.

It cannot be excluded that structural reform will give rise to the loss of genuine scale and scope economies. Combining different activities within one institution may give rise to genuine economies of scope related to risk diversification, revenue economies of scope, and cost economies of scope. There may also be genuine economies of scale as an increased scale may allow spreading fixed costs which can reduce average costs. However, economies of scale are activity-specific and are likely to be relatively small given that only large banks would be subject to structural reform and that empirical evidence on economies of scale for large banks is weak (see Annex A9 for a literature review). There could be however some genuine economies of scope. For example, as explained in chapter 4, integrated banks do have a natural advantage in acting as market makers because of the fact that banks have a variety of other relationships with the clients who want to make trades and the fact that acting as a market maker for a security is often a natural follow-on activity for securities underwritten by the banking group. This may allow integrated banks to perform this activity more efficiently than other market players, thus better serving clients and/or contributing to enhancing market liquidity. This can lead to some recurrent private costs. Such effects should be weighed against potential benefits that could flow from structural separation, as discussed elsewhere in this Impact Assessment.

Related to the notion of risk diversification and economies of scope are also the regulatory capital compliance costs. Regulatory capital compliance costs refer to the fact that banking groups are under an obligation to separate capital to comply with regulatory requirements on an individual and consolidated basis. As a result banking groups are expected to need to hold more capital in the aggregate than without separation, as diversification across activities may reduce the capital needed to meet capital requirements, which represents a loss of economies of scope. This is a recurrent private cost.

Operational costs are costs that banking groups incur from having to operate through separate subsidiaries. Operating with separate stand-alone management boards will be operationally more costly than operating through a single management board. Administrative systems may also have to be separated. These operational costs are recurrent or equilibrium costs. Operational costs as defined above refer to costs borne by banks.

In the remainder of this Impact Assessment, implementation costs will refer to costs borne by regulators and supervisors when writing up and monitoring the compliance of banks with the new regulatory framework on an on-going basis.

There may also be additional transitional or one-off costs related to the setting up of the new legal entities, related to transfers, sales or the winding down of business units, client migration, and corresponding administrative structure changes.

On the other hand, at least some economies of scale and scope may get exhausted when a bank reaches a certain level of assets. Diseconomies of scale such as complexity, conflicts of interest, increased private or systemic risk may dominate. In any case, economies of scale and scope should be evaluated after correcting for the funding advantage that arises from banks being TBTF. After such correction, the literature suggests that economies of scale and scope

are exhausted at relatively low levels of bank balance sheet size.⁴⁷ Those levels are significantly lower than the balance sheet size of the vast majority of banks that would exceed the threshold levels considered for the potential application of structural separation (section 5.7.3.1).⁴⁸

In sum, the literature suggests that genuine foregone synergies between relationship banking and trading activities are exhausted at a fraction of the balance sheet size for some affected banking groups. From a private cost perspective however, funding cost increases will be unavoidable for the trading entity at unchanged balance sheet size and in fact reflect the objective of structural reform to reduce implicit public subsidies for certain trading activities (increased market discipline, reduced competition distortions, no artificial balance sheet growth). Operational costs will be inevitable as well, but seem modest in comparison to the other costs and in comparison to the social benefits. Regulatory capital compliance costs should also not be exaggerated given the strong international push for more and better capital and the recent academic literature (Admati and Hellwig (2013)).

5.2.3. *The impact on economic growth of reducing implicit public subsidies*

Most, if not all, banking activities are valuable and useful to the real economy. But, just like most activities in a market economy, many should not be promoted or subsidised by the taxpayer unless there is an appropriate justification.

Subsidising an activity is a form of government intervention that is justified if it directly addresses a genuine market failure, such as when the activity resolves an information asymmetry (e.g. funding SMEs), avoids negative externalities (e.g. avoiding financial instability), provides a public good (e.g. market liquidity or financial stability) or addresses a market power concern (e.g. due to switching costs or network effects).

It has been argued above that the increased funding costs are the mirror image of reduced implicit public subsidies for the bank. The literature review on implicit public subsidies in Annex A4.1 and related own research in Annex A4.2 concludes that implicit public subsidies are in particular enjoyed by larger banks and are significant compared to their annual profitability.

Is lowering these subsidies justified and would economic growth be affected? To answer this question, it is necessary to determine to what extent the activities that benefit from these implicit public subsidies address genuine market failures, are underprovided, or are not overprovided due to excessive subsidies. Some activities may justify being subsidised but may exceed the optimal level.

At one extreme, there is lending to households and SMEs funded by deposits, where regulatory intervention in the form of explicit deposit insurance is warranted to avoid bank runs. At the other extreme, proprietary trading is a banking activity that is not customer-oriented or related to another core banking function, but only aims at generating profits for the bank. Therefore, it seems hard to justify that implicit public subsidies are channelled toward such activities by allowing deposit-taking banks to perform such activities.

⁴⁷ Several of the benefits of structural reform listed in Section 3.2 can be interpreted as eliminating potential *diseconomies* of scope in large and complex banking groups (such as excessive risk taking, lack of resolvability, and conflicts of interest). Whereas the benefits stress the beneficial impact of eliminating distortions on incentives and behaviour, we (should) quantitatively correct for the distortions when assessing the economies of scale and scope. Annex A9 provides a review of the relevant literature.

⁴⁸ See e.g. Davies and Tracey (2012) that found no economies of scale in a sample of large international banks with assets above USD100bn. See Annex A9 for a review of the relevant literature.

In between, there may be more ambiguous cases. One example is activities related to secondary trading of sovereign debt (e.g. market-making). The potential reduction of market liquidity in secondary markets may to some extent depress primary market government bond prices. The risk of a corresponding yield increase, however limited in comparison to government bond yield levels, may not be desirable at this current juncture. Accordingly, when separating a particular activity, exemptions for sovereign bonds could be considered in light of this uncertainty. Such an exemption would be consistent with the zero risk weight currently assigned to sovereign bonds in the CRDIV. At the same time, an exemption could lead to distortions (e.g. crowding out of private debt issuance), would increase concerns with respect to the accumulation of sovereign debt risks, and the zero risk weight for sovereign bonds is currently under discussion. Given the uncertainty concerning the market response in terms of liquidity and sovereign bond yields, this impact assessment does not propose specific recommendations on this matter that involves a large degree of political judgement. See also section 5.8 for further discussion of the potential impact of structural reform proposals on market liquidity more generally.

5.3. Assessment of reform options based on subsidiarisation according to stricter rules

Options B, E and H (column 2 in Table 2) are reform options that roughly correspond to reforms currently being pursued by EU Member States or being recommended by the HLEG.

As regards strength of separation, these options would all foresee additional restrictions being imposed on the economic, legal, and operational linkages between the deposit and trading (sub-consolidated) entities to ensure the integrity and effectiveness of the separation.⁴⁹ The restrictions aim to effectively address intra-group funding subsidies. In terms of legal separation, it includes restrictions on ownership links between separated entities within the group. This would provide for a stricter degree of economic separation (e.g. separate funding). Irrespective, this includes stricter economic separation in its own right, notably by considering rules on intra-group relations (e.g. requirements that intra-group transactions be on third party, commercial terms; ensuring that current large exposure restrictions are also imposed intra-group and possibly applying stricter requirements for large exposures of deposit entities; providing limits on intra-group guarantees (deposit-taking entity would not support trading entity), and stipulating a higher degree of governance separation (e.g. limits on cross-membership of board directors within the group).

In terms of scope of activities, the reform options differ:

- Reform option B foresees the mandatory separate subsidiarisation of proprietary trading and bank-internal hedge funds within a banking group;
- Reform option E foresees the mandatory separate subsidiarisation of a larger set of trading activities within a banking group, notably proprietary trading (including bank-internal hedge funds), market making, investing, sponsoring, and structuring activities related to “complex securitisation”⁵⁰, and structuring, arranging or

⁴⁹ Annex A7 sets out the alternative options and policy levers to design the stronger legal, economic and operational separation.

⁵⁰ For the purposes of this Impact Assessment, “complex” (and “simple”) securitisation will be defined by reference to the ECB ABS eligibility requirements for repo purposes and as currently elaborated and refined by European supervisory authorities (for example EIOPA in its non-public “technical report on standard formula design and calibration for certain long-term investments”).

execution of “complex derivative transactions”⁵¹. However, subject to supervisory approval, the deposit entity would under this option still be allowed to engage in amongst others underwriting⁵², investing, sponsoring, and structuring activities related to “simple securitisation”, lending to large corporates, and maintaining exposure to private equity or venture capital funds. The latter activities may be underprovided from a social point of view if they are no longer allowed to benefit from the implicit state support and are more of a relationship-oriented nature. They accordingly do not raise similar concerns with respect to introducing a trading culture within the deposit entity. Furthermore, these activities may be of greater importance to the real economy and their separation would accordingly come with a degree of cost to society. Proprietary trading, market making, and complex securitisation, and complex derivatives are more easily scalable and more transaction-oriented in nature;

- Reform option H requires the subsidiarisation of all wholesale and investment banking activities.

Stakeholder views differ on the merits of these reform options. According to the responses from consumer associations and individuals, this degree of separation could be acceptable, provided that it includes a sufficiently broad range of activities. According to those responses, option E would be the minimum acceptable reform option to be effective. Support is to some extent echoed by some institutional investors that call for separation so as to address excessive risk-taking and reduce moral hazard. Bank respondents, on the other hand, highlight the costs in terms of foregone efficiency associated notably with subsidiarising a broader activity range such as in options E and H. Bank respondents, as well as corporate respondents, also argue that market-making in their view is a socially useful activity, the provision of which may be hampered by reform along the lines of E or H.

5.3.1. *Social benefits*

Options B, E and H are likely to be effective in facilitating resolvability and monitoring, reducing moral hazard, reducing conflicts of interest, reducing resource and capital and resource misallocation, and improving competition, albeit to different degrees and depending on the specific subsidiarisation rules.

5.3.1.1. Facilitate recovery and resolution

In terms of resolvability, subsidiarisation into a simpler group structure with further restrictions to separate the different entities should facilitate the assessment and allocation of losses, while making constituent entities that fail smaller and provide authorities with additional options to orderly resolve parts of or entire banking groups. It should enhance the credibility of the application of any resolution tool, and hence of the process of orderly resolution of failing banking groups

⁵¹ In the context of this Impact Assessment, “complex derivative transactions” refer to the structuring, arranging or execution of derivative transactions other than standardised interest rate and foreign exchange derivatives transactions for the prudent management of liquidity, funding and overall balance sheet risk (i.e. to perform its asset and liability management). In principle, the compensation package of the dedicated staff that is to perform the prudent management should reflect the hedging objective and cannot consist of bonuses that per definition are linked to the profitability of the unit or overall banking group.

⁵² In the context of this Impact Assessment, “underwriting” is interpreted in the broad sense, as also incorporating the market making activity that underwriters typically perform in the days following primary market transactions. See Annex A6.

Separating proprietary trading, market making, complex securitisation activity, and complex derivative activity all facilitate recovery and resolution in the bad times for the following reasons.

Proprietary trading potentially gives rise to large open positions subject to market risk and counterparty risk (risk that the counterparty to the investment will fail to pay) as well as interconnectedness between institutions. Conversely, having to unwind less large open positions and not being interconnected with other banking groups to the same extent will facilitate the recovery and resolution of the deposit entities. The potential opaqueness, complexity and interconnectivity of proprietary trading represent important impediments to orderly and swift resolution. Following separation the balance sheet of the trading entity is also expected to shrink as the risks associated with its activities are fully priced. This will induce better market discipline and reduce resolvability impediments.

Note that the impact of subsidiarising proprietary trading on the resolvability of the bank may currently be relatively limited as most banks claim that they do not engage in proprietary trading to any significant extent. However, evidence suggests that the extent of proprietary trading activities has gone down substantially since the start of the crisis.⁵³ Absent specific restrictions on proprietary trading activities there is no safeguard that would prevent banks from expanding such risky activities in the (near) future. Moreover, the limited data that does exist typically tend to measure only dedicated proprietary trading desk activity.⁵⁴

Individual trading positions are treated the same way in resolution whether they result from client-driven market making or proprietary trading. Given the relative importance of market making and the quantity of positions needed to be resolved, and given the fact that market makers are typically interconnected with other large banking groups, a separation of market making activities could also have significant social benefits in terms of facilitating resolvability.

Complex forms of securitisation and derivatives allow for opaqueness and complexity which impede swift resolution and recovery. Complex securitisation also allows for significant growth in short-term debt between financial intermediaries and leads to financial intermediaries becoming intertwined.

The stricter the rules on subsidiarisation, the more resolution and recovery will be facilitated as the separated trading entity will have been run and organised on a more autonomous basis. This provides authorities with more options for swift and orderly resolution in a scenario in which parts of the group (or the group as a whole) need to be resolved. Moreover, the relevant trading activities would not be provided on the same scale as the separated trading entity would be subject to more effective market discipline.

⁵³ Many of the leading UK banks have told the UK Parliamentary Commission on Banking Standards that they do not engage in proprietary trading at all. The same message was given by Dutch banks to the Members of the Commission on the structure of Dutch banks. A non-public Febelfin survey provides evidence that proprietary trading amounts to 2% of trading revenues for Belgian banks in the first semester of 2012, down from 13%, 11% and 8% in 2009, 2010, and 2011 respectively. In turn, trading revenues are estimated to amount to 9% of overall bank revenues in the first semester of 2012. The French and the German structural reform proposals propose to subsidiarise proprietary trading. Their cost-benefit analysis findings have not been made public, but BNP Paribas corporate banking and investment banking revenues are estimated by the banks to be impacted by the government plans by less than 2%. Annex 2 of National Bank of Belgium (2013) documents how trading activity more generally has evolved between 2008:Q1 and end 2012 for the four largest Belgian banks.

⁵⁴ See US GAO (2011) and PCBS (2013).

All three reform options facilitate resolvability, but options E and H arguably more than option B, given the limited importance of proprietary trading and the broader activity scope.

Underwriting is not as easily scalable as pure market making. Given that underwriters typically retain a significant fraction of issued securities in their inventories and play an active market making role immediately after the issuance, resolution may be improved by separating underwriting from deposit taking, as the inventory of relatively illiquid assets will be smaller. However, underwriting does not give rise to similar interconnectedness across financial institutions, as is the case with market making. All in all, underwriting is a more relationship-oriented activity and less scalable as market making. The additional benefits in terms of banking group resolvability of moving from option E to option H are hence limited.

