

The links between the Risk Reduction package and the development of Europe's capital markets

Case studies on the significance of the ongoing EU banking reforms for the end-users of capital markets and the real economy



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Foreword

AFME is pleased to publish *The links between the Risk Reduction package and the development of Europe's capital markets*. This publication comes at a crucial moment when policymakers are assessing the impact, on markets and their users, of the significant package of regulatory reforms introduced in the wake of the financial crisis.

Thanks to these regulatory initiatives and industry efforts, the resilience of the financial system has improved substantially. It is being further strengthened by the latest set of banking reforms: the Risk Reduction Measures, which implement at EU level some important parts of the global standards agreed by the Basel Committee and the FSB. These efforts will also help to keep up the momentum for the completion of the Banking Union.

At the same time the EU is also implementing its ambitious project aimed at developing Europe's capital markets and establishing a Capital Markets Union (CMU). AFME is a strong advocate of the CMU initiative, which is more important than ever to boost growth and investment and channel capital to the real economy.

The coordination and reconciliation of the two policy initiatives mentioned above – the objective of a more stable and sustainable financial system and the renewed emphasis on growth, including through deeper and more integrated capital markets – remains a fundamental challenge, which can be successfully overcome if the links between the key pillars of the regulatory framework are adequately explored and understood.

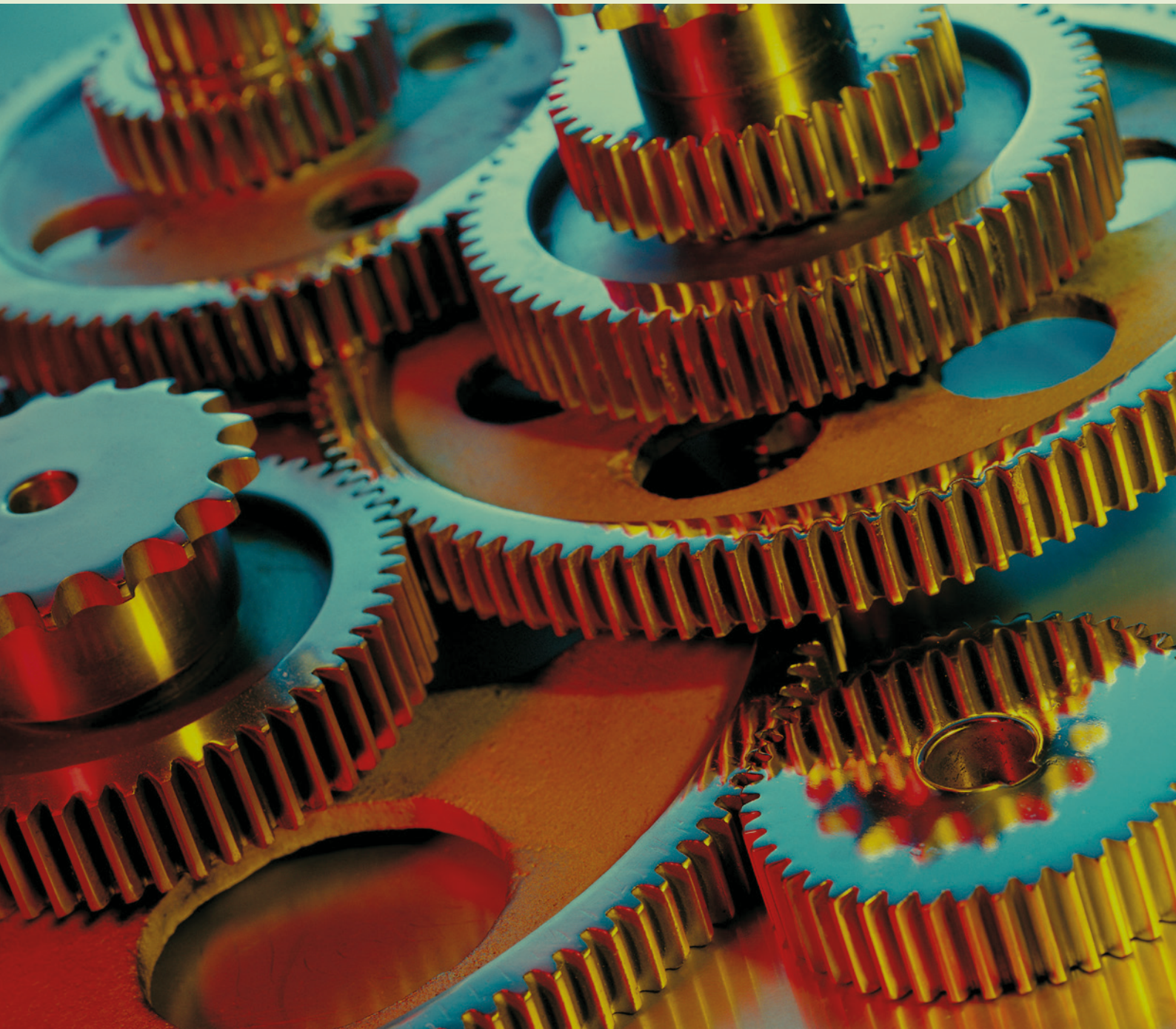
In producing this publication, AFME has worked closely with several groups of end-users of financial services: corporates, pension funds, asset managers. This is a set of case studies which aim to help identify the links between key parts of the ongoing banking reforms and the broader EU growth objectives.

I wish to thank all those who have contributed to this work, and I hope the constructive proposals outlined will help achieve stable, competitive and sustainable capital markets.



Simon Lewis
Chief Executive
Association for Financial Markets in Europe

Introduction



Introduction

The overarching aim of this report is to demonstrate why it is crucial that the European Commission's Risk Reduction Measures (RRM) package is not considered in isolation. In fact, as this report will highlight, it has significant links with capital markets and the wider economy, and has the potential to impact the end-users of financial services.

This is particularly important in a context where the EU is trying to develop its capital markets, in order to drive growth.

The report sets out eight case studies which explore the potential impact of key aspects of the RRM on capital markets products, transactions, as well as different capital market actors such as pension funds, international banks and businesses seeking to manage their risks.

Each case study highlights a different way that we believe the RRM, as currently drafted, could potentially affect market liquidity or ultimately make it more difficult for real economy end-users to access the financial products and markets they need.

It also presents proposals aimed at achieving a more appropriate treatment which would ensure that the prudential objectives are achieved without the unintended effects mentioned above. In most cases such proposals suggest a more proportionate calibration of some specific aspects of the RRM.

Banks and financial markets in the European economy

The first part of the publication focuses on the role banks and financial markets play in the economy, and explains how the EU economy is funded. Europe remains heavily reliant on bank loans to finance its economy. This is one of the key reasons why developing additional market-based funding options - which can act as a 'spare tyre' when bank lending is constrained - has rightly become a major objective of the EU and of its Capital Markets Union project.

But banks and markets both play essential, and complementary, roles in financing the real economy. These complementary roles are clear when considering how investment banks help companies and governments to raise finance through capital markets. Banks facilitate equity and debt issuance by helping end-users to access capital markets through underwriting services; by acting as 'book runners' and helping their clients find investors. They also support the provision of credit to the real economy through securitisation activities.

Banks also have a central role in the provision of market liquidity. By acting as market-makers, they help corporates, governments and investors access funding and investment opportunities at fair, accurate and transparent market prices. Liquidity is critical for the effective functioning of markets, for the effectiveness of monetary policy and for financial stability.

Therefore, reforms that will disproportionately impact how banks operate clearly have the potential to affect its capital markets too.

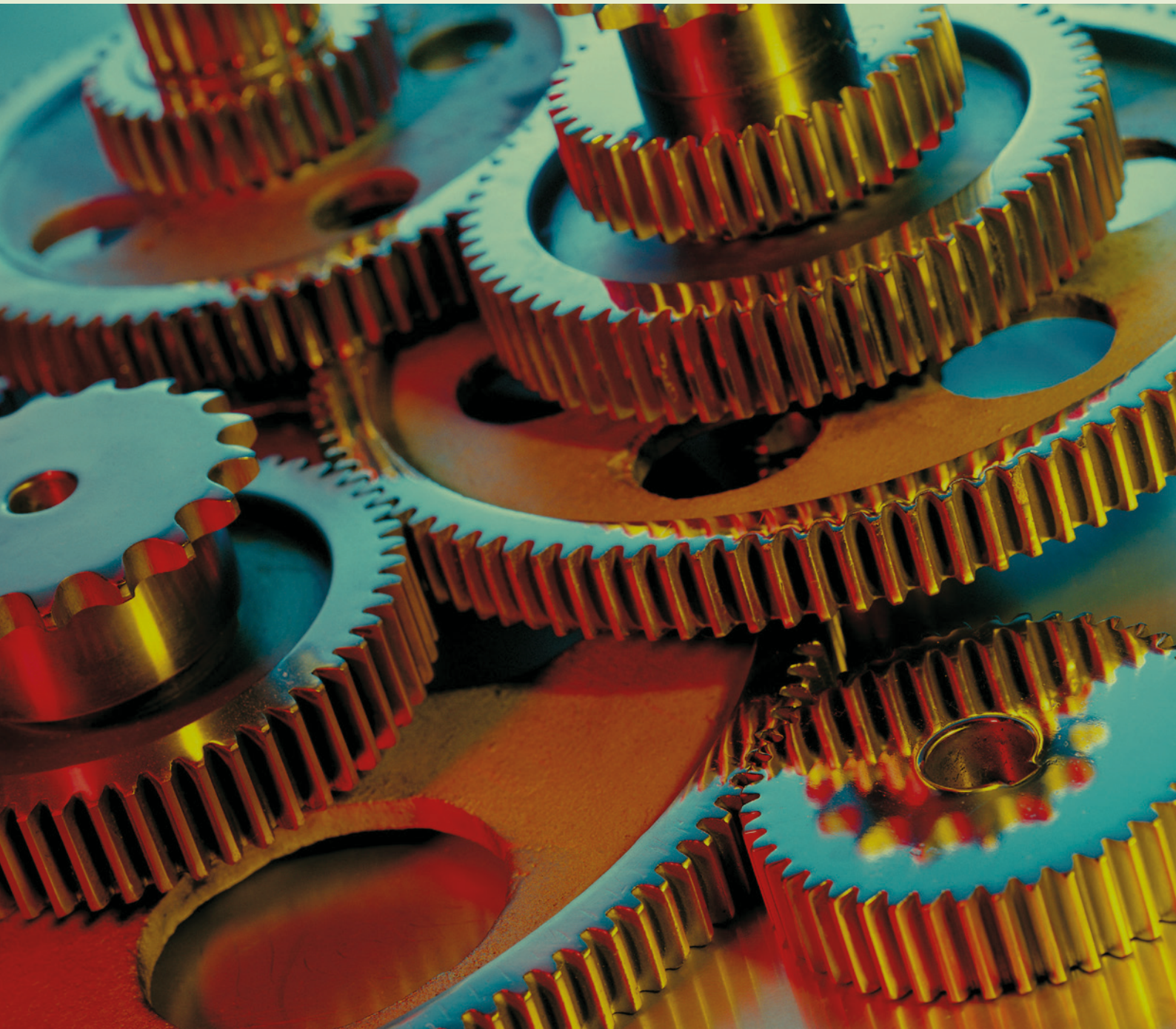
Capital markets and the RRM

The second part of the publication provides a concise overview of key capital markets and of the elements of the RRM package which are particularly significant for them.

In this respect, particular prominence has been given to the introduction of the Net Stable Funding Ratio (NSFR) and the Fundamental Review of the Trading Book (FRTB), although other components (e.g. the Leverage Ratio, or the Standardised Approach for Counterparty Credit Risk - SA-CCR) are also important. All these components are necessary and supported by AFME.

However, without reconsideration of some specific aspects - including their calibration, the timing of their introduction, as well as safeguards for globally consistent implementation - the negative impact on the end-users of capital markets, and on the objective of developing deeper and more liquid bond and equity markets, would be significant.

The role of banks and financial markets in the economy



The main functions of banks and financial markets in the economy

The financial system is critical to the functioning of the EU economy and banks play a key role in supporting it. Banks and the broader financial markets, in addition to providing substantial employment and generating considerable tax revenues, serve four main purposes:

I— **Credit provision and capital formation:** banks act as intermediaries in allocating funds from savers and investors to borrowers, whether they are individuals, businesses, corporations or the governments. Their loans support economic activity by enabling businesses to invest beyond their immediately available cash. They also allow individuals, for example, to purchase homes without saving the entire cost in advance, and governments to finance large infrastructure and other projects and to smooth out their spending by mitigating the cyclical pattern of tax revenues. Banks directly provide the main source of financing of the EU economy. When active in primary capital markets, banks help companies and governments to access finance by providing underwriting services: the bank guarantees that the amount of financing that the client wants to raise will be available by committing to purchase, at a pre-determined price, any newly issued equity shares or bonds that are not taken up by investors. By removing this uncertainty for the client, investment banks facilitate access to capital markets.

II— **Liquidity provision:** In addition to providing businesses and households with the ability to deal with unexpected needs for cash (through bank deposits that can be withdrawn any time and/or lines of credit), banks are at the centre of the financial markets, by acting as market-makers offering to buy and sell securities and related products at need, in large volumes, with relatively modest transaction costs. Market-makers bridge sellers' and buyers' needs which often do not coincide. This way, markets are able to remain liquid and investing, raising money and managing risks is made possible.

III— **Risk management services:** Banks - mainly through derivatives contracts - offer businesses and investors tools to remove or mitigate risks linked to changes in interest rates, exchange rates, prices of commodities, raw materials and energy products. This way, they can focus on their key areas of expertise.

IV— **Enabling payments:** Banks are largely responsible for the payments system. Electronic payments are becoming more important as people use less cash. This means that banks are processing more card payments, transfers, direct debits, etc. every day. The payment system also includes financial market infrastructure for payments, securities and derivatives, which is a core component of the financial system. Without the ability to conduct transactions safely and efficiently, modern economies would not function smoothly.

Credit provision & capital formation

Banks (by making loans to customers) and capital markets (by allowing the issuance of shares and debt instruments) create the credit and capital needed for infrastructure, education, investment and growth, and allow savings and investments to be linked.

Liquidity provision

Market-makers bridge sellers' and buyers' needs. This way, markets remain liquid and investing, raising money and managing risks is made possible.

Tools to manage risks

Banks offer businesses and investors tools to remove or mitigate risks linked to interest rate changes, currency exchange rates, prices of commodities, raw materials and energy products. This way, they can focus on their key areas of expertise.

Infrastructure for payments

Banks facilitate payment services needed by households and businesses to carry out day-to-day transactions.

Credit provision & capital formation in the EU

As shown in the graph below, bank loans remain the main source of financing of the EU economy, but EU corporates are increasingly raising funds from bond markets and other funding sources.

Traditionally, the non-financial corporate sector in Europe has heavily relied on banks' loans: around 2/3 of its debt financing is provided by banks. This contrasts with the US, where bank financing is around 30% of debt. Compared to the US, access to capital markets in the EU remains less developed.

The capacity of banks to lend is determined by the amount of capital that they hold, with regulatory limits placed on the amount of lending that banks are allowed to undertake for a given amount of capital. A significant amount of banks' capital is held in the form of shares or equity that they have issued. During periods of economic turmoil, the value of banks' loans could be negatively impacted as some borrowers become unable to meet their obligations. Where, as a result, banks suffer losses these reduce the value of their equity and can force them to reduce their lending or other assets in order to meet regulatory requirements. This process, known as deleveraging, is procyclical i.e. it may act to worsen the economic downturn that gave rise to the banks' losses in the first place.

When this happens, market-based finance, can act as a 'spare tyre' – compensating for the shrinking bank lending during crises and avoiding a large corporate funding gap, which might otherwise further depress economic growth.

This is why developing deeper and more liquid corporate bond and equity markets is a key objective of the EU and of its Capital Markets Union project.

As many academic analyses have shown, banks and capital markets are not competing with each other for a limited number of investment opportunities; and capital markets are not a threat to more traditional banking models. Banks and markets are essential and complementary tools to finance the real economy.

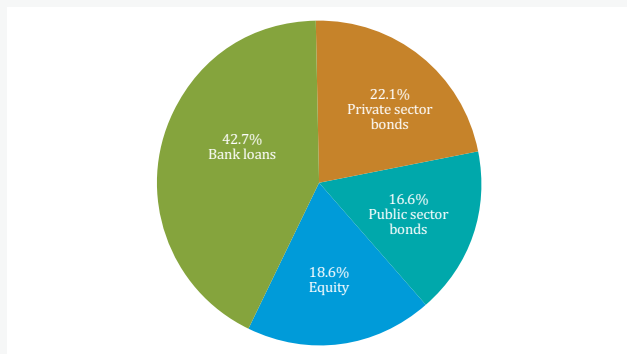
A corollary of this is that key EU projects like the banking union and the capital markets union are two mutually reinforcing initiatives, necessary to achieve the full benefits of the EU Single Market for financial services. The CMU can help enhance and broaden financing options through capital markets. This diversification objective is important for financial stability reasons. It is also particularly important for innovative and fast-growing businesses, for which access to risk capital and to capital markets is crucially important, given the specific risk profile and business needs of start-ups with very high growth potential¹.

In the EU, banks will remain the primary lenders to small and medium businesses due to the size of transactions and the local nature of commercial relationships.

¹ AFME's report on "The Shortage of Risk Capital for Europe's High Growth Businesses", published in March 2017, outlines the existing sources of risk capital for growing businesses, why shortages occur, and highlights recommendations for policymakers. Earlier AFME publications focusing on unlocking growth and jobs in Europe include: "Bridging the Growth Gap", which highlighted the gaps in equity and debt financing for small and mid-sized companies and "Raising Finance for Europe's Small and Medium-sized Businesses".

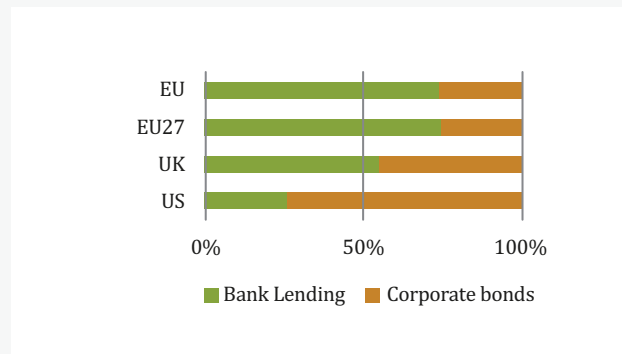
How is the European economy funded?

Figure 1: Percentage of private and public sector debt securities outstanding, stock market capitalisation, and formal banking sector assets



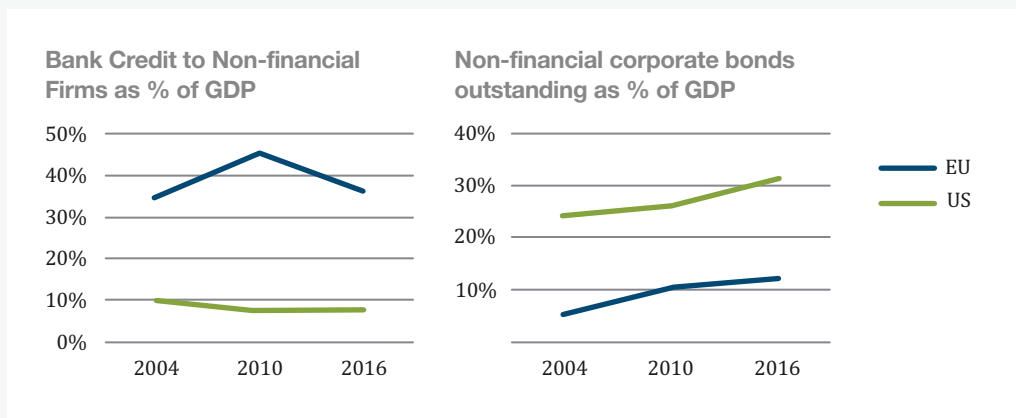
Source: ECB, AFME - 2016

Figure 2: Bank lending vs corporate bonds as a % of corporate debt (3 years to 2015)



Source: ECB, US FED, IMF

Figure 3: Comparison EU / US



Source: ECB, Eurostat, US FED and World Bank

An overview of EU debt and equity markets

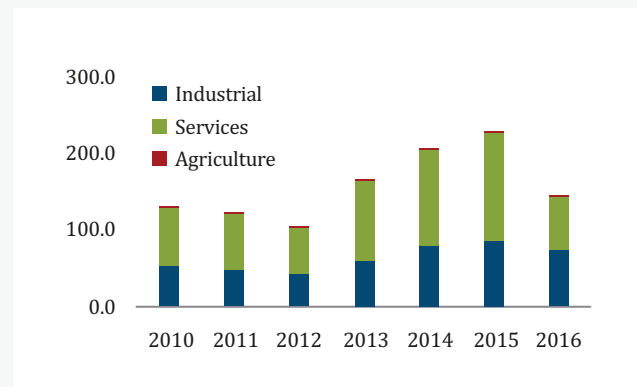
Bank lending and bond issuance: The graph below shows that between 2008 and 2016, the level of outstanding European non-financial corporate loans remained stable, despite strong pressure on banks and corporates to deleverage. However, since 2008, larger corporates have increasingly gone to capital markets for their funding needs.

Figure 4: **European Non-financial Corporate Debt outstanding (tn €)**



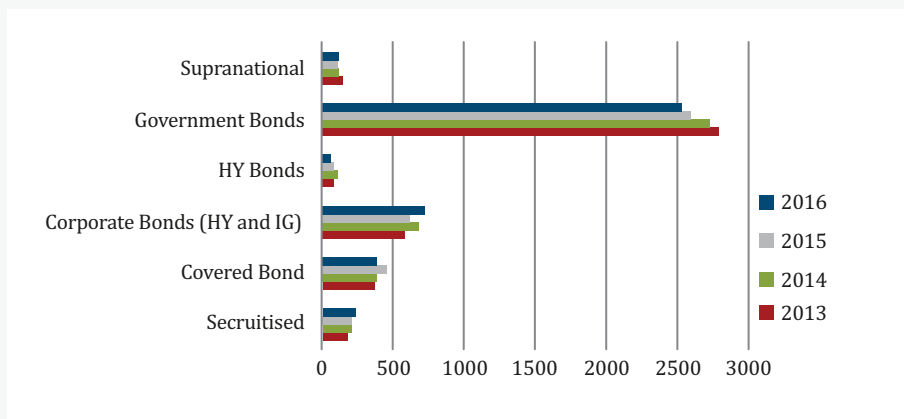
Source: ECB

Figure 5: **EU equity markets - IPO, follow-on and convertible securities issuance on EU-28 exchanges (bn €)**



Source: Dealogic

Figure 6: **EU debt markets - EU Issuance of debt securities by asset class (bn €)**



Source: ECB, AFME, ECBC and Dealogic

Investment banks help companies and governments raise finance through capital markets

The synergies and complementarities described above, are evident when considering the role played by investment banks in helping companies and governments raise finance through capital markets.

Banks facilitate equity and debt issuance by providing these important services:

Underwriting services—Investment banks help end-users access finance through capital markets by providing underwriting services, whereby the investment bank agrees to purchase, at a pre-determined price, any securities — equity shares and bonds — newly-issued by the client/end-user, that are not taken up by investors. This removes uncertainty and risk for the client/end-user by guaranteeing that they will receive the funds that they require.

Book building—Investment banks, acting as ‘book runners’, help their clients (users of capital or borrowers of credit) find investors (providers of capital or credit) who are willing to buy the securities that will be issued. They promote the issuance to investors in the run-up to an auction, which is used to determine the maximum price that investors are willing to pay to supply all the funds requested. They often also carry out a ‘due diligence’ process — to ensure adequate information is provided to investors — and help with the preparation of legal documentation.

Securitisation Activities—The provision of credit to the real economy is also supported by the role banks play in securitisation activities. Securitisation is the process of pooling together a large number of loans (such as mortgages, auto loans or SME loans) held on the balance sheet of a bank or other financial institution (the “originator”) and selling them to a newly created separate entity (“special purpose vehicle” or SPV). This entity finances the purchase of the loans by issuing bonds to investors. In this way, loans which would be illiquid can be converted into more liquid and tradable securities. European securitisations have performed well and are founded in prudently designed rules. At a time when bank lending is constrained, securitisation can boost both credit and growth by helping borrowers to benefit from capital markets. By securitising loans and selling them to investors, banks are also able to free up more capacity to make additional loans to new borrowers.