Box 1: Interaction and consistency of structural reform with the single point of entry and the multiple points of entry resolution strategies

The BRRD requires banks to submit recovery and resolution plans to the competent resolution authority. The FSB guidance, published in July 2012, indicates that large global banks will be forced to choose between two “resolution mechanisms”, which will dictate how they restructure themselves and ensure that crucial banking functions – payment systems, trade finance and deposit taking – can continue, no matter what happens to the larger group. These two stylised approaches are known as the “single point of entry” (SPE) resolution, in which resolution powers are applied to the top of a group by a single national resolution authority (for banks such as Goldman Sachs and JPMorgan that operate as an integrated group) and the “multiple point of entry” (MPE) resolution in which resolution tools are applied to different parts of the group by two or more resolution authorities acting in a coordinated way (for banks such as Santander and HSBC, that operate as locally capitalised subsidiaries).

Which type of resolution strategy (SPE or MPE) is better for a particular group will depend on the structure of the group, the nature of its business, and the size and location of the group’s losses. In either case, for bail-in to be the chosen resolution tool there needs to be sufficient loss absorbing capacity in the relevant legal entities.

From the perspective of banks the preferred resolution strategy will depend on their structure, jurisdiction and the attitude of the supervisors and regulators. Some banks may find it prohibitively expensive to raise local capital for the MPE strategy, and will opt for the SPE whenever possible. However, regulators may oblige putative SPE banks to hold significantly more capital at the group level, inducing other banks to opt for the MPE method. Either way, investors stand to benefit from more public disclosure, from both regulators and the banks, of what will happen in the event of a crisis.

The obstacles to resolution will differ between resolution strategies. In SPE strategies, obstacles may arise from the location of primary loss absorption capacity; debt instruments governed by foreign law; and inadequate management information systems that do not support rapid valuation of losses. In MPE strategies, obstacles include legal, financial and operational dependencies within a group. Obstacles relevant to both strategies include immediate rights of exercise of termination clauses in contracts held by a bank’s counterparties and the exercise of cross-default clauses.

Under subsidiarisation with additional restrictions reform options (SUB+), the trading entity needs to be separately capitalised and funded and therefore will always be identified as a “point of entry”. Thus it should have sufficient loss absorbing capacity (“LAC”) to cover its likely losses in resolution and those of subsidiaries below it for which a separate resolution is not planned. Alternatively, it should be capable of being wound down without affecting the rest of the group. Debt is likely to be issued by operating subsidiaries to third parties, with the consequence that the use of resolution powers to convert debt to equity may result in a change of ownership, loss of control by the top parent or holding company and, potentially, separation from the group. The resolution strategy should address how such change of ownership and separation from the group can be implemented without disruption to the entity’s critical operations. The bank holding company can hold equity in the trading entity but only at arm’s length and constrained by large exposure limits. Thus losses at the level of the trading entity (or its subsidiaries) cannot be up streamed to the parent company, by recapitalising the trading entity with excess capital from the parent or from any of the non-ring fenced deposit taking entities. The bank holding company may still opt for an SPE approach for non-ring fenced subsidiaries.

The interaction between structural reform and resolution strategies under BRRD will need to be discussed between the supervisor and the resolution authority, subject to consultation procedure to be established.

5.3.1.2. Facilitate monitoring, management, and supervision

Subsidiarisation with further restrictions will materially improve market discipline and increase transparency in the stand-alone performance of the different parts of the group. The reason is that restricted interconnections will no longer allow shifting profits and losses within the group and will render rules related to governance more effective.

Separating proprietary trading, market making, complex securitisation, and complex derivative activities facilitates monitoring, management, and supervision.

Increased market discipline on the trading entity facilitates the latter's supervision, even without factoring in the likely reduction in proprietary trading, market making, complex securitisation, and complex derivatives that result from enhanced market discipline.

The nature of proprietary trading hinders the ability of regulators, supervisors and bank managers to properly understand and thereby calibrate the risks taken, in particular tail risk (i.e., the risk that an investment will perform significantly worse than expected). It is equally complex to apply the correct capital treatment so that banks have sufficient resources to absorb losses if these occur. Proprietary trading can also be a high-frequency activity that may result in thousands of daily transactions. As a result, snapshots of the positions of these activities may have limited predictive value for future positions. This rapid movement in underlying positions significantly raises monitoring costs for the management of the banks and for market participants (such as bank creditors and shareholders).

Bank management and external monitoring by the market and supervisors will be facilitated, as the activities that are most scalable and hence difficult to monitor would be located in separate subsidiaries with their own separate governance. Subsidiarisation with restrictions would yield stronger benefits in this regard, given the stronger degree of governance separation. The additional restrictions applied to the respective entities will ensure that it becomes easier to assess the stand-alone performance of the different entities.

All three reform options facilitate management and monitoring, but options E and H arguably more than option B, given their broader activity scope. As the additional activities to be separated under reform option H are not as significant and scalable as market making, the additional benefits in terms of facilitated monitoring of moving from option E to option H are correspondingly small.

5.3.1.3. Reduce moral hazard

Separate funding requirements and restricted interconnections between sub-consolidated entities will impose a significant increase in market discipline on the trading entity. As a result, depositors would be better shielded from risk-taking originating from subsidiarised trading activities, also because intra-group large exposure rules would apply (can no longer be waived).

Separating proprietary trading, market making, complex securitisation, and complex derivative activities will reduce excessive risk taking. Through subsidiarisation, these activities would not benefit (to the same extent) from the implicit public subsidies which would also help to re-align private and social interests. The resulting increased funding cost would reflect the inherent riskiness of the activity (although systemic risk may still not be adequately reflected in the institution-specific funding cost). As a result, moral hazard in the trading entity will be reduced.

Proprietary trading is an inherently risky banking activity that is by definition not customer-oriented. It has the ability to produce "tail risk" or systemic risk and is easily scalable (in comparison to more relationship-based activities such as lending). When part of a larger

banking group, traders benefit from lower funding costs and as a result have the ability and incentive to take significant risks, even without having access to liquidity (through short-selling positions). Separating proprietary trading from the deposit entity allows shielding depositors from this type of risk-taking.

When facilitating client business through market making, a bank is likely to try and hedge most of its risks. Hence, genuine market making is generally considered to entail limited market risk. However, the actual exposure to risk may vary depending on the liquidity of the instruments, on changes in market volatility and on significant variation in the sizes of positions that market making clients may wish to acquire or liquidate. Moreover, there may be a mismatch between the position and the hedge (basis risk) and the hedge will need to be rebalanced over time as market moves alter risk profiles. Furthermore, market makers are still exposed to high counterparty risk and the concrete functioning of market making can vary in relation to different financial instruments and market models.

Given its importance as a share of trading revenues, market making entails significant risk and separating it from the deposit entity could significantly reduce moral hazard, excessive risk taking, and artificial balance sheet expansion.

In terms of reduction of moral hazard and excessive risk taking, the legal, economic, and governance requirements to be imposed under the stricter form of subsidiarisation of options B, E, and H would reduce risk taking incentives by forcing the trading entity to internalise the true cost of its risk taking and to more strictly separate it from the public safety net associated with insured deposits through (possibly sharpened) intra-group large exposure rules.

By separating banking activities from core deposit-related activities, the funding of these activities would become more risk-sensitive. As a result, banks would have less of an incentive to engage excessively in these activities. The extent to which funding becomes fully risk sensitive depends on the degree of separation. Accordingly, subsidiarisation with restrictions that give rise to a stronger degree of economic and legal separation will result in more effective market discipline compared to subsidiarisation as such.

Prudential regulatory requirements, aimed at promoting the stability of financial institutions currently apply at the consolidated group level (and at the individual level, but only if they are not waived). At the core of these prudential standards are the requirements for banks to hold buffers of capital and liquidity to absorb losses (in the case of capital) and to provide emergency funding (in the case of liquidity). A structural separation would entail different entities holding separate capital and liquidity buffers, thereby aligning the cost of regulation more closely with the risk. This promotes market discipline. It would also mean that the entities would have separate funding requirements, ending the risky cross-subsidy of trading activities with deposits.

All three reform options reduce moral hazard, but options E and H arguably more than option B, given their wider activity scope. Underwriting is not as easily scalable as pure market making. The scope for moral hazard reduction is still significant, but smaller than for market making. Market making as a follow-on activity of underwriting does imply that significant securities and derivatives inventories are being built up, and hence that risks are potentially significant, but hedging instruments exist and risks can in principle be monitored and managed. The scope for additional moral hazard reduction when shifting from option E to option H is accordingly limited.

5.3.1.4. Reduce conflicts of interest

Subsidiarisation with further restrictions will address conflicts of interest, to the extent that governance rules reach further than outlined in the CRDIV, and especially if there is a duty on

the banking group to uphold the integrity and objectives of the separation. The restrictions allow safeguarding the separation objectives and ensure that a short-term trading culture will not continue to unduly influence the relationship-oriented deposit entity.

Separating proprietary trading, market making, complex securitisation, and complex derivative activity reduces the scope for conflicts of interest and avoids that a short-term oriented trading culture gets installed within a deposit entity.

Proprietary trading is particularly prone to conflicts of interests because the bank in its role of proprietary trader no longer is a service provider to its client, but becomes a potential competitor and hence faces interests that are no longer aligned with those of its clients. The bank can make improper use of client-related information to increase its own profits. The commercial bank department may have private information about the likely bankruptcy of a firm it has granted a loan and may buy credit protection against the default of the firm from the unsuspecting public, thereby reducing its own credit risk whilst earning a fee.

In theory, genuine market making aims at facilitating client business and hence bank interests are supposed to be aligned with customer interests. However, principal-agent problems need not to be confined to proprietary trading given that market making and proprietary trading activity are difficult to disentangle for outsiders to the actual transactions.

In general, if markets are opaque, such as is the case in over-the-counter markets, and if market makers have superior access to information, collusion and exploitation of conflicts of interests may occur. The origin of the problem is an inherent conflict of interest. Banks possess (asymmetric) information in the form of customer trade details, including the number and size of trades to be executed. And they have knowledge that their own proprietary positions could be harmed without (or could benefit with) trader intervention. The banks allegedly act on that knowledge, against their customer's best interests and in favour of their own, as evidenced in recent banking scandals, related to front running, FX bid rigging, Libor benchmark rate setting, etc.⁵⁵

Stricter rules of subsidiarisation, for example on governance separation, would provide further checks.

All reform options reduce conflicts of interests, but options E and H arguably more than option B, given their wider activity scope.

Separating underwriting will reduce the scope for conflicts of interests, as the interests of the bank as underwriter and as loan provider are typically not aligned.⁵⁶ Within a large and diversified banking group, the commercial bank department may have private information about the likely bankruptcy of the firm it has granted a loan and may hence encourage the underwriting department to sell bonds or issue shares to the unsuspecting public, thereby reducing its own credit risk whilst earning a fee. Banks have an incentive to hedge their risk as underwriters, guaranteeing the proceeds of the share issue, but this may potentially have an adverse impact on their clients' share price. Alternatively, a bank's lending division may feel pressured to provide bank loans to a firm whose shares have been issued by the bank's underwriting division, even though such loans would not be granted absent any such in-house pressure. Some studies indicate that earnings forecasts and stock recommendations provided

⁵⁵ Market makers often have signed on to a voluntary code of conduct, which already considers manipulative practices by banks with each other or with customers to be "unacceptable trading behaviour". However, the multiple financial scandals in the years since signing these voluntary agreements cast doubt on their effectiveness.

⁵⁶ Kroszner and Rajan (1994), Kroszner (1998), Hebb and Fraser (2003) and Stiglitz (2010).

by an analyst working with the lead-underwriter are on average inaccurate and positively biased, and unaffiliated analysts perform better and provide higher long-run value to their customers.⁵⁷ The main concern is that the bank uses the informational advantage it gains from conducting different activities to its own advantage, thereby misleading customers and investors.

Having said that, evidence does not suggest that there are obvious conflicts of interests between underwriting and loan making.⁵⁸ In fact, it suggests that bonds underwritten by commercial banks default less often than bonds underwritten by investment banks. However, the conflicts of interest seem more severe and more likely to exist in a universal bank that has an underwriting division together with an asset management division. These studies seem to support the view that asset management divisions may feel pressured by the bank's underwriting division to buy and hold poorly performing issues to make a customer satisfied, even though this may be unwise.

Next to internal monitoring and controlling procedures, there is outside regulation (for example with respect to insider trading and market manipulation in the context of the Market Abuse Directive/Regulation)) and the rule of law to contain the exploitation of possible conflicts of interests. In principle, the market can also respond to apparent conflicts of interests, thereby constraining their scope. The market can penalize the service provider if it exploits conflicts of interest in the form of a higher funding cost or lower demand for its services even to the point of forcing the provider into bankruptcy. The market can also promote new institutional means to contain conflicts of interest by generating a demand for information from non-conflicted specialized organizations.

However, the market is likely to be unable to contain the incentives to exploit the conflicts of interests. For the market to be able to do this it needs to have information on whether exploitation might take place. Sometimes, such information is simply not available or would require the revealing of proprietary information that would benefit a firm's competitors, thus reducing the incentives to reveal this information. Sometimes when corporate governance is poor, even the top management of the firm is not aware of the conflicts of interest and mala fide opportunistic individuals are able to capture the firm's reputational rents.

All in all, the above suggests that reform option H may be superior to option E as regards reducing the scope for conflicts of interests.

5.3.1.5. Reduce capital and resource misallocation

Depending on the separation restrictions and restrictions on intra-group pricing policies, trading activities will no longer enjoy cross-subsidies to the same extent and will de facto be distanced more from public safety net coverage (and its corresponding benefits). Hence, trading activities no longer are artificially promoted to the same extent.

Subsidiarisation rules impose limits on shifting excess capital within the wider corporate group, which reduces the incentives for the parent/trading entity to encourage the allocation of capital and human resources to trading and away from lending activity.

Separating proprietary trading, market making, complex securitisation, and complex trading activity reduces capital and resource misallocation.

⁵⁷ See Hodgkinson (2001) and Bessler and Stanzel (2009).

⁵⁸ Kroszner and Rajan (1994), Puri (1994), Benston (1990), Hebb and Fraser (2002), Hebb and Fraser (2003).