Liquidity provision: market-making services in secondary markets

Liquidity is critical to effective market functioning. Corporates, governments and investors need consistent and constant access to funding and investment opportunities at fair, accurate and transparent market prices. Liquidity is also critical for the effectiveness of monetary policy and for financial stability.

Matching sellers with buyers for a given asset, time and transaction size can be very difficult. In these cases, banks act as market-makers, using their own capital and holding the asset, until a buyer or seller can be found.

This sharply increases the liquidity of many securities. Without this, corporations and governments would find it more difficult to raise finance as investors would be less willing to purchase their securities if they could not easily sell them on at a later date. Alternatively, they would demand a higher price in terms of dividends or interest for holding them, to compensate for their poor liquidity. By providing liquidity, market-making therefore facilitates the efficient allocation of economic resources.

Investors care significantly about the degree of liquidity of their investments, because it affects:

- **Direct transaction costs** - Bid/ask spreads (the difference between the price at which a dealer is willing to bid for or buy a security, and the price it asks or offers to sell that same security) are usually substantially wider for illiquid securities. The spread compensates dealers for the risk of holding a security in inventory and the risk of a price decline; it also covers its operational costs and the financing costs.
- **Time to execute a transaction** - In many debt instruments and some equities, it may take days, or even weeks, for a large position, to actually find a seller (or a buyer) who is interested in selling (or buying) at something close to the market price. This creates risk.

- **Impact on average prices** - The average price investors pay or receive can be impacted if their transaction is large enough to move the market. They will be less interested in owning thinly traded shares whose price will move up during the process of their buying shares; additionally, the opposite would likely occur when they wished to liquidate their position.

The net effect of the above factors is to make investors less willing to own illiquid securities or, as mentioned above, to lead them to ask for a higher “liquidity premium”, as compensation for liquidity risks.

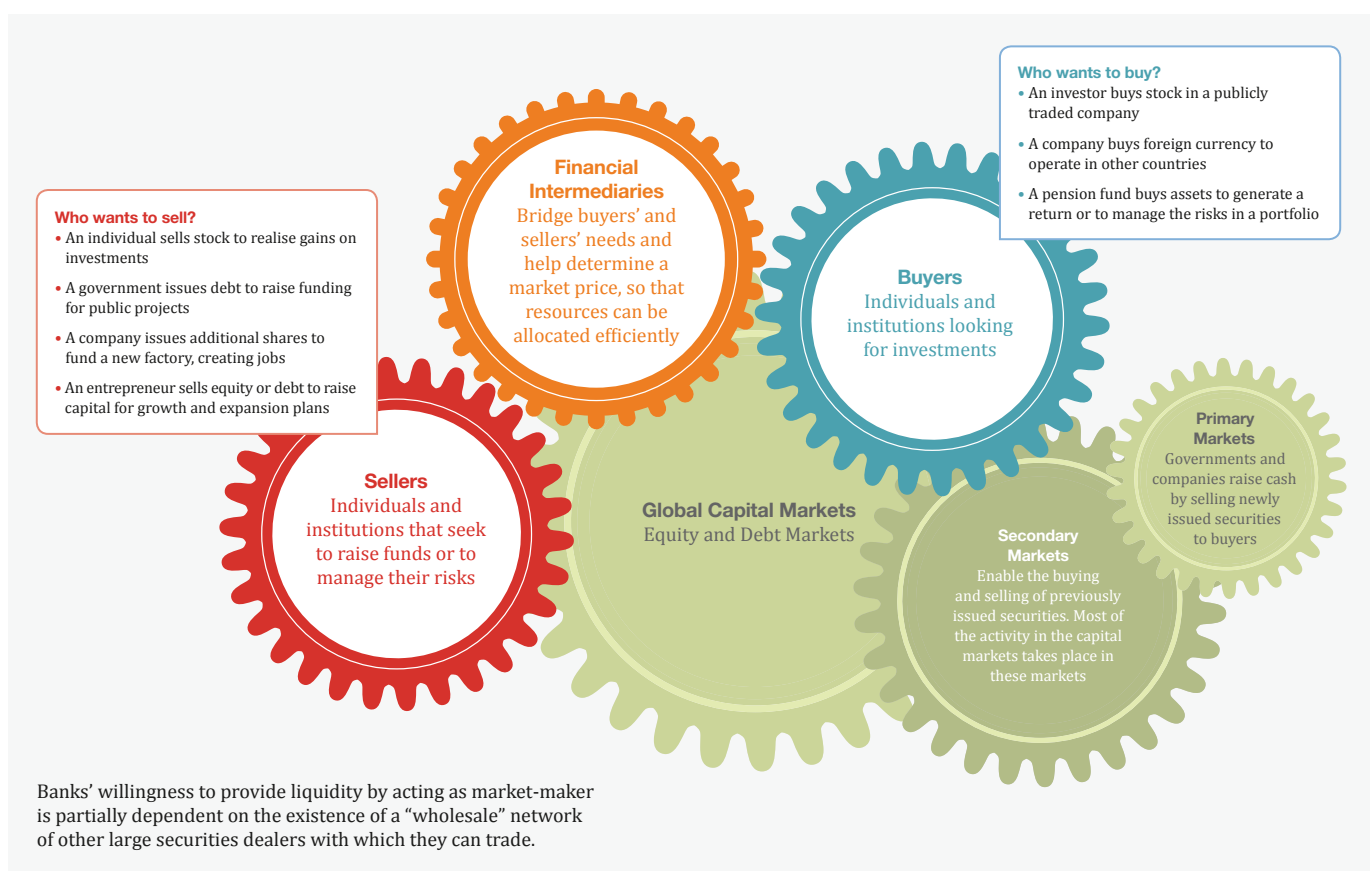
The link between primary and secondary markets

The knowledge that securities can easily be traded in secondary markets reduces investors’ risk of participating in primary issuances and holding securities for longer than they would like. In this way, trading activity supports the provision of finance in primary capital markets.

This is particularly important for trading in financial instruments such as corporate bonds, many of which are not traded via an exchange, but instead rely on investors (asset managers such as pension funds or hedge funds, or insurance firms) contacting market-makers for quotes.

Market-making, liquidity and financial stability

In addition to being central for the financing of the economy, market-making activities of banks - by maintaining / increasing market liquidity - are essential in order to reduce price volatility and increase securities markets’ resilience to shocks. This is essential for financial stability. It is also a key factor in the implementation and smooth transmission of monetary policy.



What is liquidity?

Liquidity is a multi-dimensional concept, generally referring to the ability to execute large transactions with limited price impact, and tends to be associated with low transaction costs and immediacy in execution.

The key 'dimensions' of liquidity include:

Immediacy - typically refers to the time it takes to complete a transaction.

Depth and resilience - a market is deep when there is a large flow of frequent trading orders on both the buy and sell side; this should lower the price impact of larger trades, creating resiliency / lower volatility.

Breadth - refers to the consistency with which liquidity is distributed within asset classes and across markets.

Tightness - typically refers to the financial cost of completing a transaction.

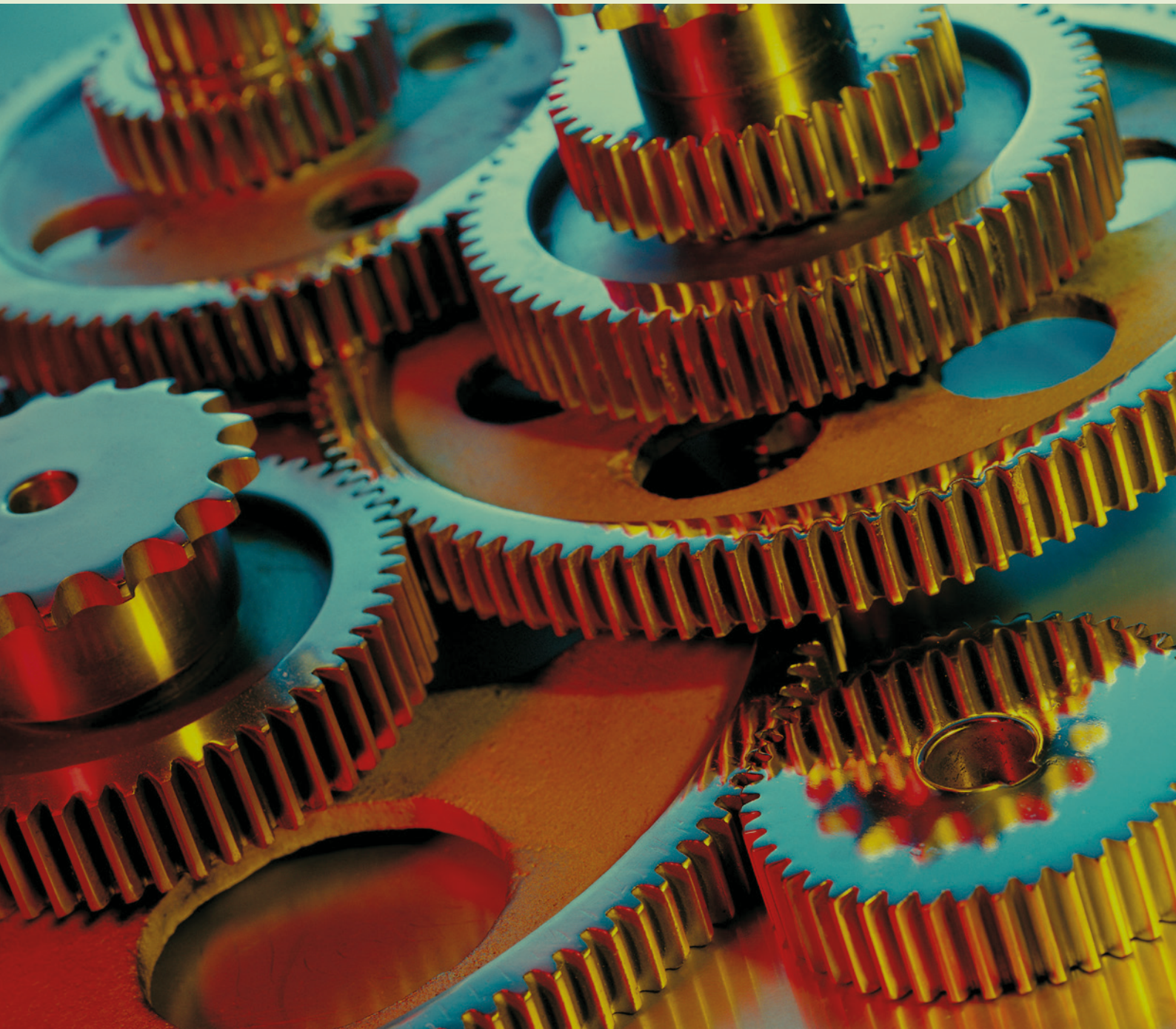
Measuring market liquidity is complex, but signs of deterioration are visible

The multiple dimensions of liquidity make 'measuring' market liquidity a complex exercise. However, several analyses have highlighted that a combination of several factors, including banks reducing risks following the introduction of new regulatory frameworks, have contributed to a deterioration in the liquidity environment in certain asset classes. Evidence includes the following trends:

- European corporate bond trading volumes have declined by up to 45% between 2010 and 2015;
- Evidence suggests that block trades are becoming more difficult to execute without affecting prices;
- There has been a decline in turnover ratios in corporate bond markets, where trading volumes have failed to keep pace with the increase in issuance;
- Banks' holdings of trading assets have decreased by more than 40% between 2008 and 2015, and dealer inventories of corporate bonds in the US have declined by almost 60% over the same period;
- Liquidity bifurcation - Liquidity is increasingly concentrating in the most liquid instruments and falling in less liquid assets.

The reduced dealer liquidity to date has not caused measurable economic damage due to quantitative easing programs and extraordinary monetary policy, which are reducing liquidity pressures, and because market participants are adapting by trading some instruments less frequently and in smaller sizes. However, following the unwinding of QE or in a stressed environment, liquidity risks and market fragilities are likely to be revealed, potentially resulting in higher volatility in financial markets.

Overview of key capital markets and of how the RRM affects them



Overview of key capital markets and of how the RRM affects them

The following sections will provide an overview of a number of key capital markets and of the role played by banks in such markets. At the same time, the elements of the RRM/CRD5 package which are likely to have a negative impact on such markets are also highlighted. These impacts will be fully illustrated in the 'case studies' part of this report.

Government bonds markets

A key market for national governments, to raise funding necessary to finance public spending (health, education, infrastructures, etc.). For a broad range of investors, government bonds represent a highly liquid and low risk instrument; they also allow them to diversify their portfolio, match the maturities of their liabilities and invest their cash in safe assets, over the long or short-term (see section on repo markets). They also can be used as high-quality collateral to support borrowing.

Market size / structure

The level of outstanding EU public debt securities stood at €9.6tn at the end of 2016. European Government bond gross issuance totalled €2.54 trillion in 2016.

Role of banks

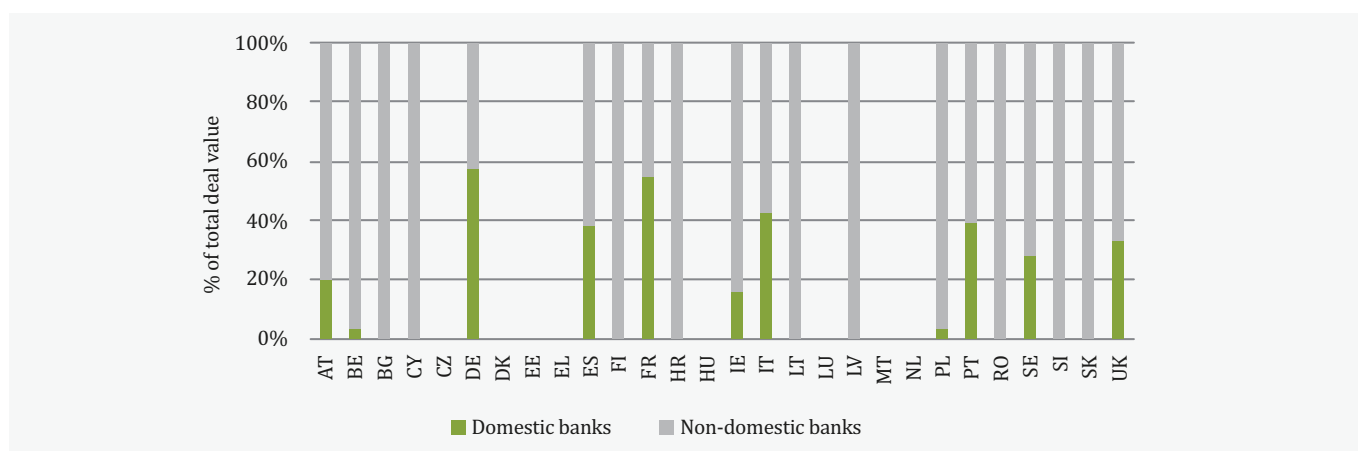
Banks act as "Primary Dealers", i.e. are appointed by governments to buy, promote and distribute their bonds. Even when no formal appointment is needed, banks are the bookrunners of sovereign issuances (i.e. they advise and "run" the issuance). In 2017 there were on average 18 Primary Dealers in EU countries (there were 23 in 2006).

Any Member State that wants to borrow will typically rely on internationally active banks to guarantee the success of the issuance and find investors willing to buy the issued bonds, ensuring that the government's cost of funding is kept as low as possible. These banks will also commit to providing prices for either selling or purchasing the securities after they have been issued, thereby promoting the liquidity of secondary markets for this debt. The graph below illustrates the important role that banks headquartered outside the country in question have in the issuance of EU government bonds, and the significance of proportionate market risk requirements for all Member States.

Elements of the RRM which are particularly significant for the market

- Fundamental Review of Trading Book (FRTB): flaws in the design and calibration of FRTB could disincentivise market-makers from dealing in government bonds;
- Net Stable Funding Ratio (NSFR): As acknowledged by the EC "the asymmetric treatment of short-term transactions with financial counterparties [repo] may further affect the market-making ability of financial institutions on EU sovereign debt bond" (source: impact assessment accompanying the EC RRM proposals).

Figure 7: Domestic vs non-domestic lead underwriters for government bonds issuances in 2016



Source: Dealogic

Corporate bonds markets

Corporate bonds are an important source of funding for large and mid-sized companies, which can use the proceeds from bond sales to invest in growth and job creation. They offer businesses access to alternative, more diverse sources of funding, which is one of the key objectives of the Commission's flagship Capital Markets Union project. Since 2008, with bank lending facing constraints, larger corporates have increasingly used capital markets for their funding needs.

Market size / structure:

Corporate bonds are an increasingly important source of financing for private businesses. Outstanding European non-financial corporate bonds stood at €1.8 tn in 2016 (compared to €0.7 tn in 2007).

Role of banks:

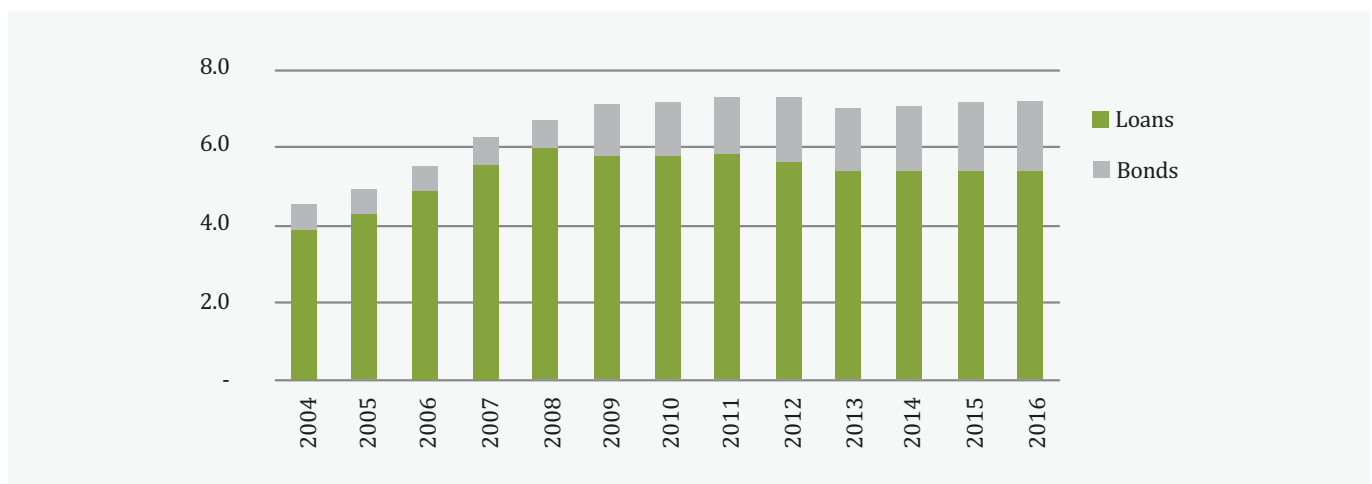
Primary markets: corporates and SMEs traditionally rely on banks to structure their bond issuances, i.e. to time and price it, to build investors' interest etc, and often to underwrite it, i.e. agreeing to take any unsold bonds (which they then hold and/or sell in the secondary market). Institutional investors and - less likely given the complexity - retail investors can buy the corporate bonds on primary markets;

Secondary markets: investors often need to sell or purchase corporate bonds after the primary supply during the life-time of the bonds. Liquidity provision by market-makers in secondary markets ensures lower costs for issuers and for investors.

Elements of the RRM which are particularly significant for the market:

- **Fundamental Review of Trading Book (FRTB):** flaws in the design and calibration of FRTB could disincentivise market-makers from dealing in corporate bonds. Particularly concerning is the modellability criterion and its impact on smaller issuances;
- **Net Stable Funding Ratio (NSFR):** corporate bonds receive up to 50-85% RSF factors, which will push market-makers to term out funding substantially; underwriting becomes costlier as banks are required to fund short-term inventory (which they hold to support underwriting) at long-term (higher) rates; the punitive treatment of repo affects corporate bonds as they are often used as collateral for repos (as for government bonds).

Figure 8: **Outstanding European Non-financial Corporate Debt (tn €)**



Source: ECB

Equity markets

For start-ups, SMEs and corporates, equity is an important alternative to loans and bonds - particularly for long-term investments and high-growth companies, for which near-term negative cashflow may exclude them from debt financing. Equity investment is more suited to financing the risks inherent to grow businesses. For investors and savers, equity has historically delivered the highest returns of all conventional, liquid asset classes.

Market size / structure:

IPOs decreased post-crisis: from 2005 to 2007, an average of €11bn was raised annually through 300 IPOs on European junior markets; the annual average has fallen to €2.8bn from 2008 to 2015 (source: AFME).

In 2015, Europe equity market capitalisation represented 73.3% of GDP, while in the US it stood at 159%. If Europe's market capitalisation-to-GDP ratio were to rise to 100%, more than €3.5 trillion in additional equity capital could be deployed by European companies.

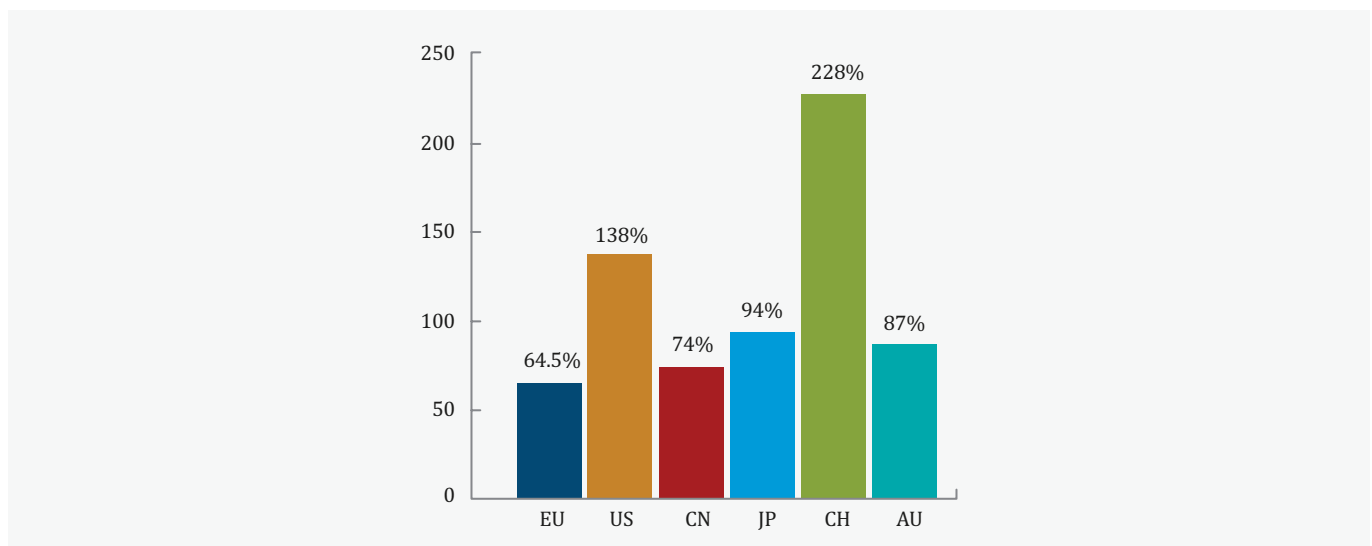
Role of banks:

Banks perform several roles in equity markets, they underwrite IPOs, structure, syndicate, market and distribute company shares; act as market-makers in secondary markets; provide equity swaps, which are an important way for investors to gain exposure to equity markets (see case study in 'Part 3' of this presentation); take on and source equities as collateral against financing.

Elements of the RRM which are particularly significant for the market:

- Fundamental Review of Trading Book (FRTB): the current calibration of the standardised approach, not adequately recognising hedging benefits, leads to cliff effects in terms of capital charges for equity-related activities by banks in case internal models cannot be used;
- Net Stable Funding Ratio (NSFR): equity swaps play a very important role in equity markets (see the case studies section). However, short-term equity positions held by banks as hedges against equity swaps attract RSF factors of 50 or 85%, which is disproportionate and could make equity swaps unviable.

Figure 9: **Stock market capitalisation as % of GDP-2013**



Source: EC

Derivatives markets

Derivatives enable businesses, investment managers, governments, insurers, energy companies and commodities firms to better control their financing costs and avoid the risk of volatile interest rates. They can also hedge their exposures to exchange rate risk, and better predict and control their energy costs. Banks themselves use derivatives to manage their interest rate risk and offer better services and prices to their customers.