The traditional *raison d'être* of deposit-taking banks is to be a financial intermediary between savers and investors (and thereby competing with capital markets that play a similar role). In comparison to capital markets, who intermediate more directly between savers and investors, deposit-taking banks are relatively good at: (i) monitoring and knowing their customers, i.e. resolving information asymmetries; (ii) providing insurance against idiosyncratic liquidity risks faced by households and firms; (iii) pooling risks efficiently; and (iv) performing risk-return tranching services to customers. None of these roles is fulfilled by proprietary trading. As such, bank capital and human resources are being misallocated to the extent that they are put at work in proprietary trading rather than in engaging in loan making and other core banking services.

The inherent riskiness of trading attracts and requires people who are good at taking short-term risks rather than lenders with a long-term perspective. Absent separation, a short-term return oriented culture may arise within the entire banking group, given the relatively high profitability (without adjusting for the riskiness, that is) associated with trading.

Academics have argued that market makers hamper the development of securities markets (Zingales (2012)). Large universal banks are currently accused of having protected their indispensable position in the global credit default swaps ("CDS") market through control of a trading body and information provider, which vetted whether new exchanges should be licensed. The alleged harm consists of exchanges being blocked from bringing part of the over-the-counter CDS transactions onto public exchanges, which would have resulted in lower transaction costs for their investor-customers, as well as in less financial instability as over-the-counter ("OTC") markets are more opaque and involve more counterparty risk.

To the extent that the additional restrictions reduce the implicit public subsidies and introduce effective market discipline on the trading entity, the latter will no longer be able to artificially and aggressively expand to the detriment of the deposit entity. Hence, this will result in fewer distortions away from lending and towards trading activities.

All three reform options reduce capital and resource misallocation, but options E and H arguably more than option B, given their broader activity scope. Given that underwriting is also a relationship-based activity, not easily scalable and may be underprovided when distanced from the public safety net, the justification for mandatory separation of underwriting to enhance capital allocation is weak. Reform options E and H can be deemed equivalent in this respect.

5.3.1.6. Improve competition in the EU banking sector

To the extent that implicit public subsidies to TBTF banking groups will be reduced in the reform options that require subsidiarisation of trading entities with further restrictions, competition distortions will also be reduced and the level playing field between banks in the Internal Market (large versus small but also across Member States) restored.

To the extent that the restrictions introduce more effective market discipline on the trading entity, competition on the merits between small, medium-sized and large banks will be promoted. Smaller and medium-sized banks will benefit as they currently do not enjoy equally high implicit subsidies (see Annex A4.1 and A4.2). Also competition among banks subject to subsidiarisation would be placed on a more equal playing field as there would be less scope for some banks benefiting more from implicit support due to a given Member States' perceived ability, willingness and incentive to intervene. Similarly banks that are less interconnected with other banks and banks that are better capitalised would also benefit as they tend to benefit less from implicit subsidies than other banks (see Annex A.4.2). In that respect, separating proprietary trading, market making, complex securitisation, and complex

derivatives (option E) or even all wholesale and investment banking activities (option H) would improve competition in the EU banking sector more than just separating proprietary trading (option B).

Options E and H will both significantly improve the competitive environment of EU banking. Arguably, given that option H is more prescriptive as to the mandatory separation of banking activities, option E will result in greater diversity in EU bank business models and hence be preferred over option H.

5.3.2. *Social costs*

5.3.2.1. Foregone economies of scale and scope

Economies of scope consist in risk diversification, cost economies of scope, and revenue economies of scope. All three reform options maintain the universal banking model but introduce varying degrees of structure as to how activities should be grouped together and as to which activities are allowed to be performed by a deposit entity that enjoys access to a public safety net. The reform options aim to (partially) retain the potential economies of scope, whilst eliminating the potential diseconomies of scope (i.e. achieve the social benefits).

Given the limited importance of proprietary trading the corresponding risk diversification economies of scope are likely to be immaterial. Therefore there should not be significant risk diversification benefits lost in option B.

Genuine economies of scope related to lost risk diversification opportunities are possibly non-negligible for market making given the importance of market making for a bank's revenues. However, given that the activities are not banned from the group altogether (no prohibition, just subsidiarisation), the risk diversification economies of scope are partially retained within the group for reform options E and H.

Risk diversification costs are particularly pronounced for reform option H as it foresees the mandatory separation of all WIB activities, including activities that are of great importance to the real economy and which deserve more to be linked to the public safety net (and hence enjoy certain subsidies), given that they address genuine market failures.⁵⁹ However, option H may score somewhat better in terms of cost economies of scope as it mandates underwriting and market making to be grouped together within the trading entity. This avoids costly duplication between underwriting and follow-on market making and secondary market making activities.

In option B, however, the main lost economy of scope may arise from the fact that separating proprietary trading from market making may give rise to important infrastructure duplication and hence lost cost economies of scope. The lost cost economies of scope may be significant for option B, given that traders will need to make use of separate infrastructure, depending on whether they engage in proprietary trading or market making. Options E and H score better

⁵⁹ Underwriting is a case in point. Underwriting and advisory services require relationship-building with clients. These traditional (investment) banking activities are closely connected to corporate banking. From the corporate client's perspective, issuing a bond is an alternative way of financing to taking a bank loan. Given that underwriting is not as easily scalable as pure market making, the scope for moral hazard reduction is significant, but smaller than for market making. Underwriting as such does not give rise to significant interconnectedness across financial institutions. The evidence does not suggest that conflicts of interests are obvious between underwriting and loan making. In fact, it suggests that bonds underwritten by commercial banks default less often than bonds underwritten by investment banks. There may be economies of scope to be enjoyed from spreading fixed costs of acquiring information over multiple outputs; more specifically, concurrent lending and underwriting could be beneficial.

than B in that respect, as they keep trading activity together in a single trading entity and hence avoid costly infrastructure duplication.

5.3.2.2. Operational costs

All three reform options require the establishment of separate legal entities to conduct either proprietary trading related activities (option B), a broader set of activities (option E), or all wholesale and investment banking activities (option H), whereby specific additional legal, operational and economic restrictions between the respective trading and deposit entity should be introduced, monitored, and enforced.

Although these costs cannot be avoided they are likely to be relatively modest compared to the potential benefits that can be reaped from these reforms (see e.g. ICB (2011) and HM Treasury (2013)). Moreover, costs can be minimised by giving banks a sufficiently long phase-in period.

5.3.3. Conclusion

Among the three retained reform options that require separate subsidiarisation of a deposit and trading entity with additional regulatory restrictions, the Commission services consider that implementing reform option E is the best way forward in the EU context and would represent a significant improvement over the no policy change alternative.

The bulk of the benefits of the universal banking model are retained in all three reform options. However, option E yields significantly greater social benefits compared to reform option B. The separation of proprietary trading, market making, complex securitisation and complex derivative activity limits banking groups' ability to take excessive risks through easily scalable trading activities and avoids that a short-term oriented trading culture contaminates the more traditional banking activities. It also achieves greater resolvability in the bad times and monitoring in the good times. It ensures (or, better, allows) that those and only those activities that would otherwise be underprovided benefit from the implicit state support. The separation in option B appears to yield lower social benefits due to its significantly narrower activity scope (proprietary trading is currently not performed by large EU groups to a significant extent). Whereas option E will give rise to greater social costs compared to option B, as the scope for risk diversification is also lowered correspondingly, these social costs are capped because subsidiarisation allows transferring (excess) capital from the trading entity to the deposit entity, as long as minimum regulatory requirements are met. In sum, option E yields greater net social benefits than B.

Option E is also deemed preferable by Commission services compared to reform option H, as it achieves similar benefits whilst, in principle, being less prescriptive and exhaustive as to the set of activities to be mandatorily separated. However, the mandatory separation of the entire set of wholesale and investment banking activities from banking groups in the EU may be preferable conditional on the specific circumstances of national banking systems, in particular where banks operate within a large financial system and can be heavily exposed to international financial markets. In any event, in light of the uncertainty as to the impact of the relatively broad structural reform options it may be desirable to err on the side of caution as regards the location of the fence and to leave discretion to the banks, subject to supervisory approval and constraints, which bundle of activities they would like to place in addition to the trading entity mandated activities in the trading entity. Recall that option E is also preferred over option H by the High Level Expert Group chaired by Erkki Liikanen

5.4. Assessment of reform options based on ownership separation

Options C, F and I foresee the ownership separation of respectively proprietary trading (C), proprietary trading and market making (F), and all wholesale and investment banking

activities (I). The banking groups concerned would accordingly be prohibited from engaging in certain activities. These reform options are hence the most intrusive ones of all the reform options in Table 2 and would remove the separated activities from the perimeter of the regulated and supervised banking group. This section again first assesses the social benefits and costs of ownership separation and then assesses the social benefits against costs of the three options in light of the different activity scope.

The options based on ownership separation are the ones that get the strongest support from consumer associations and individual respondents to the stakeholder consultation. Together with some non-bank financial respondents, they stressed that these options, and in particular option I, would be the simplest and most effective options in the long term. Bank respondents, as well as corporates, on the contrary highlighted the significant costs that in their view arise from ownership separation compared to other reform options.

5.4.1. *Social benefits*

All reform options based on ownership separation would lead to social benefits. Typically these benefits would increase with the scope of activities subject to such separation, although the nature of the specific activity obviously will also matter.

5.4.1.1. Resolution

Ownership separation facilitates resolution of the banking group mainly because the risks linked to the prohibited activities no longer feature on the balance sheets of the financial institution. As a result, the remaining banking groups would become less complex and smaller in size.

All three reform options facilitate resolvability in this respect, but options F and I arguably more than option C given the limited importance of proprietary trading relative to other wholesale and investment banking activities and relative to its pre-crisis size. However, evidence suggests that the extent of proprietary trading activities has gone down substantially since the start of the crisis⁶⁰ and absent specific restrictions on proprietary trading activities there is no safeguard that would prevent banks from expanding such risky activities in the (near) future. The limited data that does exist typically tend to measure only dedicated proprietary trading desks (see also section 5.5.1.1 on implementation challenges).⁶¹ Moreover, speculative proprietary trading can take place alongside customer-related trading and be performed elsewhere within the banking group (for example, treasury management and market making). Given the alleged currently low activity level now may be an opportune moment to address the potential future risks of proprietary trading and to prevent a renewed surge in the future within large and complex banking groups.

5.4.1.2. Monitoring, management and supervision

Monitoring, managing and supervision would be facilitated as the activities that are most scalable and complex and consequently difficult to monitor would be located outside the financial institution. Ownership separation would yield stronger benefits in this regard compared to the subsidiarisation options assessed in section 5.3.

All three reform options facilitate management and monitoring, but options I and F arguably more than option C given their broader activity scope. However, as the additional activities to be separated under reform option I (notably underwriting) are not as significant and scalable

⁶⁰ See footnote 72.

⁶¹ See US GAO (2011) and PCBS (2013).

as market making the additional benefits in terms of facilitated monitoring of moving from option F to option I are correspondingly small.

In addition, as explained below, the Commission has recently issued a roadmap for tackling risks inherent in shadow banking thus mitigating the risk that the separated activities would shift to shadow banking.

5.4.1.3. Moral hazard

An important advantage of ownership separation is that, while intrusive, it is a pure “structural” reform which after implementation would significantly alleviate the need for continuous enforcement and supervision of the separation.⁶² Ownership separation should effectively and significantly reduce the implicit state subsidy (expected bail out) enjoyed by financial institutions that are taking insured deposits and from that perspective remove the moral hazard linked to safety net coverage.

All three reform options reduce moral hazard, but options F and I arguably more than option C, given the broader activity scope. Again, underwriting is not as easily scalable as pure market making and, hence, the scope for moral hazard reduction will be significant, but smaller than for market making. Market making as a follow-on activity of underwriting does imply that significant securities and derivatives inventories are being built up, and hence that risks are potentially significant. However, hedging instruments exist and risks can in principle be monitored and managed. All in all, the scope for additional moral hazard reduction when shifting from option F to option I is limited.

Option C is a superior way to address the moral hazard associated with proprietary trading compared to option B, as it protects retail banking activities more effectively from the risks stemming from this activity. However, given that most banks claim that they currently do not engage in significant proprietary trading activity, the impact of ownership separation of proprietary trading will primarily be to have a preventive effect going forward.

5.4.1.4. Conflicts of interest

Ownership separation is the cleanest and most effective way to eliminate conflicts of interest arising from engaging in certain activity combination. This would be particularly valuable for proprietary trading (option C), as it is particularly prone to conflicts of interests (see section 5.3 and Annex A6). It is also valuable for underwriting, as the interests of the bank as underwriter and as loan provider are typically not aligned. The benefit would be less pronounced for market making even though principal-agent problems may arise there as well, particularly in more opaque OTC markets.

All reform options accordingly reduce conflicts of interests but to a varying degree. Option C has the narrowest scope but nevertheless addresses the activity where conflicts of interest and potential bank culture contamination are the most significant.

5.4.1.5. Capital and resource misallocation

With the most risky trading activities no longer on its balance sheet, a financial institution is able to entirely focus on and allocate more resources to its core and traditional role of lending to the real economy and acting as an intermediary between savers and borrowers.

All three reform options reduce capital and resource misallocation, but options F and I arguably more than option C given their broader activity scope. Even so, given that

⁶² It might, however, need to be enforced through line-of-business restraints.

underwriting does not give rise to a trading culture and may be underprovided when distanced from the public safety net, the justification for ownership separation of underwriting to enhance capital allocation is weak.

5.4.1.6. Competition

Ownership separation eliminates implicit cross-subsidies and ensures effective market discipline on the trading entity. Competition on the merits between small, medium-sized and large banks and across Member States is accordingly promoted. Smaller and medium-sized banks benefit, as they currently are not likely enjoying equally high implicit public subsidies (see Annex 4.1 and A4.2). In that respect, the ownership separation of proprietary trading, market making, and complex securitisation (option F) or even of all wholesale and investment banking activities (option I) improve competition in the EU banking sector more than just separating proprietary trading (option C). However, given that those options are far-reaching (prohibiting the concerned EU banking groups from engaging in many or all WIB activities) option C would be easier to reconcile with the significant diversity in EU bank business models.

5.4.2. *Social costs*

Ownership separation would in general lead to more significant losses of economies of scope compared to options based on subsidiarisation reform options. It would also trigger a migration of certain activities toward non-bank credit intermediaries (so-called "shadow banking entities").