Market size / structure:

OTC vs on-exchange: the majority of derivative contracts are traded over-the-counter (OTC), the rest are traded on public venues: derivatives exchanges. OTC derivatives markets are characterised by flexibility, satisfying the demand for bespoke contracts tailored to the specific risks that a user wants to hedge.

65% of the turnover of the OTC interest rate derivatives market (i.e. the largest market) involves an end user: i.e. non-dealer financial institutions and non-financial customers. The remaining 35% relates to dealer market-making and the hedging of customer transactions, which are essential to enable end-users to put on risk-reducing and cost-effective hedges.

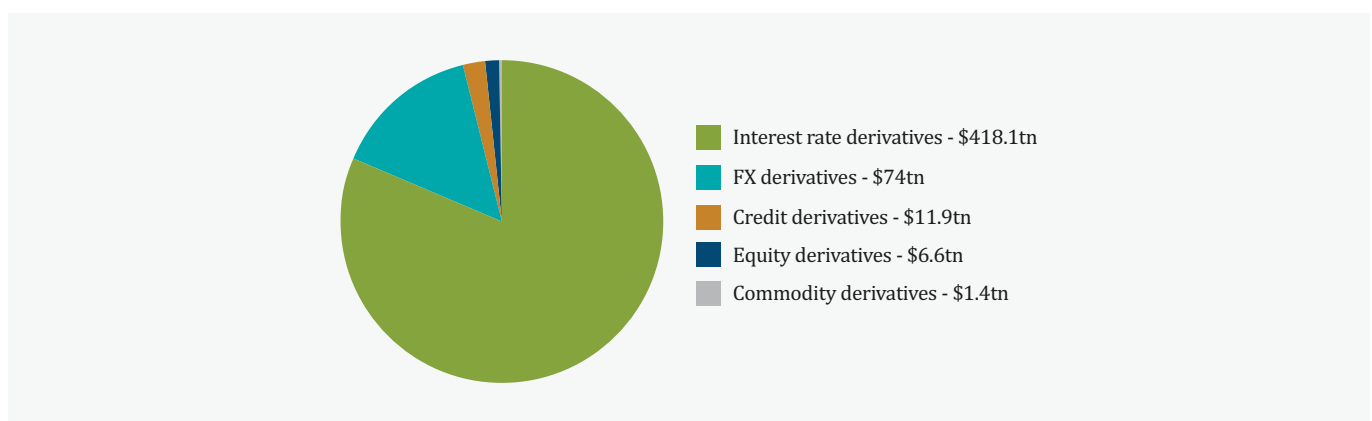
Role of banks:

Banks offer their clients a broad range of tools to diversify and manage risks, such as those arising from changes to interest rates, exchange rates or commodity prices, and are essential to global economic activity and growth. Banks often take the role of dealers in derivatives markets: they act both as prime brokers, taking counterparty risk and providing leverage, and as market-makers, structuring the product and providing liquidity.

Elements of the RRM which are particularly significant for the market:

- **Net Stable Funding Ratio (NSFR):** the proposed additional funding requirement for gross derivatives liabilities would lead to disproportionate and risk insensitive funding requirements. Acknowledging the validity of these concerns, in October 2017 the Basel Committee decided to delegate to national authorities the decision on what additional requirements should be imposed for derivative liabilities under the NSFR, subject to a 5% floor.
- **Fundamental Review of Trading Book (FRTB):** the current standardised approach would lead to significant increases in capital costs for derivatives hedges and portfolios.
- **Leverage ratio (LR):** The EC proposal recognises the benefits of initial margin in the exposure measure for OTC derivatives; this is welcome and should be preserved to avoid increased costs to derivatives users that are exempt from clearing requirements.
- **SA-CCR:** a recent ISDA-FIS impact study shows that SA-CCR would result in a significant increase in exposures and capital requirements.

Figure 10: **Total derivatives notional outstanding in 2016: \$544tn**
Gross market value: \$20.7tn (after netting: \$3.7tn)



Source: BIS survey June 2016

Repo markets

Repo markets play a key role in facilitating the flow of cash and securities around the financial system and in supporting liquidity in other markets.

Key functions are:

Safe investment: one party can invest cash and earn interest against the security of the asset provided as collateral.

Cheap borrowing: the counterparty can borrow cash in order to finance a long position in the same asset, in amounts and at prices that reflect the security provided to the lender.

Yield enhancement: for securities investors (e.g. pension funds, insurers), one party can earn a return by lending out an asset that is in demand in the market, in exchange for cheap cash, which can be used for funding or reinvested for profit.

Short-covering: the counterparty can borrow an asset in order to cover a short position; this is particularly important for market-makers which can limit the size/cost of their inventories, and therefore for liquidity.

Central banks use repos to conduct routine monetary policy operations and to provide emergency liquidity to the market in times of crisis.

Market size / structure

In European repo markets, government bonds are the security sold as collateral in 80% of cases. Repos using collateral other than high-quality government bonds are often called credit repos, where the collateral is often corporate bonds.

The total outstanding value of the repo contracts on the books of the 65 institutions who participated in the 2016 ICMA survey was EUR 5,656 billion (excluding monetary policy repos) (ICMA, 2016).

Role of banks

Banks act as intermediaries between those who want to invest their cash (e.g. a corporate, a money market fund or another bank) and those who want to provide collateral / security. This activity is referred to as 'matched book' repos (securities borrowed by the bank are matched by those lent).

In addition to playing this intermediation function, banks are also users of repos in their own right: to fund their trading inventories, to invest cash or get short-term funding.

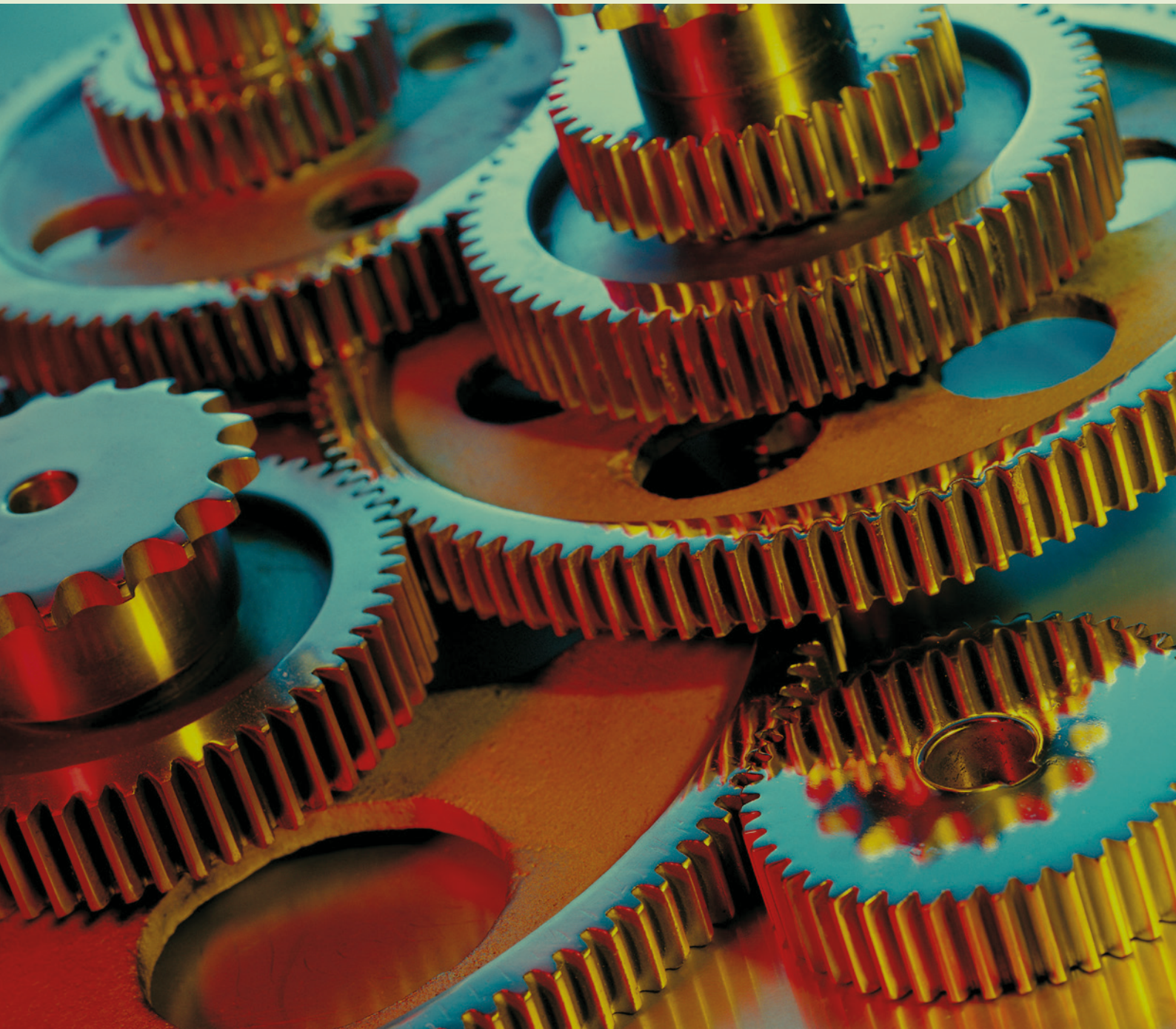
Elements of the RRM which are particularly significant for the market

- Net Stable Funding Ratio (NSFR): while repo funding is not recognised as stable funding (0% ASF), lending to financial institutions in the form of reverse repos, is subject to a stable funding requirement (10 to 15% in the Basel standard; 5 to 10% in the EC proposal). This asymmetry would have a strong negative impact on this high volume/low margin market.
- Leverage Ratio (LR): Since the LR does not differentiate between asset types, reverses of high quality liquid assets will affect a bank's ratio in exactly the same way as reverses of illiquid, low grade-assets. Given that most repo financing is provided for high quality, very liquid assets (mostly government bonds), it is this activity that will be most impacted and most constrained by the LR. This has already prompted significant deleveraging and a reduction in repo activity by banks.

What is a repo?

In a repo, one party sells an asset (usually fixed-income securities) to another party at a set price at the start of the transaction and commits to repurchase the fungible assets from the second party at a different price at a future date or (in the case of an open repo) on demand. The asset acts as collateral and mitigates the credit risk that the buyer has on the seller. A repo is like a collateralised loan or secured deposit (and the principal use of repo is in fact the borrowing and lending of cash). The difference between the price paid by the buyer at the start of a repo and the price he receives at the end is his return (source: ICMA).

Case studies



Case Study 1 - Impact on corporates: the case of the EU aircraft industry

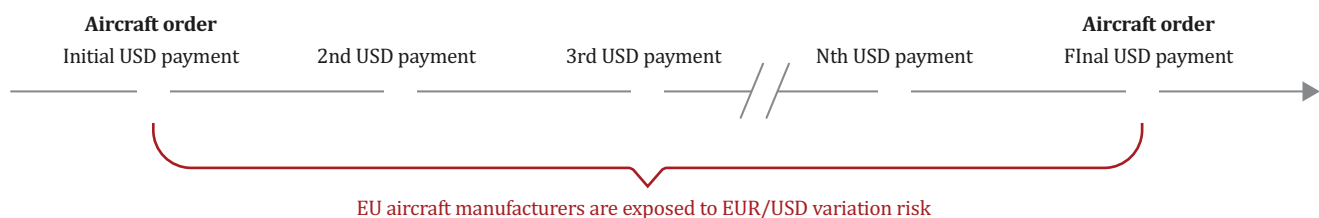
Introduction

Aeronautics is one of the EU's key high-tech sectors on the global market. The EU is a world leader in the production of civil aircraft, including helicopters (e.g. Airbus, Dassault), aircraft engines (e.g. Rolls-Royce, Safran), parts and components; the EU has a trade surplus for aerospace products, which are exported all over the world.

Aircraft orders from airlines or aircraft leasing companies are almost exclusively denominated in USD. Related payments are not bullet but split into cash flows spread over several years, from the order until the delivery of the aircrafts.

With a functional currency (i.e. the currency of the primary economic environment in which these entities operate, as well as the currency used to establish their financial statements) denominated in EUR but cash flows to be received in USD, EU aircraft manufacturers are exposed to adverse FX variations. To hedge such a risk, they use OTC derivatives, mostly FX forwards and a few vanilla FX options.

Broadly, the EU aircraft industry is the largest USD seller worldwide on LT maturities up to 3y, 4y or 5y. It represents a market of approximately \$150bn outstanding in USD/EUR FX forwards, shared between large international banks.



How banking regulations could impact the European aircraft industry

To cover the cost of expected losses arising from counterparty risk, banks selling OTC derivatives – such as those used by the EU aircraft industry – usually charge their counterparties with a Credit Valuation Adjustment (CVA).

Banks also charge a Funding Valuation Adjustment (FVA) to their counterparties. The FVA represents the funding costs borne by banks, over the life of a derivative, to source the collateral arising from the hedge of a derivative sold to end-users.

Beside CVA and FVA, banks are required by regulation to hold a sufficient quantity of capital to cover unexpected losses that could arise from market, counterparty and operational risks. Over the last decade, regulatory developments have led to a sharp increase in capital, leaving banks with two principal options: either reduce a market-making activity if it becomes insufficiently profitable or pass on the additional cost to end-users.

CVA, FVA and capital costs charged by banks to the EU aircraft industry are significant. This is due to the risk profile of EU aircraft industry portfolios that generate significant costs and capital footprint at bank level (portfolios are relatively long-term, uncollateralised and directional).

Potential impact of the Net Stable Funding Ratio (NSFR)

The NSFR requirement includes an “add-on” on derivative liabilities that would require banks to maintain long-term funding for uncollateralised counterparties equivalent to 10% of the gross negative market value of the portfolio (art. 428u CRR).

Due to the risk profile of EU aircraft industry portfolios (large negative uncollateralised market values), this NSFR add-on would represent a significant additional charge.

The add-on aims to capture the potential event where end-users would require banks to start exchanging collateral in times of stress. We believe it is not justified because fundamentally Corporates have no incentive to use their cash reserves as collateral, as it would divert their funds from productive investments.

How to achieve a more proportionate treatment?

We recommend removing the 10% add-on for uncollateralised counterparties (only Corporates would be concerned as all financial counterparties are required to be collateralised under EMIR). We think it is fully in line with the intention to take EU specificities into account not to hinder the support to the EU real economy.

Potential impact of the Standardised Approach for Counterparty Credit Risk (SA-CCR)

As currently proposed by the EC, the Standardised Approach for Counterparty Credit Risk (SA-CCR)² will replace the Current Exposure Method (CEM) to compute the derivatives exposure in the Leverage Ratio (LR). The LR is a “non-risk based” ratio deemed to act as a backstop and limit leverage in banks’ balance sheet.

A Quantitative Impact Study (QIS) conducted by ISDA & GARP reveals that the use of SA-CCR would result in a significant increase in exposures, particularly for Corporates portfolios (~3 times the CEM exposure for a FX uncollateralised portfolio).

In the first place, this increase is results from the application of a risk-based scaling factor (so-called “alpha factor”) to the market value of the portfolio. This alpha factor inflates the balance sheet exposure by 40% for uncollateralised portfolios.

How to achieve a more proportionate treatment?

The use of a risk-based scaling factor in a non-risk based ratio is not justified. Consistent with the treatment of other balance sheet exposures in the Leverage Ratio, we strongly recommend removing this alpha factor from the computation of the LR.

Besides the alpha factor, the increase also stems from the lack of diversification and the very conservative calibration of SA-CCR. We think it should be reviewed especially for the FX asset class.

² The short note “SA-CCR shortcomings and untested impacts” published by AFME and ISDA provides an overview of the issues linked to this standard. <https://www.afme.eu/globalassets/downloads/divisions/prudential/afme-prd-sa-ccr-shortcomings-and-tested-impacts.pdf>

Case Study 1 - Impact on corporates: the case of the EU aircraft industry

Aircraft industry - numerical example

Let's consider a 4y USD/EUR FX Forward with a A-rated aircraft manufacturer. As the aircraft industry portfolios are directional with limited netting benefits, standalone impacts are approximately equivalent to marginal ones.

The costs are presented in the table below as a percentage of the amount needed to achieve a 10% return on equity (RoE) excluding operating costs.

	Current	Post CRR2
RWA	71%	71%
CVA	22%	22%
FVA	1%	1%
Leverage Ratio ¹	5%	37%
NSFR	-	44%
MREL / TLAC ²	-	0.4%
TOTAL	100%	176%

¹ change from CEM to SA-CCR

² MREL / TLAC requirement at 18% of RWAs

The table highlights that, assuming that the bank decides to maintain a 10% RoE, the costs charged to the aircraft manufacturer would have to increase by 76%.

Potential impact of the Fundamental Review of the Trading Book (FRTB)

Finally, the introduction of the Fundamental Review of the Trading Book (FRTB), in conjunction with the Basel 4 output floor, will further increase the capital charge.

For the FX asset class, impact studies indicate that the FRTB Standard Approach is 3.6 times higher than the Internal Model Approach. Assuming a floor at 75%, the market risk capital charge for FX will likely increase by more than 2 times.

Case Study 2 - NSFR Impact on government bonds

Introduction

Repos and reverse repo³ transactions provide relatively inexpensive funding to banks, financial institutions and corporates as they are guaranteed by high quality securities, normally sovereign bonds.

80% of EU-originated repos use government bonds as collateral. As such, repo transactions are crucial to underpin the liquidity of the government bonds and therefore lower their risks and governments' cost of funding.

Repo transactions are key in delivering banks' role as market-makers, where banks commit to buy or sell securities to their clients. To meet this commitment, banks have to maintain an inventory of securities. The inventory is funded through repo transactions.

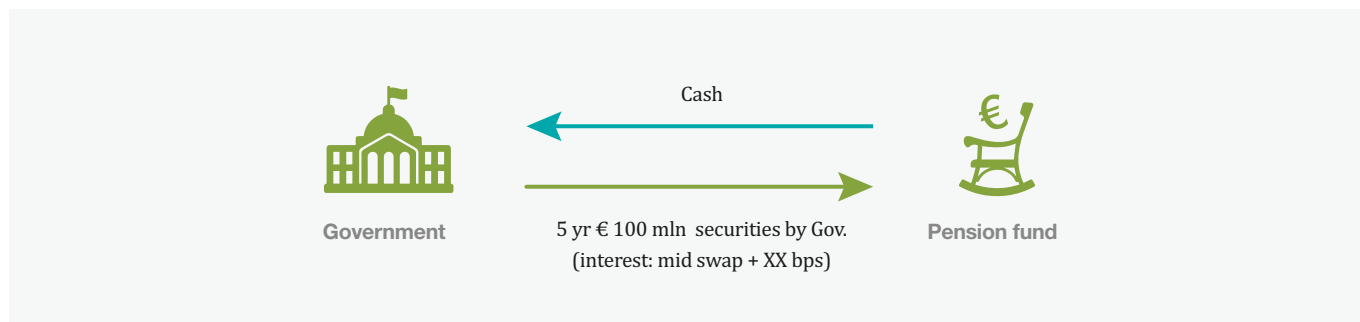
The Basel NSFR standard introduces an asymmetric treatment between short-term (less than 6 months) borrowing from and lending to financial institutions. The short-term funding received *from* financial institutions, including repo transactions, is not recognised as stable funding (i.e. receive a 0% available stable funding, ASF), while short-term lending *to* financial institutions, including reverse repos, are subject to a 10% or 15% required stable funding (RSF) factor, depending on the quality of the collateral.

The EC, in its impact assessment accompanying the RRM package, expressed concerns about the potential impact of this asymmetry on market liquidity and the contradiction with the CMU objectives (they also note the concerns from the Economic and Financial Committee's sub-committee on EU sovereign debt markets on the possible impact the asymmetry could have on the market-making ability of financial institutions). Consequently, the EC is proposing a reduction in the ASF/RSF asymmetry (downward recalibration to 5%/10%, compared to the BCBS 10%/15%).

Net Stable Funding Ratio (NSFR) Impact on repo markets and sovereign debt

Step 1 - Issuance of government bonds

Let's consider the case of an EU medium sized Member State issuing government bonds. The cost of funding for that State will be mainly determined by the level of a reference interest rate plus a spread of 'xx' basis points (bps). Such a spread will be mainly determined by 1) the credit rating of the issuer; 2) the liquidity risk of the securities (a 'liquidity premium' can reflect the higher yield requested by investors compared to that requested on similar securities with higher levels of liquidity). Let's assume that the issuance is for an amount of €100 million, with a 5 years maturity and an interest rate interest determined as: reference rate + 'xx' bps. Let's also assume for simplicity, that the issuance is entirely bought by a pension fund. Pension funds invest a significant share of their assets in government bonds.



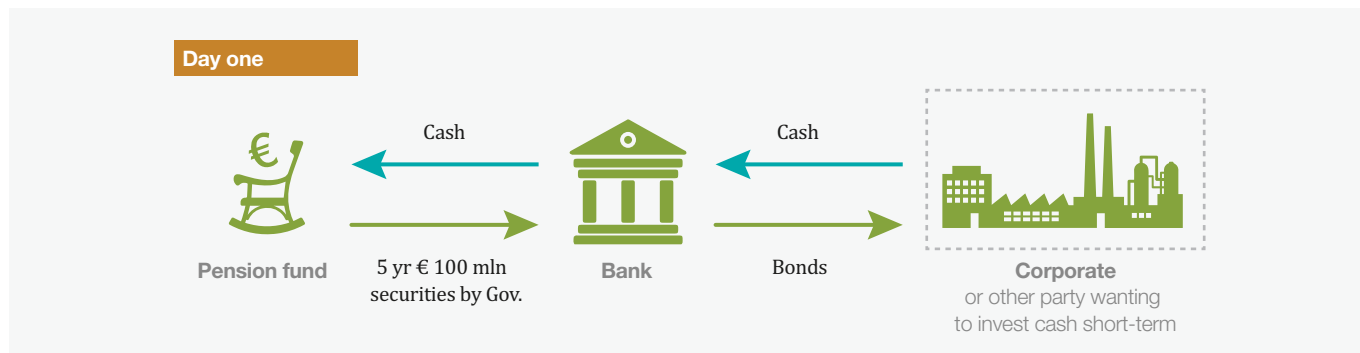
³ If we see the transaction from the bank's perspective, in a repo transaction, the bank provides securities as collateral in exchange for cash; while in a reverse repo transaction the bank lends cash in exchange for securities.

Case Study 2 - NSFR Impact on government bonds

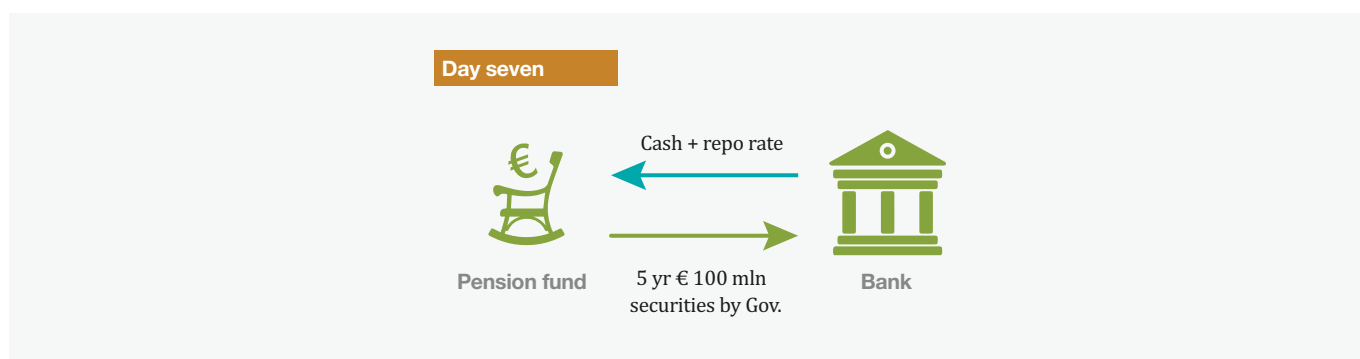
Step 2 - The government bonds are used in repo markets as collateral against cash

The pension fund (PF) enters into a repo with a bank (from the bank's perspective it is a reverse repo). The PFs have large amounts of high quality assets, and to maximise returns for pensioners, they have to minimise cash holdings. They also need liquid repo markets to manage their liquidity risks⁴.