5.4.2.1. Foregone economies of scale and scope

Ownership separation is the most intrusive form of separation as it results in the elimination of economies of scale and scope (while for example under subsidiarisation economies of scale and scope can be maintained to a significant extent). Whereas all other reform options maintain the universal banking model and merely intend to introduce more structure into the group, ownership separation reform options are no longer compatible with the universal banking model as it exists today in the EU, in particular when considering a broader set of activities, such as in F and I.

Ownership separation would eliminate the extension to the prohibited activities of the implicit subsidy resulting from the safety net. Those activities would accordingly become more costly, which would, other things being equal, lead to a reduction in the scale of those activities and by extension a reduction in the systemic risk.

As a result of ownership separation, the loss in economies of scope (and to a certain extent scale), would be greater than for other options (subsidiarisation without or with additional rules and restrictions) and would have the highest effect in terms of increased private funding and capital costs. These costs tend to increase with the strength of separation for the entities that include the most risky activities. If some of these activities perform an important role in the economy these additional costs may have further efficiency effects in other segments of the economy.

However, social costs appear relatively limited for ownership separation of proprietary trading (option C). A prohibition of proprietary trading is unlikely to lead to a significant loss of efficiency for large banks, as proprietary trading comprises a relatively small part of those banks' activities, and the social cost is in any case limited given that the activity can be and is performed by non-banks. Given the size of proprietary trading, there would be no lost economies of scale, as at very large asset levels economies of scale are likely to be exhausted (see Annex A9). One type of economies of scope loss is the loss of diversification benefits (of capital and profits). Channelling of profits and capital between the bank and the proprietary

trading activities would no longer be possible and therefore diversification benefits between proprietary trading activities and banks' remaining activities would be lost. It is doubtful that such scope for diversification would be very substantial for the remaining bank, given that larger banks do not engage substantially in proprietary trading activities. Furthermore, given the very risky nature of proprietary trading and the low complementarity of proprietary trading with other traditional activities of banks, proprietary trading activities would rather lead to diseconomies, rather than economies, of scope through excessive complexity, risk taking and even systemic risk. However, there would be lost cost economies of scope as separating proprietary trading from market making activities may lead to some duplication of infrastructure.

Genuine economies of scope related to lost risk diversification opportunities are possibly non-negligible for market making, given the importance of market making for a bank's revenues (option F).

Risk diversification costs are particularly pronounced for reform option I as it foresees the ownership separation of all WIB activities, including activities that are of great importance to the real economy and which would deserve to be linked to the public safety net (and hence enjoy certain subsidies), given that they address genuine market failures.⁶³ Given that the activities would be banned from the group completely, the risk diversification economies of scope would be entirely lost under options F and I.

For those reasons option C leads to substantially less social costs compared to options F and I.

5.4.2.2. Operational costs

Ownership separation is unlikely to create high operational costs for the banking group under consideration. It would actually lead to lower operational costs from the perspective of the bank, as once separated there would no longer be any costs associated with running that activity within the banking group (e.g. separate boards, risk management, monitoring, etc.). Naturally, from a societal point of view, there would still be operational costs associated with running the company carrying out the separated activities, but operational costs associated with continued coexistence within the group would no longer arise. These findings hold for all three options as a whole without any meaningful variations in importance.

5.4.3. Conclusion

Ownership separation has the potential to be the most effective set of options in terms of achieving the specific objectives of facilitating resolution and limiting moral hazard, conflicts of interest and capital and resource misallocation. However, it is also the set of options that may come with the highest social costs in terms of foregone economies of scope and it would remove the separated banking activities from the perimeter of the regulated and supervised banking group into the shadow banking sector (see Annex A13).

⁶³ Underwriting is a case in point. Underwriting and advisory services require relationship-building with clients. These traditional (investment) banking activities are closely connected to corporate banking. From the corporate client's perspective, issuing a bond is an alternative way of financing to taking a bank loan. Given that underwriting is not as easily scalable as pure market making, the scope for moral hazard reduction is significant, but smaller than for market making. Underwriting as such does not give rise to significant interconnectedness across financial institutions. The evidence does not suggest that conflicts of interests are obvious between underwriting and loan making. In fact, it suggests that bonds underwritten by commercial banks default less often than bonds underwritten by investment banks. There may be economies of scope to be enjoyed from spreading fixed costs of acquiring information over multiple outputs; more specifically, concurrent lending and underwriting could be beneficial.

In general, the broader the scope of activities concerned, the stronger the potential benefits and costs. Whether the costs appear proportionate to the benefits achieved in addressing the objectives of facilitated resolution and reduced moral hazard, conflicts of interest and capital and resource misallocation differ between the options. As regards option C, the potential benefits would be pronounced, given the risks, complexity and interconnectedness associated with proprietary trading. Proprietary trading is also the activity that is most prone to conflicts of interest, given that it is the most distanced from client, real economy oriented activity. Even if banks currently engage in modest levels of proprietary trading compared to earlier years, ownership separation of proprietary trading ensures that a potential new surge will not materialise within the largest and most complex EU banking groups. Ownership separation would accordingly facilitate resolution and reduce moral hazard, conflicts of interest and misallocation of capital and resources to a significant extent within the largest and most complex EU banking groups. Proprietary trading activities do not provide substantial value added to the economy, can and is performed by non-banks, and foregone economies of scope seem limited. Hence, the social benefits associated with option C clearly outweigh the social costs. Moreover, given that option C delivers stronger benefits than option B with little additional marginal cost and with similar implementation difficulties, option C is superior to option B.

A significant positive balance between benefits and costs is more difficult to argue for options F and I. Whereas the separation of market-making (option F) would indeed yield substantial social benefits, the social benefits associated with other wholesale and investment banking activities (e.g. underwriting) are less pronounced. Ownership separation would also yield higher social costs in that regard, given that these activities can not all be performed by non-banks and that stand-alone investment banks may not be in a position to readily step in as a substitute. As highlighted above, market making and underwriting are activities that can and do contribute to the financing of the real economy, notably by providing liquidity to secondary markets, although the latter may require qualification given the financial crisis experience (see section 5.8 below as well as Annex A6). Market making and underwriting are perceived as socially useful activities. Being socially useful does not imply that they need to be artificially promoted by benefiting from being performed by the deposit entity enjoying access to the public safety net. However, it does imply that the ownership separation of investment banking activities –effectively eliminating economies of scope such as risk diversification – may be less obvious to justify for activities other than proprietary trading.

At this stage of economic knowledge and evidence and given the relatively high uncertainty, cautiousness as regards the activity scope for ownership separation seems appropriate. Ownership separation with a wide activity scope would limit the flexibility to cater for cultural and structural differences within and across national banking systems and risks reducing the current diversity in successful business models across the EU. Given the potential social costs associated with ownership separation, there is a strong imperative to be cautious as regards ownership separation of a broader set of activities at this current juncture. Ownership separation as per option F and I are likely to generate social costs, uncertainty and unintended consequences that would be disproportionate to the benefits, in particular as the preceding analysis has highlighted that a less intrusive reform option (E) delivers similar benefits at significantly lower social cost. Moreover, ownership separation of all wholesale and investment banking activities may effectively give rise to an under-provisioning of selected core and relationship-oriented banking activities (in particular those oriented at SMEs) and as such does not seem coherent with the overall policy objective of promoting growth and jobs.

Hence, the Commission services believe that only option C with ownership separation of a relatively narrow activity scope provides a good net balance of social benefits and social costs and is worth exploring further.

5.5. Assessment of retained reform options

Table 3 summarises and collects the qualitative assessments of the different reform options. The result of the assessment and comparison of the different options result in reform option E being found superior to all other options, with reform option C being superior to other reform options, except for option E. Whereas option E yields higher social benefits than option C, it comes at a higher social cost, such that on balance option C is still worthwhile retaining.

Table 3: Overview of options

	Reform options									
	No policy change	A	B	C	D	E	F	G	H	I
EFFECTIVENESS		≈	≈/+	+	≈	++	++	≈	++	++
Facilitate resolution	0	≈	+	+	≈	++	++	≈	++	++
Facilitate management	0	≈	+	+	≈	++	++	≈	++	++
Reduce moral hazard	0	≈	≈/+	+	≈	++	++	≈	++	++
Reduce conflicts of interest	0	≈	≈/+	+	≈	+ / ++	++	≈	++	++
Reduce capital and resource misallocation	0	≈	≈/+	+	≈	++	++	≈	++	++
Improve competition, retain diversity	0	≈	≈/+	+	≈	++	++	≈	+ / ++	++
EFFICIENCY		≈	≈/-	≈	≈	-	--	≈	--	--
Reduced economies of scale and scope	0	≈	≈/-	≈	=	-	--	≈	--	--
Increased operational costs	0	≈	-	≈	≈	-	-	≈	-	-

Note: ++: strongly positive; +: positive; - -: strongly negative; -: negative; ≈: marginal/neutral; ?: uncertain; n.a.: not applicable.

This section accordingly compares these two options in terms of effectiveness (social benefits), efficiency (social costs) and coherence.

5.5.1. Effectiveness

Option C foresees the complete ownership separation of proprietary trading, which accordingly would have to be divested from the banking group altogether (or wound down). This is a stronger degree of separation compared to option E, as option E leaves proprietary trading within the group. However, it is also a more narrow option in terms of activity scope, as it would not separate other wholesale and investment banking activities, such as market making, complex securitisation and complex derivatives.

Overall, the benefits of the stronger degree of separation of option C have to be weighed against its narrower activity scope. Accordingly, all risks associated with those additional

activities (e.g. market-making, complex securitization and complex derivatives) that are affected under option E would be left unaddressed by option C. This is quite relevant, as existing evidence suggests that large banks currently engage in limited proprietary trading but do engage in significant market making, securitisation, and derivatives activities. Option C is therefore less effective in delivering the identified social benefits for TBTF banks compared to option E (see sections 5.3 and 5.4). Its main benefit would therefore be to prevent any future expansion of such activity and the corresponding concerns in terms of impediments to resolution, excessive risks, conflicts of interests and inappropriate implicit safety net coverage.

The effectiveness of option C is furthermore handicapped by potential difficulties related to implementation, notably as regards defining proprietary trading and objectively distinguishing it from market-making.

In order to make an informed choice between the two retained options requires taking into account (1) potential fundamental implementation problems, and (2) possibilities to improve reform effectiveness through tailored and framed supervisory action.

5.5.1.1. Implementation problems

Option C appears particularly challenging in terms of implementation, given the need to distinguish proprietary trading from market making, which is not a concern that arises when implementing option E. Nevertheless, option E is not immune to its own implementation challenges, given that it requires a subsidiarisation that upholds the integrity of the separation objectives. More specifically:

- **Challenges of implementing option C:** The main problems arise from the need to define and distinguish proprietary trading from market making and hedging, given that such a distinction seems to rely on the private intent of the trader. As regards the *definition*, France, Germany and the U.S. have proposed to adopt a restriction of proprietary trading activities which excludes market making activities. None of these countries, except for the U.S., have yet defined proprietary trading in an operational way. In the definition of proprietary trading special importance should be given to the way definitions can be operationally and legally enforced and supervised.

Distinguishing proprietary trading from market making is difficult both in theory and practice.⁶⁴ Although traders involved in the actual trade are able to identify any given transaction as being of a market making or proprietary trading nature, such an intent-driven distinction is not easy from the perspective of a manager, regulator, supervisor, creditor, or judge.⁶⁵ Indeed, a market maker might legitimately choose to take a long position in an asset either in anticipation of client demand to allow the order to be fulfilled quickly or to facilitate a quick sale by a client of an illiquid asset. Therefore, a proprietary trade and a trade pursuant to market making are

⁶⁴ Duffie (2012) argues that "market making is inherently a form of proprietary trading". A market maker acquires a position from a client at one price and then lays off the position over time at an uncertain average price. The goal is to "buy low, sell high." In order to accomplish this goal on average over many trades, with an acceptable level of risk for the expected profit, a market maker relies on its expectation of the investors' needs and the future path of market price and therefore necessarily this activity involves holding an inventory.

⁶⁵ A supervisor can only do so either through prescriptive rule-making or through a purpose based restriction. In either case it would involve supervisory capital and enforcement can only be done ex post and would be costly and possibly ineffective.

indistinguishable based solely on the objective and observable features of the trade itself.

The precise definition of proprietary trading versus market making would also have an impact on the ability of banks to effectively perform market making activities. Market makers require substantial discretion in their ability to buffer unexpectedly large supply and demand imbalances in order to provide immediacy to their customers and to effectively perform their activity. As a result, a narrow definition of market making activities may constrain the ability of market makers of a banking group to service heightened demands for immediacy given the limits they would have to comply with.

Proprietary trading is also difficult to *distinguish from treasury management operations*.⁶⁶ In particular, these difficulties arise when considering the hedging activities that banks can engage into to mitigate the risk of their commercial activities. If banks are no longer able to perform such hedging activities they would be deprived of engaging in efficient risk management. For this reason, the U.S., France, Germany and UK have made exemptions for risk-mitigating hedging activities. However, such exemptions may well raise implementation problems as well as monitoring/supervision problems.⁶⁷ In addition, banks may also by-pass the ban on proprietary trading through such hedging activities by masking their positions as simply hedges of permitted trades, though in reality such hedging positions are their real purpose.

In sum, it would therefore be feasible to ban dedicated proprietary trading activities that are clearly disconnected from any customer-related transaction. However, for a broader definition, genuine proprietary trading may look like market making, and genuine market making may in fact look like proprietary trading. Therefore in any broad definition there is scope for "type I and type II errors".⁶⁸

- **Challenges of implementing option E:** Whereas option E at first sight seems easier to implement as it avoids distinguishing proprietary trading from market making, option E is still left with the complexity to *ensure that proprietary trading does not take place alongside other permitted activities* (notably treasury and liquidity management) in the deposit-taking entity. Whereas the supervisory burden is lighter than for option C (as proprietary trading and market making are treated similarly), the implementation concerns are therefore not avoided altogether.

Given the difference in separation strength, option E faces the implementation challenge to *design and enforce the separation, triggering greater compliance costs*. The activities would remain within the group and regulation and supervision would

⁶⁶ The treasury function of a bank needs to engage in trades to manage excess liquidity or hedge the risk from for example selling fixed-rate mortgages while being funded with floating rate borrowing. Over time the treasury functions in some banks have become more aggressive traders with strategies that could be seen as resembling proprietary trading. In some cases, Treasury operations no longer merely manage the natural dynamics of the balance sheet arising from customer activity, but increasingly perform a set of trading activities in themselves and become pure profit centres.