In this example, at the end of the short-term transaction (the pension fund sells the bonds to the bank on day 1 and repurchases them on day 7), the cash - including the repo rate - is returned to the bank and the collateral security to the pension fund.



From the bank's perspective, the transaction with the pension fund is a reverse repo. *A reverse repo is for the bank a form of secured lending.* Banks act as intermediaries in the repo market and are likely to match the transaction with the pension fund with a symmetrical one. In the graph above we assume that the bank matches its reverse repo transaction with the pension fund with a symmetrical repo transaction with a corporate (which wants to short-term invest its liquidity). In this intermediary role the bank links those who want to invest their cash (e.g. a corporate, a money market fund or another bank) and those who want to provide collateral/security. *A repo is for the bank a liability and a source of funding.* This intermediation activity is referred to as '**matched book**' repo (securities borrowed by the bank are matched by those lent). In addition to playing this intermediation function, banks are also users of repos in their own right: to fund their trading inventories, to invest cash or get funding short-term.

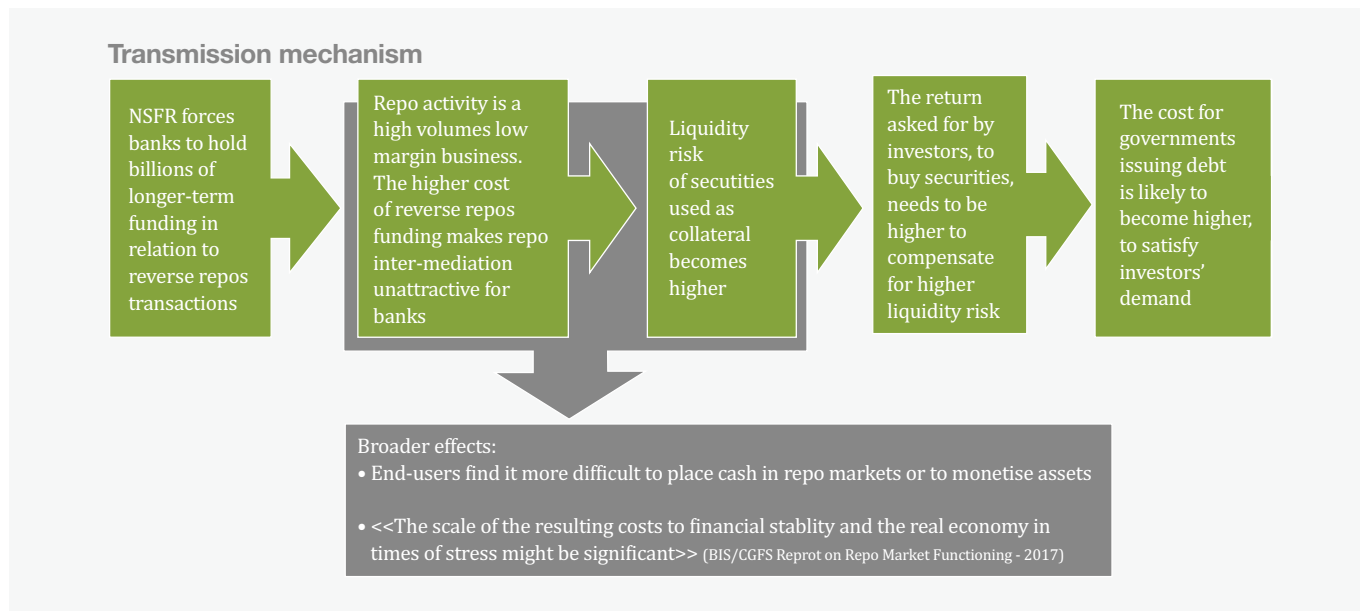


After seven days, the pension fund repurchases the government bonds from the bank at the pre-agreed price (which includes the repo interest rate and is therefore higher than the price paid by the bank on day 1).

⁴ For instance, pension funds need to be able to borrow and lend cash in repo markets, in any amount at any given point in time, to be able to meet collateral calls. They are significant users of OTC derivatives, to hedge their future liabilities. While in the past they could utilise both high quality government bonds (of which they typically hold large amounts) and cash for related collateral management purposes, today, under EMIR, central clearing is required for such derivatives. Consequently, pension funds are now required to post Initial and Variation Margins (IM and VM) in cash (IM can range between 5% and 15% of the nominal amount of the derivative contract). In this context pension funds need to be able to borrow and lend cash in repo markets, in any amount at any given point in time, to be able to meet collateral calls.

Step 3 - Transmission mechanism: impact on end-users and broader economy

The asymmetrical treatment of repos and reverse repos: As mentioned above, a repo is for the bank a liability/source of funding. In the NSFR - understandably, given its very short-term nature - no long-term funding value is given to repos (repos receive 0% Available Stable Funding, ASF; that is, from an NSFR point of view, they provide no funding). The reverse repo is for the bank a secured loan. Under the NSFR proposed rules, despite the very short-term and secured nature of the loan, the bank needs to fund reverse repos with long-term - and much more expensive - liabilities (reverse repos attract a 5% to 10% Required Stable Funding, RSF, depending on the quality of the collateral; hence, the asymmetry⁵ with the treatment of repos).



The following arguments are sometimes presented in favour of asymmetrical treatment of repos and reverse repos (and of the requirement to fund long-term reverse repos): the need to discourage leverage; the need to limit any excessive reliance on short-term funding; the risk coming from the fact that the value of the collateral could be procyclical and be reduced in times of stress. However, in addition to the higher costs for end-users and the financial stability concerns highlighted above, the following points should be considered:

- Leverage has been reduced and the application of the Leverage Ratio (which is already determining a significant reduction in the volume of outstanding repos) is already contributing to that;
- Excessive reliance on short-term funding combined with excessive maturity mismatches needs to be avoided; at the same time activities that benefit liquidity and the real economy should not be penalised;
- High quality collateral (e.g. sovereign bonds) appreciate in value during stress.

⁵ The asymmetry is even higher in the Basel NSFR standard, where reverse repos attract a 10% to 15% RSF.

How to achieve a more proportionate treatment?

Repo business is a high volume and low margin business; therefore, small asymmetries in ASF and RSF factors will have a very large impact. Even the lower calibration proposed by the EC (5/10% RSF required for repos, compared to the 10/15% in the Basel NSFR standard) will not avoid such an impact.

A more proportionate approach would be the application of a 0% Required Stable Funding (RSF) to reverse repos which are collateralised by high quality liquid assets (HQLA Level 1 assets; e.g. high quality government bonds).

This would remove the asymmetric treatment between short-term (less than 6 months) borrowing from and lending to financial institutions (which currently receive a 0% available stable funding, ASF) versus the short-term lending to financial institutions (i.e. reverse repos), which, is in the EC proposal, subject to a 5% or 10% RSF factor.

Case Study 3 - NSFR and implications for Equity Markets and CMU

Introduction

Europe needs more equity capital for growth. Deep and liquid equity markets are key to EU long-term growth, to develop the Capital Markets Union, and for financial stability.

Equity markets offer a large pool of potential capital that is currently untapped in Europe. A comparison between the EU and the US helps highlight the issue: in 2015, the US equity market's capitalisation represented 159% of GDP, whereas Europe's was just 73.3%. If Europe's market capitalisation-to-GDP ratio were to increase to 100%, this would imply that more than €3.5 trillion in additional equity capital could be deployed in European companies.

This would also increase the pool of available equity investments, for example for pension saving. Asset Managers, Pension Funds and other investors rely heavily on equity markets. Pension funds hold a large proportion of assets in equities (46% of global pension assets are invested in equities, whilst pension fund assets in 6 of largest EU MS are in excess of €4.7tr as of Dec. 2016). Europe has only half as much listed equity capital, with €10 trillion, compared to €19 trillion in the US. In addition, pension funds' investible assets in Europe are 3.5 times lower than in the US (€4.3 trillion vs €14.9 trillion). (Source: AFME Boston Consulting Group 'Bridging the growth gap').

Banks' role in equity markets: Banks perform several critical functions to support EU equity markets, ranging from underwriting to market-making. As we will see below, equity swaps offered by banks to investors are a common and cost efficient way to gain exposure to equities without holding underlying securities.

The Net Stable Funding Ratio (NSFR) rightly seeks to increase long-term funding for banks, and to reduce excessive reliance on short-term funds. However, NSFR applies a punitive long-term funding requirement to equity securities held in banks' inventories as hedges to the equity swaps provided to market participants, despite their short-term nature. This is explained in detail in the case study below.

Net Stable Funding Ratio (NSFR) Impact on equity swaps

Equity swaps: what are they and why are they important? Equity swaps are a very common and efficient way for institutional investors (e.g. asset managers, pension funds, life insurers and mutual funds) to gain exposure to assets without holding underlying cash securities. In practice, investors enter into a derivative contract (a swap) with a dealer to receive the performance on individual/basket of selected cash securities.

This solution is often operationally more efficient and less expensive for investors, in a context of fragmented markets (e.g. diverging access and settlement rules). It also allows investors to track a basket of stocks or a benchmark without the difficulty of having to physically buy the (potentially many) individual stocks.

The bank acting as a dealer in this transaction is not interested in having the exposure to those stocks: its client (the investor) wants to have it, not the bank. Therefore, the bank hedges its market risk by purchasing the reference assets and holding these assets for the life of the generally short-dated transaction.

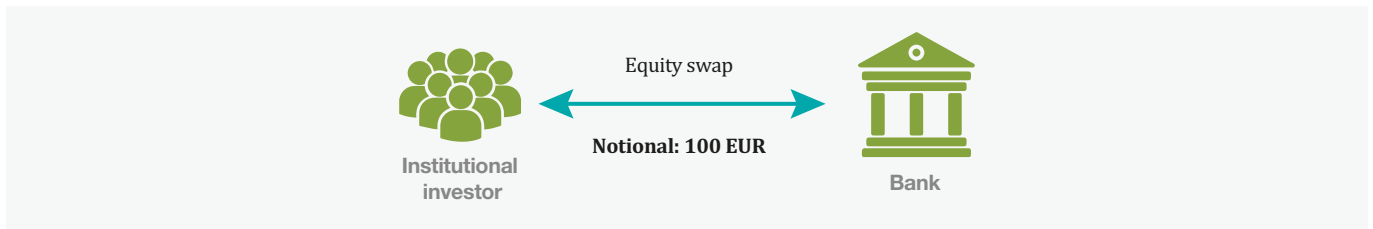
Equity exposure via equity swaps is the dominant form of equity financing in Europe, given the heterogeneity of EU markets. The notional value of equity-linked contracts outstanding as at June 2016 was \$6.6 trillion, of which \$2.2 trillion was linked to European equities (nearly the GDP of France) [Source: BIS].

Case study: Equity Swaps Hedge

Step 1 - An institutional investor seeks equity market exposure

A European institutional investor seeks equity market exposure to meet its investment objectives (i.e. diversification of the portfolio; optimal returns; mitigation of risks).

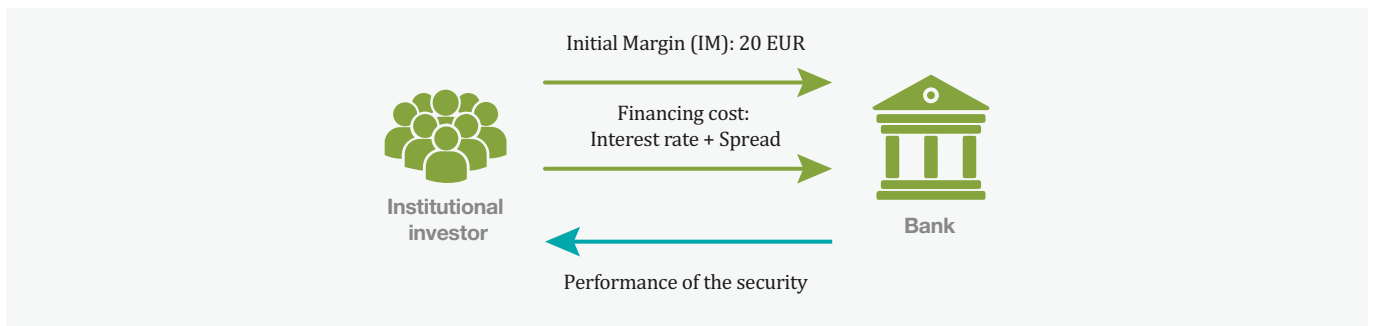
The institutional investor enters into a 1 month equity swap contract (for 100 EUR notional) with a bank to receive the performance of a security (e.g. Orange S.A.), in exchange for the short-term financing cost (i.e. interest rate + spread; e.g. Euribor + 25bps). The institutional investor will receive the performance of the Orange S.A. stock (e.g. change in value of the Orange S.A. security) through the equity swap.