⁶⁷ For example, an attempt to identify particular hedges for particular transactions and prohibit all others would be counterproductive because it would encroach on a trader's ability to be creative and innovative as products and product lines become more intricate and new sources of risk emerge (Chatterjee, 2012).

⁶⁸ A type I error is when an activity is identified as proprietary trading when in fact it is not, and type II errors mean that an activity is not identified as proprietary trading when it in fact should have been.

have to be established to govern the economic, legal, governance and operational links that would remain in order to uphold the separation objectives over time.

Option E also faces the challenge that the reform may be (perceived as) less effective, in particular in crisis times, due to informational and reputational contagion.⁶⁹ Even if the separation would be fully effective in crisis times, customers and creditors may not be convinced and may retreat from engaging with both entities if only one gets into significant difficulties.

Overall, the challenges of defining and distinguishing proprietary trading from other activities such as market-making and risk hedging are significant. However, banning dedicated proprietary trading desks is of course feasible, albeit easy to circumvent and less effective (e.g. London whale incident at JP Morgan). The main challenge associated with option E is to set up, enforce, and maintain the integrity of the separation over time.

5.5.1.2. Improving effectiveness through tailored and framed supervisory action

Option C suffers from an effectiveness gap compared to E, especially if the implementation problems considered above and a more modest ambition of merely banning dedicated proprietary trading desks are taken into account. There are nevertheless ways of raising the limited effectiveness of option C. It could for example be complemented by a procedure for separating additional trading activities either without further supervisory discretion (ex ante) or following further supervisory review (ex post). These two variations are examined in turn.

- **Option C combined with ex ante separation of market-making (“C+ex ante”):** The first option would be to combine a prohibition of proprietary trading with an ex ante separation of other trading activities (effectively combining options C and E). Given the analysis in section 5.3 that highlighted the benefits of option E, the logical consequence would thus be to separate notably market making, complex securitisation and complex derivatives. Such a combined reform option would resemble the current state of play in the US, where a Volcker rule prohibition is being imposed on bank holding companies in which the deposit taking commercial bank arm face activity restrictions that are largely similar to E and where the economic links of that entity with other group affiliates that perform other investment bank activities are subject to quantitative limits and qualitative restrictions. The commercial bank arm of a bank holding company can engage in dealing and underwriting (subject to caps and conditions and depending on type of securities), certain derivatives, and securities brokerage (see box 2 below);
- **Option C combined with ex post separation of market-making following a framed decision by the relevant supervisor (“C+ex post”):** Another option is to combine a prohibition of proprietary trading with a potential ex post separation of market making, complex securitisation and complex derivatives if certain metrics are

⁶⁹ US experience with the intra-group firewalls provided by Section 23A and B of the Federal Reserve Act are instructive in this regard. According to those rules, the Federal Reserve Board have authority to exempt individual transactions from the requirements of section 23A. During the financial crisis, which at its height posed a threat to systemic financial stability, the FRB exercised this authority on numerous occasions, thereby allowing depository institutions to provide financing to their affiliated securities firms, derivatives dealers and money market funds in order to prevent their failure and the effects this might have had on the financial system and the broader economy. *“Crisis containment and systemic risk considerations consistently prevailed over the statutory purpose of preventing the leakage of the federal subsidy outside the depository system”* (Omarova (2011)). The UK’s implementation of the ICB recommendation has tried to avoid such concerns by clearly framing exemptions in primary law (e.g. related to simple derivatives).

exceeded. Under this approach, the supervisor would have the possibility to require the subsidiarisation of market making, complex securitisation and complex derivatives after careful scrutiny and analysis. To ensure a consistent application of the procedure throughout the Internal Market and create legal certainty for banks and other stakeholders, this procedure would need to be framed. It would thus rely on a framework of assessment under which the supervisor would have to review market making, complex securitisation and complex derivatives (and possibly other trading activities) for the banks under consideration and take further action should specific relevant and well-defined criteria be fulfilled. In particular, a rebuttable presumption can be created according to which if such criteria are fulfilled then subsidiarisation should result. This latter rebuttable presumption bridges the gap between ex ante and ex post subsidiarisation. A two-step procedure is thus created: (1) a mechanism is created that triggers an obligatory review by supervisors of market making, complex securitisation and complex derivatives; in combination with (2) guidance provided to supervisors to ensure that subsidiarisation according to certain rules is triggered when certain criteria are fulfilled. The criteria and corresponding thresholds and triggers need to be elaborated by the EBA and agreed with the Commission as the guardian of the Treaty and Internal Market.

The trigger mechanism for the review by supervisors would be based on a reporting requirement imposed on relevant banks. Information to be reported could include amongst others the relative size of trading activities, the leverage of trading assets, whether the trades are being triggered by customer demand or not, trading book exposures, relative importance of capital requirements for counterparty and market risk as a percentage of total regulatory capital requirements, identification of trading account, trading units, activities and changes in activities, compensation/bonus allocations for staff in different trading and other business lines as well as the interconnectedness of the bank.

The value added of this complement compared to option C and to existing legislation is that it would set a uniform standard across the EU for if and how to review trading activities, under what circumstances subsidiarisation of market making, complex securitisation and complex derivatives should be mandatory, and how that subsidiarisation should be implemented. It would also create legal certainty for banks and other stakeholders, as they would know when and how the rules would apply and be ensured that they are applied in a similar fashion to all banks concerned across the EU. For these reasons this framework would also complement and provide a value added to the other tools supervisors already have through CRDIV and BRRD to impose structural measures on banks (see more in Section 2 and Annex A3).

With regard to activities other than market making, complex securitisation, and complex derivatives (such as underwriting, private equity, venture capital, etc.), the supervisor would have discretion whether to require separation and if so, in what form (subsidiarisation and/or additional restrictions).⁷⁰ However, the foreseen framework would also include a more general provision providing supervisors with the specific right to intervene, and require separation as appropriate, when there are concerns that activities would involve or result in a material conflict of interest, when there are concerns about distorted incentives such as, for example, moral hazard as a

⁷⁰ As stated in chapter 4.1, there are certain retail activities that under any scenario could not be separated, i.e. deposit-taking and retail payment services.

result of the implicit subsidy, and when there may be a serious concern that the activities of the bank would pose a systemic threat to the financial system.

The advantage of the above is that it would only apply to those banks that represent the greatest risk to the financial system because of resolvability concerns or distorted incentives. By clearly framing the supervisory powers as per above, risks about geographical arbitrage and fragmentation across the internal market are reduced.

The above complements to option C would reduce (ex post) or eliminate (ex ante) the gap in effectiveness compared to option E and would ensure that banks whose trading activities do not pose significant risks are not subject to (socially undesirable) subsidiarisation.

5.5.2. *Efficiency*

In terms of foregone *economies of scale and scope*, option E, by virtue of its broader activity scope, has a larger effect on foregone economies of scope, in particular through reduced risk diversification benefits, although risk diversification is being partially retained within regulatory limits. A similar potential loss of economies of scope would not materialise in C, given the currently limited importance of proprietary trading activities. However, the mandatory separation of proprietary trading would result in higher cost of duplication of trading infrastructure compared to E (as such infrastructure can no longer be shared between proprietary trading and market making activities in option C). As proprietary trading and market making are kept together under option E, such a duplication of infrastructure would not be required under E.

There are ways of reducing the potential efficiency cost associated with option E should that cost be considered excessive. This could be done by for example exempting from the separation requirement certain instruments where existing markets are particularly shallow and/or illiquid; i.e. reform option "E-".

In terms of *operational costs*, option E compared to option C and from the banking group's perspective would result in greater on-going operational costs associated with running the separated trading entity within the group. Although, from a social point of view, the proprietary trading activities to be banned still need to be housed elsewhere, operational costs will be higher under option E. Whereas option E- will not trigger additional operational costs compared to E, option C+ will require significant regulatory energy to frame and elaborate the decision whether and when to subsidiarise certain trading activities, to take the subsequent decision after implementing the ex post process, and in following up the potentially divergent outcomes across banking groups. For the banks that require subsidiarisation, the operational costs of complying with the separation will apply. All in all, C+ will lead to the highest operational costs of all retained options and variations thereof.

5.5.3. *Coherence*

Reform options relying more on ex post separation subject to supervisory judgement (option C+ex post) in principle may give rise to divergent outcomes to banks sharing the same characteristics but subject to different supervisors, if the framing of such decisions is weak and therefore allows for flexibility. If so, banks can try to exploit such divergences by relocating activities (see section 2.4) to Member States where the supervisor has taken a more lenient approach. Such an effect would not be coherent with the overall ambition of the Commission following the financial crisis to reduce the potential for regulatory arbitrage. Furthermore, wide divergences of de facto application of EU rules would run counter the efforts to establish a Single rulebook.

Conversely, reform options with higher degree of ex ante separation and more limited reliance on supervisory judgement (option E-, option C+ ex ante) would not be associated with the

same level of risk, given that separation will be more firmly set out in primary law and that less room will be granted for supervisors to exercise judgement.

Even so, there are ways of reducing the arbitrage risks associated with differing supervisory judgements. The process for carefully framing the guidance should aim to ensure as consistent an application as possible throughout the internal market. Furthermore, in practice the potential for wide divergences is limited by the de facto very limited number of supervisory authorities involved. The banking groups that on the basis of historical data look likely to be required to separate would in the majority of cases be headquartered in a Member State that will participate in the Single Supervisory Mechanism.⁷¹ The remaining banks come from two other Member States (UK, SE).

Accordingly, while the problem of potential differences of application is a bigger issue for options with a larger ex post supervisory judgement element, the risk can be limited by the possibility to frame the subsidiarisation decision (in particular by creating a rebuttable presumption for subsidiarisation) and the de facto very limited number of supervisors concerned.

5.5.4. Conclusion

Because of its significantly broader activity scope, option E delivers greater social benefits compared to option C and hence may be deemed more effective, at limited additional efficiency cost. However, there are a number of variations to option C and E that can be considered as roughly equivalent.

The ex post complement to option C could reduce the effectiveness gap with option E, especially if that process was clear, transparent and predictable in terms of result (i.e., the more supervisory discretion is framed in terms of when and how it would be exercised the closer to E). It would nevertheless raise significant operational costs for supervisors to elaborate and implement the required framework to take bank-specific subsidiarisation decisions. The combination of C with E or E-, i.e. “option C+ex ante” above, would also be effective.

The “option C+ex post”, “option C+ex ante”, and E, albeit not identical either in terms of effectiveness, efficiency and coherence can be considered to be preferable to no intervention when balancing the net benefits in terms of improved financial stability (due to increased resolvability, reduced moral hazard, reduced conflict of interests, increased competition and diversity, an adequate culture geared towards better serving the interests of the real economy and spur growth, etc.) against the increased costs in terms of foregone efficiencies. However, beyond a largely qualitative economic analysis other considerations of a more political nature, such as timing of the reform, expected views and position of co-legislators etc., need to be taken into consideration before making a choice between these acceptable and justifiable options. As a result this report does not state a preference between the three options.

In conclusion, the final balance between the additional benefits in terms of improved *ex ante* financial stability (due to increased resolvability, reduced moral hazard etc.) versus the increased costs in terms of foregone economies of scale and scope and operational costs in this instance is more a matter of political choice than technical ranking.

5.6. Retained options aimed at increasing the transparency of shadow banking

As indicated previously, the decision to separate the banking entities entail risks that parts of the banking sector shift to the less regulated shadow banking sector. To make sure that this

⁷¹ Of the banks exceeding the threshold, roughly two thirds are located in a Banking Union participating Member State.

risk is properly monitored, a series of options have been assessed in Annex A13. A combination of options has been retained that will complement the options retained on the structural separation aspect.

Transparency towards regulators: Counterparties to SFTs will be required to report the details of such transactions to trade repositories. The reporting obligation will cover all market participants, regulated or unregulated. This reporting will lead to a substantial increase in the transparency of securities financing markets which are key sources of liquidity. This will also facilitate regulators' access to market data and avoid the need to compile unstandardized and dispersed information from different regulators. It would allow for complete and timely information to be reported (e.g. principal amount, currency, type and value of collateral, the repo rate or lending fee, counterparty, haircut, value date, maturity date), therefore making it possible for regulators to perform a well-timed comprehensive monitoring of the market developments. The periodic publication of aggregate data by TRs can be an additional benefit as it will improve the overall data available to investors but also for research projects. The FSB has already recommended the collection of frequent SFTs data with high level of granularity. Meanwhile, the ESRB has concluded in a paper that 'trade repository collecting transaction data based either on trade-by-trade data or exposure data is likely to be ideal for a comprehensive assessment of risks'.

Transparency toward fund investors: Fund managers will be required to disclose in their periodical reports (semi-annually and annually) the use they make of SFTs and other financing structures to their investors. They will also be required to notify in the pre-contractual documents such as the prospectus the limits they will apply as regards their intended use of SFTs. This new information will give insight to the investors on the transactions that the fund has been involved in over the previous reporting period. It is a means for the investors to check the performance of the fund and other indicators regarding the risks or costs. More generally, it gives the possibility to verify that the fund's investment strategy has evolved as announced in the prospectus. Investors will also have knowledge, prior to their investment, on whether SFTs form part of the investment strategy pursued by a fund. They will be able to measure the expected risk and reward profile linked to this activity. Their ability to compare the investment proposition of different investment funds will increase. In addition, investors will receive increased assurance that managers will not use to a greater extent than announced in the fund rules.

Transparency of rehypothecation: Specific transparency requirements will be put in place in order to increase the contractual and operational transparency. These include contractual agreement on rehypothecation, prior consent to rehypothecation, transfer of assets to an account of the party which intends to rehypothecate them. This would ensure that clients or counterparties are fully aware of the potential risks involved, in particular in the event of default of the receiving counterparty. Furthermore, prior to the actual rehypothecation the financial instruments received as collateral have to be transferred to an account opened in the name of the receiving counterparty, which would also help prevent a future crisis scenario, where investors are uncertain about their rights, thus contributing to financial stability. Such rules are consistent with existing market practice in major securities markets in the EU. The FSB has developed a similar policy recommendation on sufficient disclosure to clients in relation to rehypothecation of assets.

5.7. Complementary aspects

5.7.1. Quantitative assessment of some benefits and costs

In general, it needs to be stressed that, given the inherent complexity and special nature of banking and given that many benefits and costs are dynamic in nature (often related to

unobservable incentives), no quantitative model exists that can reliably, precisely and comprehensively estimate the social benefits and costs of structural reform proposals.

Moreover, quantitative analysis in this specific area is further constrained by the fact that intent-based proprietary trading cannot be easily distinguished from genuine market making activity (see also section 5.5.1.1). Accordingly, reliable data on the extent of proprietary trading and market-making is not available.

In order to support the qualitative assessment and comparison of reform options carried out above, the Commission services have attempted to quantify on a best-effort basis and to the extent possible some of the costs and benefits that could result from structural separation.

As one element, the Commission services invited EU banks in the context of the public consultation to model and estimate the impact of stylised structural reform scenarios on the group's balance sheet, profit and loss account and selected other bank variables between now and 2017, taking into account CRR/CRDIV and BRRD. A very limited number of banking groups responded. Moreover, the simulated impacts (e.g. funding costs, total costs, return on equity, ratings, etc.) differed substantially between respondents and gave rise to inconsistencies both within a given set of results as between different sets of estimated impacts (see Annex A11).

As another element, the JRC has attempted to assess some of the costs and benefits of structural separation (see Annex A10). In relation to benefits, the aim has been twofold. First, to examine the impact on incentives on the basis of the distribution of gross losses across stakeholders. Second, to estimate the reduced contingent liability for the resolution process following the estimated behavioural response of banks to shrink or recapitalise the trading entity post reform. In relation to costs, the analysis has focused on estimating the increase in the banks' private funding cost post-reform.

It is important to note that the costs and benefits that the JRC has been able to quantify are not comprehensive and are dependent on underlying assumptions (how to separate balance sheets, behavioural responses of banks, required rates of returns for the different funding sources under different scenarios, etc.). Moreover, important social benefits (including the reduction in the probability of systemic crisis and in contagion as well as the impact of the reform on avoiding conflicts of interest, misallocation of resources and facilitating supervision, etc.) and costs (such as economies of scope and scale, impacts on liquidity of secondary markets and legal costs) have not been quantified and modelled. Benefits and costs are estimated in a scenario where the resolution framework is considered to apply effectively to the entire considered sample of banks even before any structural separation of these banks (bail-in is fully effective).⁷²

With all these caveats in mind, the stylised JRC analysis indicates the following for the specific benefits and costs measured (see Annex A10 for details):⁷³

In terms of benefits, the results of the analysis suggest that trading entities incentives are better aligned, as a higher part of their losses would be absorbed by their shareholders and creditors and would be not passed through to the rest of the financial system. In addition, the contingent liabilities faced by the resolution process for the banking sector in case of crisis

⁷² Although the present proposal is also aimed at facilitating resolution, this conservative assumption is used to avoid double counting some of the benefits calculated in the context of the Impact Assessment of the BRRD.

⁷³ The point estimates below are based on JRC analysis and are conditional on the methodology employed and underlying assumptions. Confidence intervals around the reported point estimates could not be calculated.

will be reduced following structural separation. By way of illustration, in a crisis of similar severity to that of 2008, potential gross losses are estimated to decrease by up to €125 billion, while the share of gross losses absorbed by the trading entity would increase. The contingent liabilities for the resolution process could be reduced by up to €58 billion, as there would be lower losses due to better aligned incentives and reduced risk taking for the trading entity.

In terms of costs, it is important to note that increased funding costs (under both the subsidiarisation and ownership separation scenarios) is an intended outcome of structural reform, as it leads to a more efficient pricing of risk reflecting enhanced market discipline. By way of illustration, the trading entities subject to separation are estimated to face an increase in funding costs of up to 9 basis points (in a conservative scenario where risk premia do not decrease following reduced risk taking and increased capitalization of the trading entity), which will generate an increase in the average cost of funding for the affected group as a whole of up to 3 basis points. As banks subject to separation are estimated to hold about 55% of the assets of the EU banking system, this translates into a sector-wide funding cost increase of up to 2 basis points – equivalent to approximately up to €7 billion per annum.

As explained in section 5.2.2, the increase in the funding cost of the trading entity is an intended outcome of structural reform and should not strictly be considered a social cost. Nevertheless, the Commission services have tried to estimate the reduction in GDP growth that would follow from passing on the estimated funding cost increase following conservative assumptions (i.e. assuming that the entire funding cost increase is passed on into higher borrower rates rather than lower profitability or employee salaries) and making use of the QUEST DSGE model with a banking sector.⁷⁴ The model suggests that an increase in private funding costs of 2-3 basis points translates – under the retained conservative assumptions – into a reduction of the long term annual level of GDP of between 0.08% and 0.11%. This clearly represents a worst-case scenario, as the increase in the funding cost of the trading entity will not be fully reflected in interest rates for credit to the real economy. In addition, one should note that the negative effect on the level of GDP in the initial years of the simulations are less than in later years, i.e. in the long term. Thus, the average annual effect on GDP would be less than the long-term effect. Moreover, these figures represent a gross cost, not a net impact, as they do not incorporate any positive impact on GDP growth stemming from social benefits resulting from facilitated resolution, increased financial stability, etc. (see above). These results are fully compatible with the cost estimation methodology presented by the European Commission in the Impact Assessment of the BRRD.⁷⁵

5.7.2. *International aspects*

5.7.2.1. Territorial scope of the reform

The objective behind determining the territorial scope is (1) to ensure that all group entities within the EU are covered by EU rules and (2) to reduce potential contamination effects stemming from EU subsidiaries and branches established in third countries. Accordingly, separation should apply to (i) EU banks, their subsidiaries and branches, including in third countries; and (ii) subsidiaries in the EU of banks established in third countries.

EU branches of third country banks operate under authorisation and conditions imposed by the Member State where the branch is established with the limitation that they cannot be

⁷⁴ For more information on the QUEST model, see http://ec.europa.eu/economy_finance/research/macroeconomic_models_en.htm. Simulations using several hypothetical scenarios of funding cost increases are shown in Annex A12.

⁷⁵ See SWD(2012)166/3, table 23, p. 158 in Annex 13, explained in more detail in appendix 5 thereof.

treated more favourable than branches of EU banks. They do not enjoy the freedom to provide services or the freedom of establishment in other EU Member States. The conditions regarding structural separation vis-à-vis these branches should thus also be left for the Member State hosting the branch.

5.7.2.2. Impact on competitiveness of EU banks

Both the preferred reform options mirror rules that are either already in place in the US or are in the process of being implemented:

- Option C corresponds to the Volcker Rule of the Dodd-Frank Act, which prohibits US banks from engaging in proprietary trading, as well as curtailing their investments in certain funds (See Annex A1 for further detail); and
- Option E would be similar to the rules applying to US banking groups. While US banking groups (bank holding companies or financial holding companies) may engage in a wide range of financial activities, the part of the group that takes insured deposits (“insured depository institutions”) still face activity restrictions that limit their focus to core banking activities (e.g. taking deposits, lending) and other incidental activities (e.g. custody and asset management). Furthermore, the US also has rules governing transfers between the different parts of a banking group, which are aimed at isolating the insured depository institution from excessive risks arising from the larger financial firm of which it is part (BHC, FHC) and to prevent the transfer of the subsidy arising from federal assistance to non-depository financial institutions. These firewalls have been strengthened as part of the DFA (See Box 2 and Annex A1 for further detail).

Implementing either option is accordingly unlikely to have material negative effects on the competitiveness of EU banks vis-à-vis US banking groups.⁷⁶

5.7.3. Institutional scope

5.7.3.1. Thresholds

As argued above, the Commission services believe that an approach that combines an accounting-based methodology with an additional systemic risk metric is the best approach to determine the scope of banks subject to potential structural separation. The systemic risk is captured by the EU global systemically important institutions. Regarding the accounting-based approach, the second step has been to review the threshold and definition of trading activities recommended by the HLEG.

The Commission Services have in particular decided to analyse the definitions presented in Table 4, also considering limitations due to the need to rely on publicly available accounting data.

⁷⁶ US regulators are also considering imposing leverage limits on the largest US banks that would be stricter than the ones foreseen by Basel III.

Table 4: Definitions of trading activities

1	HLEG definition
2	Exclusion of Available for Sale (AFS) assets under the assumption that they are mostly held for liquidity purposes
3	Gross volumes (assets + liabilities) of securities and derivatives held for trading (to focus on market and counterparty risk)
4	Net volumes (assets – liabilities) of securities and derivatives held for trading (to focus on market risk)

The Commission services do not believe that thresholds necessarily need to be set in legislation.⁷⁷ Nonetheless, the Commission services have carried out analysis with the aim of considering different absolute and relative thresholds. That analysis notably includes carrying out tests to ensure that any threshold captures banks sharing similar characteristics (“clustering analysis”).

The HLEG recommended an absolute threshold of EUR100bn of trading assets and a relative threshold of trading assets to total assets in the range of 15-25%. Whereas the thresholds suggested by HLEG (Option 1) would be effective in selecting systemic banks, it would also include a relatively wide set of banks that do not appear to be of systemic importance (Annex A8). The disproportionately large scope of selected banks finds its origin in the consideration of AFS assets for the purposes of defining trading activities. However, banks tend to largely hold AFS assets mainly for liquidity purposes. The other options therefore have excluded AFS assets.

Having excluded AFS assets from the definition of trading activities and having also modified the definition of trading activities so as to focus more on market and counterparty risks, the Commission services have first analysed what would constitute thresholds for the various definitions equivalent to those suggested by the HLEG, and then applied clustering techniques to further improve them (Annex A8). All definitions are based on publicly available balance sheet data and have been computed as averages over a 6-year 2006-2011 period. The results are shown in Table 5 below.

Table 5: Proposed thresholds based on cluster analysis (Annex A8)

Option	THRESHOLDS		SELECTED BANKS			SELECTED BANKS BY SIZE		
	Trade Activity EURbn	Share Trade Activity	Number	% of the sample	% of the sample in total assets	Large	Medium	Small (then exempted)
1	80	20%	52	21%	75%	19	16	17
2	70	15%	32	13%	60%	13	10	9
3	70	10%	36	15%	65%	13	16	7
4	30	8%	33	14%	51%	11	7	15

Note: Large banks are defined as having total assets above EUR500bn. Small banks are defined as having total assets below EUR30bn. “Trade activity” refers to the different definitions as set out in Table 4. The sample of banks considered is 245. In definition 3 (option 3), the actual amount refers to half of the total gross volumes.

Analysing the banks selected by these definitions, it can be noticed that the second option, that exclude AFS from the HLEG definition, does not include all the EU banks that are

⁷⁷ For example, while the international standards for global systemically important banks contain numerical thresholds, the provisions in the CRR incorporating those standards do not, but leave it to the EBA to set such thresholds on the basis of principles and guidance set in the CRR.

currently considered as being of global systemic importance, and hence would be of limited effectiveness.

Option 4 - which would focus on the difference between trading assets and liabilities (net volumes) - would also be of limited effectiveness, as it would exclude an even larger number of banks with significant trading operations.

The preferred option is therefore option 3 (with a threshold based on gross volumes of trading assets and liabilities). This option captures nearly all the EU banks considered to be of global systemic importance and those with significant trading activities.

In order to avoid that small banks are selected, an additional floor threshold is applied. The Commission services suggest using the floor for “significant institutions” used in the SSM-ECB Regulation (EUR30bn of total assets). Following this adjustment, the preferred option 3 selects 29 medium and large banks representing about 65% of the assets in the sample. Importantly, this list includes all but one of the European globally systemic banks (“G-SIBs”) identified by the FSB. Moreover, the list is not sensitive to small changes in the thresholds.⁷⁸

Option 3 captures both market and counterparty risk typically associated respectively with proprietary trading and market making, and is hence relevant for all the option retained above. In addition, banks designated as G-SIIs should also be subject to separation as well.

5.8. Impact on stakeholders

This section discusses the general impact of bank structural reform⁷⁹ on the numerous stakeholders. The assessment remains at high level, as the precise impact will depend on the design of the height and location of the fence and the institutional scope.

In general, opponents to structural reform typically raise a series of concerns on bank structural reform. Allegedly, bank structural reform:

- raises the funding costs of banks and hence lowers economic growth;
- harms market liquidity and hence lowers economic growth (when subsidiarising market making and other trading activities);
- increases financial instability as it makes banking groups less resilient to shocks;
- unduly abolishes the European universal banking model that has proven successful and resilient throughout the crisis;
- reduces bank employment;
- fragments the internal market by allowing banking groups to ring-fence their core banking activities according to national borders;
- would not have avoided important bank failures of the recent financial crisis such as Lehman Brothers, Northern Rock, or Cajas;
- is ineffective in shielding the deposit taking entity from trading risks due to reputational and information contagion;
- reduces competition in the EU banking sector, and

⁷⁸ Supervisors would always have the possibility to subject additional banks to structural separation.

⁷⁹ This section outlines the likely and stylised impact of the reforms retained above on different stakeholders. The main baseline is the mid-range scenario of the three retained options, i.e. reform option E-. Material differences of options C+ and option C/E- are highlighted where appropriate.

- is inappropriately timed given the reform agenda.

This Impact Assessment already has addressed several of these statements in Chapter 2 and elsewhere. This section presents additional arguments where appropriate to qualify and/or rebut the above concerns. The Commission services consider that some concerns are not valid. Others are, but merely stress the reform costs whilst neglecting the reform benefits that are likely to outweigh the social costs. The additional communication difficulty is that private costs are borne by only a few, but vocal and large banking groups, whereas social benefits are enjoyed by many small taxpayers, only become obvious in the medium term, and are not easily quantifiable (improved banking culture, reduced systemic crisis incidence, reduced implicit subsidies).

5.8.1. *Impact on bank customers (investors, borrowers, etc.) and market liquidity*

5.8.1.1. Market liquidity and funding costs

Funding costs are likely to be unaffected for the deposit taking entities as well as for medium-sized competitors. The latter gain market share and increase their profitability whilst at the same time making the market less concentrated and more competitive.

However, at unchanged balance sheet size, the impact of the reform would unavoidably lead to some increase in funding cost increases for the trading entity. In fact, modest increases of funding costs for the trading entity is an intended consequence of structural reform and reflects primarily reduced implicit subsidies for the trading activities (not foregone synergies between relationship banking and trading activities, as they are exhausted at a small fraction of the balance sheet size of affected banking groups, see Annex A9). The funding cost would reflect the underlying riskiness of the trading activities. As a result, incentives to take excessive risks are reduced, artificial competitive advantages of TBTF banks are being reduced, thereby restoring the level playing field with deposit taking banks focused on credit intermediation to corporates and households.

A particular concern is that the increased funding costs would lead to liquidity problems in the market. Given that bond markets rely on market makers to act as willing buyers and sellers, subsidiarisation of market making (in particular ex-ante subsidiarisation under reform option E) triggers concerns that sovereign and corporate debt markets become less liquid. “Liquidity” is often left undefined, but typically the fear is that bid-ask spreads may increase, increasing the costs to trade at any scale. Investor options will be reduced, as trading entities can no longer trade as much and as easily as before. Price discovery is made more difficult. And price volatility may increase, if professional position takers no longer spot price divergences from rational levels and correct them through speculation and trading.

However, these concerns appear exaggerated for several reasons. First, the market liquidity concern neglects the fact that structural separation merely aims to reduce the implicit subsidies that distort the proper market functioning. Indeed, market prices are distorted when contaminated with implicit public subsidies and the banking system may in fact produce excess liquidity (as is evident from its rapid and unsustainable expansion).

Second, international and past experience shows that subsidiarisation would not have a substantial effect on liquidity. The US has 80 years of on-going experience with subsidiarisation of investment banking activities (including market making, underwriting, etc.), as deposit taking affiliates within a Bank Holding Company are not allowed to do other than “core banking activities” (see Annex A1 and Box 2). There is no evidence that suggests that US bond markets are less liquid than European ones and have been constrained in their development. To function properly, markets need a large number of independent traders. Subsidiarisation of market making exposes this activity to its underlying riskiness. This would

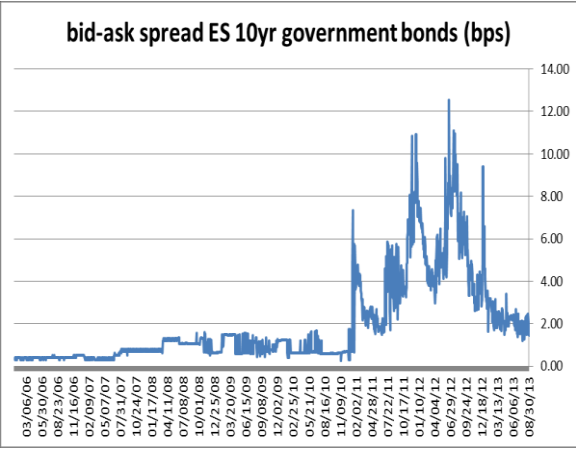
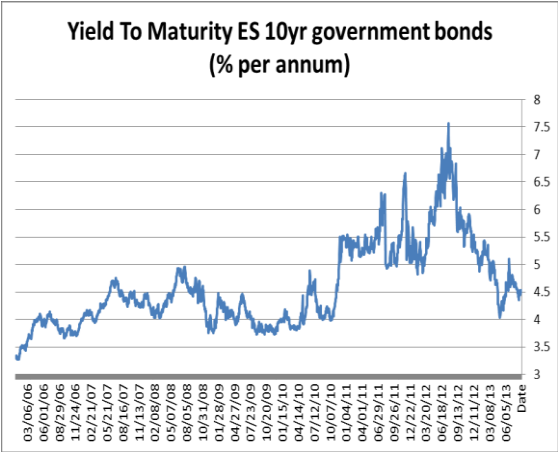
ensure fair competition across stand-alone investment banks and investment banking arms within universal banking groups. These limitations may increase the number of market participants, making markets instead more liquid.⁸⁰ In the era when Glass-Steagall was in place, which went much beyond mere subsidiarisation reform options, the US economy has on average been thriving, compared to the current juncture.

What matters for the real economy is the level of the interest rate at which corporates and sovereigns can fund themselves, which is a function of the supply and demand for these securities, and whether bid-ask spreads are reasonable to allow a normal degree of trading transactions. The liquidity premium only makes up a negligible fraction of the interest rate level and reflects the extent to which the security can be exchanged.

Bid-ask spreads on sovereign bonds of DE, FR, UK and large corporates were for example already at negligible levels before broker-dealer arms of universal banks started to sharply increase their inventories and market making activities in the early years 2000. Bid-ask spreads on Bund paper have not decreased in the run-up to the crisis, although large European banks have sharply increased their inventories. Also seen in perspective, bid-ask spreads are relatively negligible compared to the interest rate level: 10 year Spanish government bond yields have more than doubled and increased from less than 3.5% in June 2006 to more than 7.5% in July 2012 (chart 12). Bid-ask spreads in the period June 2006 to August 2013 on average are 2bp (0.02%) and spiked at 12bp (0.12%) in June 2012 (chart 13). The above suggests that the willingness and ability of (private sector) market makers to influence the interest rate level is relatively limited. If anything, their procyclical behaviour and excessive liquidity provision sows the seeds of future crises in which they want to deleverage excessively.

Chart 12: Yield to maturity of 10 year Spanish government bonds

Chart 13: Bid-Ask spreads of 10 year Spanish government bonds



Source: Commission Services – Bloomberg

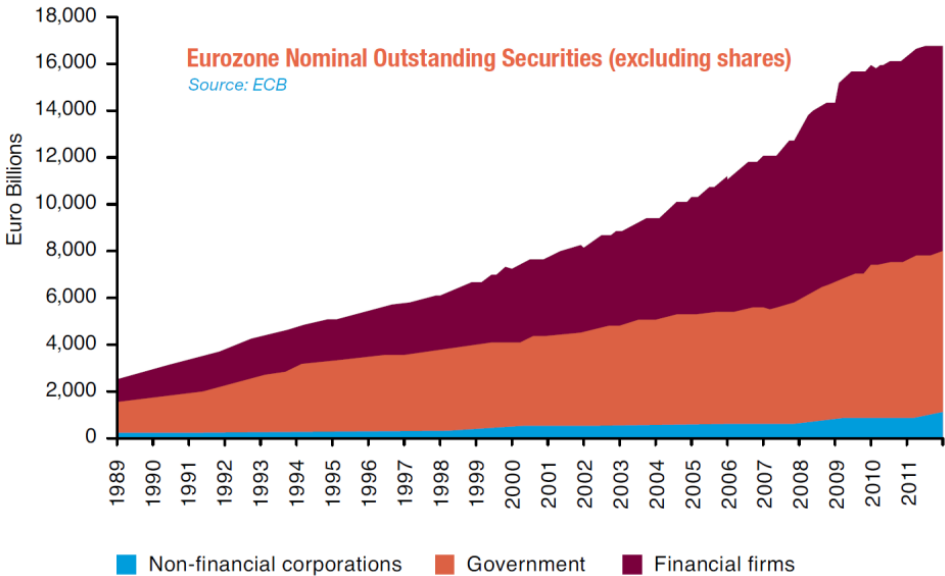
Source: Commission Services - Bloomberg

Third, the bulk of the securities inventories of banks do not correspond to sovereign or corporate debt, but rather to securities issued by other financial firms. Only a tiny fraction of the outstanding securities in the Eurozone has been issued by non-financial non-state issuers

⁸⁰ Zingales (2012): “The third reason why I came to support Glass-Steagall was because I realised it was not simply a coincidence that we witnessed a prospering of securities markets and the blossoming of new ones (options and futures markets) while Glass-Steagall was in place, but since its repeal have seen a demise of public equity markets and an explosion of opaque over-the-counter ones.

(chart 14). A similar observation holds for OTC derivatives, of which only a tiny fraction have non-financial firms as counterparts. The bulk of OTC derivatives are intra-financial sector derivatives (see also BIS (2013)).

Chart 14 – Outstanding securities in the Euro Area according to issuer



Fourth, Richardson (2013) notes that the issue of liquidity is more relevant in times of crisis than in normal times when liquidity is typically not a pressing concern. Private banks have not performed a significant liquidity role during crisis period and central banks have stepped in to assume the role of Market Maker of Last Resort (in covered bond markets, government bond markets, etc.) next to Lender of Last Resort. Finally, the liquidity concern is often built on the presumption that more liquidity is always and inherently positive, irrespective of its level, which is not the case.⁸¹ Financial economics does not have a good explanation yet. One explanation for excessive trading is overconfidence, as in Odean (1999). Recent work presents models in which trading and trading speed can be excessive (Glode et al. (2012) and Bolton et al. (2012)). In these models, advances in IT do not necessarily improve the efficiency of financial markets. French (2008) estimates that investors spend 0.67% of asset value trying (in vain on average, by definition) to beat the market.

5.8.1.2. Households, SMEs, depositors and taxpayers

Households and SMEs that are clients of a banking group that needs to subsidiarise certain capital market activities would typically demand retail-type services which can be provided by the deposit entity. Hence, the increased funding cost for the trading entity is unlikely to affect borrowing conditions for households and SMEs. In fact, some capital market activities entail significant risk. Separating such activities from the deposit entity will reduce excessive risk taking and artificial balance sheet expansion and hence may lower the funding cost for the deposit entity.

⁸¹ For example, benefits of market liquidity should become smaller with the degree of market liquidity. The additional benefits of the extra liquidity derived from high-frequency trading must be of negligible (or negative) value compared to the benefits from having a market which is reasonably liquid on a day-by-day basis. Moreover, ever greater market liquidity may give rise to destabilising momentum effects, such as cycles of undervaluation and overvaluation.

Medium-sized competitors or new entrants that are not subject to mandatory separation may gain market share from large banking groups if artificial competition distortions in favour of too-big-to fail banking groups are being reduced. Hence, whereas some banking groups may face increased costs and may no longer serve certain customers, those activities may be picked up by smaller competitors that do not face structural separation requirements. Customers are accordingly not likely to be left unserved.

The impact of the preferred policy options on households, taxpayers and depositors will be positive. Households will predominantly be clients of the deposit taking subsidiary and hence will no longer be vulnerable to the same extent to trading and capital market related risks and conflicts of interests. At the same time, given that the funding cost of the deposit taking subsidiary is not estimated to go up, there should be no or a limited impact on borrowing rates or deposit rates. Importantly and although not very visible to each of them, they benefit from the reduced likelihood of taxpayer support for large banks. They will also benefit from being less vulnerable to conflicts of interest within the bank, as the culture of the deposit taking subsidiary should be more relationship-oriented and less affected by a transaction- and deal-oriented culture.

SMEs will primarily be banking with the deposit taking subsidiary whose funding costs should not be negatively affected by the separation of trading activities, hence there should be no impact on borrowing rates or deposit rates of SMEs. SMEs will also benefit from reduced conflicts of interest within the bank. Given that banks no longer will have distorted incentives to allocate their capital towards trading activities, SMEs are also likely to benefit from bank capital being more devoted to serving the real economy.

The preferred policy options do not imply the end of the universal banking model, but implements “structured” universal banking and largely retains any potential economies of scope (e.g. one-stop shopping) that may be of particular importance to SMEs (even though many SMEs are likely to have more than one banking relationship in order to foster competitive terms). The subsidiarisation is expected to reduce *diseconomies* of scope, such as excessive risk taking and conflicts of interest.

5.8.1.3. Large corporates

Large non-financial corporates would no longer be vulnerable to conflicts of interests, as the bank no longer can make improper use of client-related information to increase its own profits (e.g. by means of proprietary trading). Similar to SMEs, while large corporates buys financial services from a wide range of banks, they would still be able to procure a full set of financial services from a single bank should they so wish.

In terms of banks attempting to pass on potential increases in their private costs resulting from separation, large corporates would be able to exercise pressure to reduce such a potential impact. They could access capital markets directly or borrow from a competitor bank.

Following separation, large corporates would be able to choose their bank of preference on the basis of a price/quality ratio comparison that is no longer distorted by artificial funding cost advantages.

The preferred policy options would most likely lead to increased funding costs for activities performed by the trading entity. This is indeed a logical consequence of the reform proposal, which aims at ensuring that the price of an activity internalises the associated risk. This provides the right incentives for the various banking activities carried out within a group. Accordingly, whether this could render certain business lines of EU-based banks less competitive should not be a decisive criterion and should be weighed against other overriding

policy principles are being sought, i.e. greater financial stability, easier bank resolvability, less likelihood for public support, and greater benefits for the society as a whole.

5.8.2. *Impact on bank employment*

Structural reform, as it aims at addressing a misallocation of resources in the economy is likely to have some impact on bank employment. Some executives and traders would be negatively affected by the preferred policy options, as it would become more difficult to engage in proprietary trading given that the funding cost of the trading entity will reflect the risk of such activities.⁸² Competition on the merits would keep economic rents lower. It is likely that the private cost increases are at least partially shifted to executives and traders, in terms of reduced remuneration (in particular bonuses).

Other employees of the deposit bank are unlikely to face a significant deterioration of their remuneration package. As relationship-based banking activities tend to be more labour intensive than trading activities, a refocusing of banks towards these activities should not imply a negative impact on employment and could even have a positive impact. The deposit entity will no longer have to act as buffer to absorb shocks and losses from the trading entity.

More generally, the flow of the most talented individuals into financial services may not be desirable, because social returns in other occupations may be higher, even though private returns are not. Philippon and Reshef (2012) find that workers in finance earn the same education- and other characteristics adjusted wages as other workers until 1990, but by 2006 the premium is 50% on average (i.e. the compensation of finance employees is 50% higher than expected). Top executive compensation in finance follows the same pattern and timing, where the wage is on average 250% higher than expected. An almost identical rise in the wage levels of finance workers relative to other business sectors was also seen in the 1920s. It was only in the late 1930s that banking pay fell to levels comparable with other industries where they stayed for almost 5 decades. Philippon (2013) claims that financial deregulation is responsible for the excessive wages in the finance sector, rather than the technology of modern finance.⁸³

Several authors (Baumol (1990), Murphy, Shleifer and Vishny (1991), Philippon (2013)) argue that the flow of talented individuals into financial services from other sectors of the economy (such as manufacturing, IT) may not be entirely desirable, because social returns may be higher in other occupations, even though private returns are not.⁸⁴ Many bank employees have strong science or engineering backgrounds. They could also increase the talent base for regulators.

In principle, structural reform is aimed at better directing bank capital and resources to those activities that finance the real economy. Proponents argue that without any structural separation, banks may be incentivised to allocate capital and human resources to trading and intra-financial activity and away from lending activity. Opportunities to engage in socially

⁸² Note that this concern needs to be put into perspective. Financial industry employment in London has decreased with 30% between 2007 and 2012, as a result of the financial crisis.

⁸³ Philippon (2013) documents that the income share of the finance industry in the US economy starts just below 2% of GDP in 1880. It reaches a first peak of almost 6% of GDP in 1932. Note that this peak occurs during the Great Depression, not in 1929. Between 1929 and 1932 nominal GDP shrinks, but the need to deal with rising default rates and to restructure corporate and household balance sheets keeps financiers busy. Similarly, the post-war peak occurs not in 2007 but in 2010, just below 9% of GDP.

⁸⁴ In a survey of elite US universities, Rampell found that in 2006, just before the financial crisis, 25% of graduating seniors at Harvard University, 24% at Yale, and 46% at Princeton were starting their careers in financial services. Those percentages have fallen somewhat since, but this might be only a temporary effect of the crisis.

less useful activities in finance (speculation) can crowd out the provision of useful financial services (lending and banking services) or make them more expensive (Arping (2013)).

5.8.3. *Impact on bank shareholders and unsecured creditors*

Structural reform should create incentives for shareholders to be more mindful of excessive risk. In particular for the deposit taking entity, risk would be lowered and required returns should be lowered accordingly. So, whereas return on equity will be lowered, the risk-return trade-off does not need to be worse. There is a potential to rebuild a relationship of trust with bank stakeholders.

The financial crisis has underlined the importance of effective scrutiny and the exercise of discipline by creditors. Such discipline has been lacking, in large part as a result of the perceived taxpayer guarantee. The measures to reduce the implicit public subsidies would be the most effective way of correcting this, as bondholders would have a greater incentive to assess credit risk. Market discipline from creditors should encourage banks and their managements better to balance downside and upside risks.

Creditors of the trading entity would require and receive higher returns as a compensation for the higher risk exposure, given that they will no longer be shielded by an implicit subsidy, as before.

5.8.4. *Impact on regulators and supervisors*

Regulators and supervisors will benefit from increased transparency as separate entities will be subject to separate reporting and governance, and constrained in terms of activities they can conduct. The structural separation should allow simplifying bank regulation and tailoring it to the specific entities.

Philippon and Reshef (2012) argue that regulators do not have the human capital to keep up with the finance industry. Given the wage premium that they document for finance employees, it is impossible for regulators to attract and retain highly skilled financial workers because they cannot compete with private sector wages. They also report that the ratio of executive compensation in finance (the top regulated) to the highest salaries paid to regulators (the top regulators) grew from 10 in 1980 to over 60 in 2005 (or 40, excluding bonuses). This provides a potential explanation for regulatory failures and for circumvention of regulatory requirements.

Following structural reform, regulation and supervision could be better tailored to the nature of the banking activity in the deposit taking entity and trading entity, respectively. Arguably, banking groups engaged in a variety of activities also require much more complex regulation and supervision. More simplicity in terms of corporate structure of banks would normally allow simplifying regulation and supervision of banks, and potentially render supervision and regulation more effective. Likewise, the prudential regulation of banks is difficult for investors to understand. Accordingly, investors do not or are not able to fully exercise the “watch-dog” function under Basel's “pillar 3” (market discipline). Unsecured bank creditors and investors perceive modern banks as opaque and as black boxes and it is possibly for this reason, inter alia, that they have started to call for structural separation. Institutional investors voiced their concern that banks are too opaque and complex to invest in.⁸⁵ If this claim were confirmed there is a prospect that certain forms of structural reform could, in fact, improve banks’ funding strains.

⁸⁵ Investors that have replied to the Commission’s consultation on the HLEG report chaired by Liikanen stated that “All banks fail to provide sufficient transparency of their circumstances, meaning that investors tend to mistrust almost all of them with equal fervour” (Hermes 2012, page 5).

5.8.5. *Impact on EU banking industry*

Given the TBTF focus, structural reform would target a limited set of banking groups that are large, complex and engage in significant trading activity. Hence, structural reform would not affect the large majority of 8000+ banking groups in the EU, and would in particular exclude small cooperative and savings banks that focus on serving the financing needs of local communities and small businesses. It would therefore preserve the diversity of the EU banking sector, e.g. in terms of different business models. Given the reduced reliance on implicit public subsidies, competition on the merits would become more important, which should lead to inefficient competitors exiting the market and allowing more efficient competitors, including new entrants, to gain market share and revenues. Each part of the group would be subject to its own profitability and resource constraints. To the extent that structural reform facilitates and enhances the effectiveness of bank resolution, exit barriers are being removed, which gives more opportunities for banks that have a sound and prudent business model (European Commission (2011)).

The success and resilience of the universal banking model should not be taken for granted. The current EU financial system is dominated by relatively few large, interconnected and diversified universal banking groups. Whereas several of those large EU universal banking groups have weathered the crisis well, the EU financial system as a whole would have likely imploded due to a system-wide cascade of banking failures without the extraordinary and *on-going* taxpayer, government and central bank support (European Commission (2011, 2012)). The (contingent) taxpayer support to date amounts to 40% of EU GDP (€5.1 trillion parliamentary committed aid measures) and has undermined the solidity of several Member States' public finances. In the case of some Member States it has contributed to turn a banking crisis into a sovereign crisis (European Commission (2011, 2012)). This has had the effect of further increasing the fragility of the banking system since banks hold large volumes of sovereign bonds on their balance sheet - and hence confidence on these banks depends on the robustness of the public safety nets). Implicit subsidy estimates suggest that the EU universal bank profitability may be artificially high given the indirect and implicit sponsoring by their sovereigns: the largest EU banks are likely to benefit more from implicit subsidies (which represent a sizeable part of their profitability, see Annex A4).

Bank balance sheets would no longer grow as aggressively as before. Large European banks have expanded and leveraged up rapidly in the run-up to the crisis. They have also expanded internationally, by relying on USD short term wholesale markets and investing in USD claims, effectively intermediating between US savers and US borrowers (Shin (2012)).

Note that the retained structural reform options are not calling for a break up of banking groups (with the exception of proprietary trading activities which constitute a small share of banks' balance sheets), but simply wants to disentangle the activities that are considered long-term and relationship-oriented from those that are short-term, transaction-oriented, and the most prone to rapid change, while at the same time it wants to maintain banks' ability to efficiently provide a comprehensive range of financial services to their customers. The proposal is simply to introduce more structure in EU banks, not to break them up. Structural reform through subsidiarisation merely intends to clarify the structure of universal banks. The nature of the activities drives the distinction in underlying cultures. Commercial banking typically involves long-term lending relationships, whereas trading typically involves a short-term perspective. The separation of the two distinct cultures would avoid that a short-term oriented, deal- and fee-based trading culture negatively influences the long-term relationship-based culture of the deposit and lending entity. There is significant public support for

structural reform, as highlighted in section 1.1, and as voiced by top economists and financial experts.⁸⁶

Amongst others, banks operate the payment system, make loans to households, businesses and governments, help households and businesses to manage their risks and accommodate their financial needs over time. The purpose of the financial sector and banks should be to serve the “real economy”. A safe and sound banking sector is a pre-condition to fulfil these essential functions, serve the real economy, and allow for sustainable growth. Sustainable economic growth is what counts, not temporarily boosted artificial growth that results in booms and subsequent busts. As such, there is no conflict between stability and growth. As shown in the on-going banking crisis, taxpayer bailouts often prevent the market exit of failing banks, rather than just ensuring the minimum possible (i.e. the continuation of critically important activities and services that cannot easily be provided through other players).

In addition, the increased funding costs are likely to reflect the underlying riskiness of the activities. Genuine economies of scale are found to be exhausted at relatively low levels of assets and banking groups that would be subject to structural reform operate at scales that typically exceed that level (see Annex A9).

Also it is not obvious that any benefits are passed on to consumers. Philippon (2013) find that the unit cost of intermediation has not decreased over the past 30 years, despite advances in information technology, changes in the organisation of the finance industry, and despite the growth of new markets, notably for financial derivatives.

Given the importance of implicit subsidies in terms of banks’ profits, bank profitability is likely to be reduced following the funding cost increase of the trading entity. However, risk-adjusted bank profitability will not necessarily be lower, as structurally reformed banks will be less risky.⁸⁷

Philippon and Reshef (2012) find that much of the increase in financial activity has taken place in the more speculative fields, at the expense of traditional finance. From 1950 to 2006, credit intermediation (lending, including traditional banking) declined relative to “other finance” (including securities, commodities, venture capital, private equity, hedge funds, trusts, and other investment activities like investment banking). Wages in “other finance” sharply increased relative to those in credit intermediation. Bolton et al. (2012) argue that a significant amount of speculation and deal-making is pure rent-seeking. In other words, it is wasteful activity that achieves nothing more than enabling the collection of rents on items that might otherwise be free.

Cecchetti and Kharroubi (2012) empirically find that the enlargement of the financial system, beyond a certain size, is associated with reductions in real productivity growth. This, in part, may be due to the financial sector competing with the rest of the economy for scarce resources. Arcand et al. (2012) also find that there can be “too much” finance. When private credit reaches 80% to 100% of GDP, which is largely exceeded for several crisis-affected EU Member States such as DK, NL, IE, CY, UK, ES, PT, further private credit is found to be negatively associated with GDP growth. The hypothesis is that excessively large financial systems may reduce economic growth because of the increased probability of a misallocation

⁸⁶ Paul Krugman, Alan Greenspan, Paul Volcker, Thomas Hoenig, Sheila Bair, Andrew Haldane, Simon Johnson, Mervyn King, John Kay, Luigi Zingales, Willem Buiter (Citigroup), David Komansky (Merrill Lynch), Phil Purcell (Morgan Stanley), etc.

⁸⁷ Alessandri and Haldane (2009) document that large UK banks recorded an average annual return on equity of 7% from 1920 to 1970 (with a standard deviation of 2%), whereas the average annual return on equity amounted to 20% on average in the period 1970 to 2007 (with a standard deviation of 7%).

of resources, the increased probability of large economic crashes⁸⁸, or the endogenous feeding of speculative bubbles. Philippon (2008) observes that outstanding economic growth was achieved in the 1960s with a much smaller financial sector.

Furthermore, structural reform could have an important beneficial impact on the stability of the financial system. Structural reform could affect the probability of banking crises such as Lehman Brothers, Northern Rock or Cajas. Following structural reform, Lehman Brothers would have been less connected to deposit taking banks, and therefore the impact of its failure would have been less disruptive. Under lower levels of interconnectedness with deposit entities, resolvability of Lehman Brothers would pose fewer concerns and would thus be more likely. Anticipating this, the scope for aggressive pre-crisis growth and contagion upon failure would have been reduced through increased market discipline. Investment banks would not have been obliged to compete as aggressively as they did, faced with competitors that enjoyed artificial funding cost advantages thanks to their safety net coverage. The repeal of Glass-Steagall may have significantly increased the competitive pressure felt by pure investment banks like Lehman Brothers and Bear Stearns given that they faced commercial banks that were allowed to enter the investment banking area after 1999 and which could do so at artificially low funding costs.

In the case of Northern Rock and Caja collapses, structural reform could contribute to avoiding the aggressive growth and lending practices of these institutions. Such practices were only made possible by relying on financial innovation, including wholesale funding, securitisation of mortgages, and derivatives to structure these products for distribution to investors, which in turn reflected the expansion of the largest European banks. The rationale of structural reform is to refocus the deposit entities of large banks towards a sustainable relationship-oriented model of banking and move away from a transaction-oriented fee-based and short term oriented business model. Although the rules and restrictions would not apply to Northern Rock and Cajas, they would not feel similar pressure and they would not dispose of similar possibilities to leverage up as quickly as they did. Moreover, the current real estate crises, unlike most in history, imperilled sovereigns because sovereigns were obliged to bail out not only deposit entities but also banking activities that they should not have had to bail out.

Some argue that reputational or informational contagion would still create spill-overs between the two entities in a crisis and that deposit taking entities would not be able to avoid confidence crises if problems arise in the trading entity of the group. However, authorities will have more options to act in dealing with a distressed banking group, if the basic parts are more distinct from each other. Better structured groups allow to isolate the problem better than when the group structure is opaque.⁸⁹ Finally, structural reform aims to make the safety net more limited in scope and hence more credible and effective in stopping a run when it does occur.

⁸⁸ Popov and Smets (2011) analyse the role of direct intermediation through financial markets with the indirect intermediation through levered banks. They argue that less deep financial markets in the EU relative to those of the US are, to a large extent, responsible for the smaller increase in productivity and slower pace of industrial innovation. They also compare the liquidity spirals, asset fire sales, and interbank market freezes of the recent financial crisis with the much more orderly burst of the dot-com bubble. They argue that the credit boom of the 2000s was driven by debt finance, while the dot-com bubble was mostly driven by an expansion in equity ownership, and equity is not held in levered portfolios.

⁸⁹ In that sense, the EU state aid control policy and corresponding rescue and restructuring plans would be made easier and more uniform.

6. MONITORING AND EVALUATION

Monitoring will take place during the phase-in period.

Ex-post evaluation of all new legislative measures is a priority for the Commission. Evaluations are planned about 4 years after the implementation deadline. The forthcoming Regulation will also be subject to a complete evaluation in order to assess, among other things, how effective and efficient it has been in terms of achieving the objectives presented in this report and to decide whether new measures or amendments are needed.

In terms of sources of information that could be used during the evaluation, the data provided from the national central banks, the national regulators, European bodies such as the ECB, EBA and ESRB and from international organizations such as BIS, OECD, IMF and FSB. Relevant data could also be collected by relevant market participants or intermediaries.

Relevant indicators to evaluate the effectiveness of the reform proposal could include:

- Number and aggregate assets of banks subjected to structural separation requirements;
- Allocation of activities to deposit-taking or trading entity;
- Transaction volumes, spreads or liquidity in relevant markets;
- Trends in market shares of banks subject to structural separation;
- Market concentration in activities subject to structural separation;
- New entrants in activities subject to structural separation; and
- Trends in profitability of banks subject to structural separation, benchmarked against international peers and risk-adjusted.
- Measures of TBTF banks' funding cost advantage;
- Measures of trading and loan activity by TBTF banks; and notably
- Measures of the size of implicit public subsidies.

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