Step 2 - The institutional investor provides initial margin to the bank under the contract & receives the performance of the stock

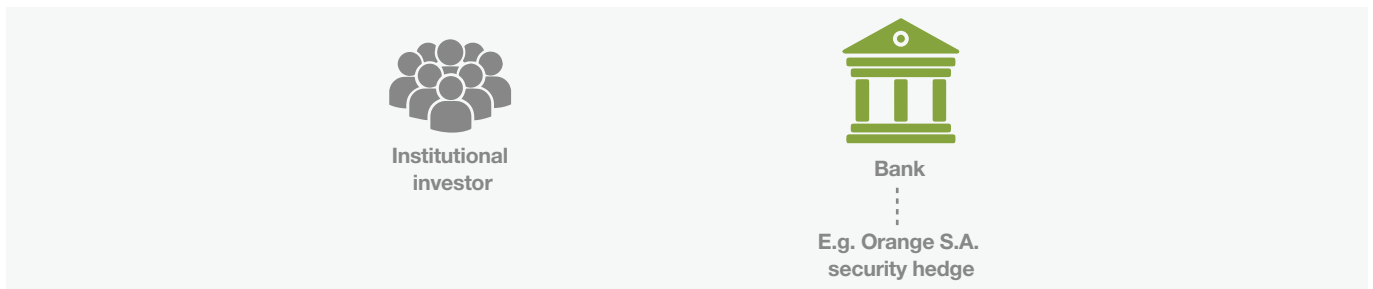
The institutional investor provides initial margin (e.g. IM 20 EUR) to the bank under the contract and receives the performance of the stock.

The client's initial margin reduces the bank's credit risk if the client defaults. The bank is able to use the initial margin during the contract of the swap; the initial margin is therefore a source of funding for the bank.



Step 3 - The bank hedges market risk arising from the client-facing equity swap

To hedge the market risk on the swap, the bank purchases the reference asset e.g. Orange S.A. stock and holds it for the duration of the swap.

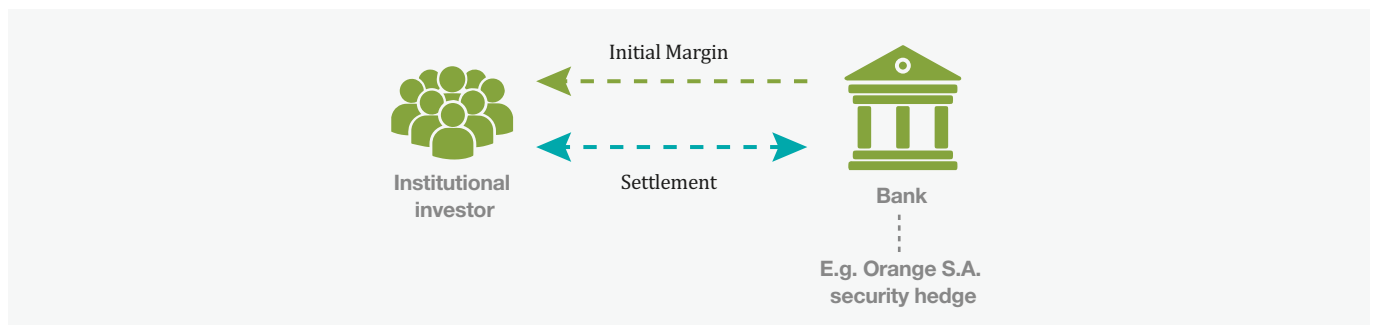


Case Study 3 - NSFR and implications for Equity Markets and CMU

When holding the Orange S.A. securities as a hedge, under NSFR the bank applies a 50% RSF, even though the client's initial margin (i.e. step 2) funds the Orange S.A. security. Additional cost of holding the hedge due to the long-term funding required will likely impact the portfolio returns of the institutional investor (e.g. spread requested by the bank is likely to increase due to NSFR cost).

Step 4 - The institutional investor client seeks to terminate the swap and unwind all positions

At the swap's termination, the bank sells the Orange S.A. security since market risk from the swap is eliminated, the bank returns the initial margin to the client and the swap is settled.



How to achieve a more proportionate treatment?

The NSFR currently imports LCR stress haircuts for equity securities held on balance sheet, namely 50% for non-financial shares and 85% for financials. Given the more structural (and not stressed) nature of the NSFR, a lower RSF for equity securities held as hedges would be justified.

In particular, a 0% RSF should apply where the securities held by the bank are one-to-one direct hedges and the bank has received Initial Margin (IM) from the client. The IM will either fully or partially fund the transactions. If the bank has not received IM, then the RSFs should be 15% for non-financial and 30% for financial shares. To avoid arbitrage via long-term encumbrance of hedge securities, the existing CRR constraints (Article 428q) can be applied.

The table below provides a detailed proposal for recalibration. These recalibrations would better capture actual funding requirements and risks, and would solve major regulatory impediments to vibrant equity markets within the Capital Markets Union (CMU).

Case Study 3 - NSFR and implications for Equity Markets and CMU

Category of equity securities		Draft CRR (RSF Factors)	Industry Proposal (RSF Factors)
Level 2B equity securities held by a bank (excluding hedge securities meeting specified criteria)		50%	50%
Non-HQLA equity securities held by a bank (excluding hedge securities meeting specified criteria)		85%	85%
Level 2B/non-HQLA equity securities with the following characteristics:	(1) Bank executes equity derivative transaction; (2) Bank holds equity securities that are the same as the underlying exposure of the derivative and directly hedge the Bank's market risk; (3) Bank has received reusable initial margin on the derivative (4) Value of Bank equity securities does not exceed value of initial margin; and (5) Bank has an obligation to return initial margin at termination of the derivative contract	50%/85%	0%
Level 2B equity securities with the following characteristics:	(1) Bank executes equity derivative transaction; and (2) Bank holds equity securities that are the same as the underlying exposure of the derivative and directly hedge the Bank's market risk	50%	15%
Non-HQLA equity securities with the following characteristics:	(1) Bank executes equity derivative transaction; and (2) Bank holds equity securities that are the same as the underlying exposure of the derivative and directly hedge the Bank's market risk.	85%	30%
Hedge securities re-used or re-pledged:	(1) with an encumbrance of 6 to 12 months		50%
Hedge securities re-used or re-pledged:	(1) with an encumbrance of greater than 1 year		100%

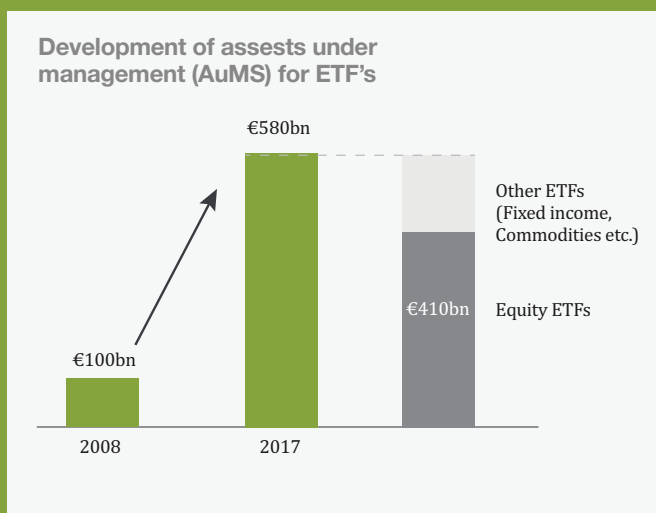
Use of Equity Swaps for synthetic ETFs

Exchange-Traded Funds (ETFs) are listed investment funds that track the performance of a specific index (e.g. DAX or Dow Jones). Individual investors that want to invest in such an index can do so by buying ETFs.

ETFs can take physical or synthetic format. Synthetic means the fund does not physically buy the shares of the index but receives the exposure via derivatives (equity swaps) with banks. Synthetic ETFs are directly affected by the NSFR rules on equities held as hedges by banks become significantly more expensive.

Benefits of synthetic ETFs - Synthetic ETFs can provide a competitive offering for investors seeking to invest in: Harder-to-access markets; Less liquid benchmarks; or other difficult-to-implement strategies that would otherwise be very costly and difficult for physical ETFs to track.

Market size - The European ETF market has grown significantly in size: Around €100bn of Assets under Management (AuM) in 2008 > €580bn as of July 2017. In Assets under Management (AuM) volume, >70% of these are equity ETFs: €90bn of these ETFs are in synthetic format. Synthetic ETFs make up almost one third of the total number of ETF products on the market. (Source: Deutsche Bank European Monthly ETF Market Review).



Case Study 4 - NSFR / Impact of application at solo level

Introduction

The free flow of capital and liquidity enables integrated, open, competitive and efficient financial markets and services. The existence in the EU, and even in the Banking Union, of a high level of fragmentation of financial markets along national lines remains the main obstacle to the achievement of crucially important EU objectives such as the completion of the Banking Union and the successful establishment of a Capital Markets Union. A more efficient capital allocation would foster sustainable economic growth in the EU and would help smoothen the economic cycles; it would also contribute to the resilience of the banking sector in general.

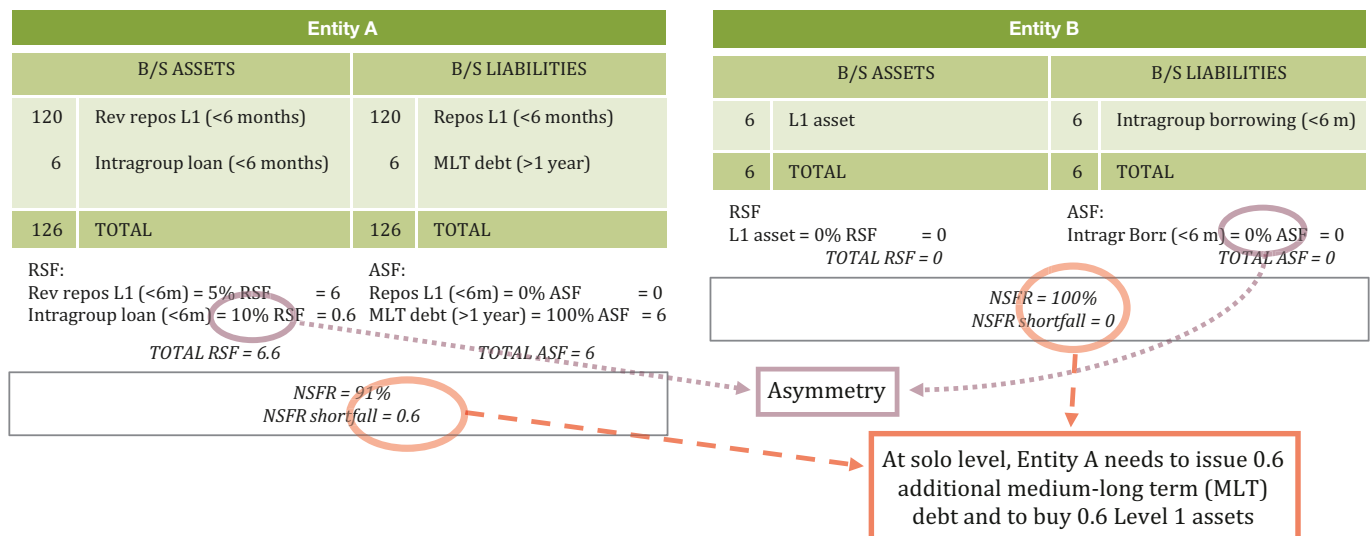
The development of the Single Rulebook, the Single Supervisory Mechanism, the Single Resolution Mechanism and Single Resolution Board should allow EU policy makers to look beyond approaches based on ring-fencing of capital and liquidity⁶.

While the Basel global standards are designed for application at the consolidated level, the EU applies them at both solo and consolidated levels. As a consequence, in the EU - and even in the Banking Union - these standards also apply to exposures between two entities within the same group (intragroup transactions). This is a major source of market fragmentation, of additional costs for firms and for end-users of financial services. To avoid such damaging fragmentation, waivers to the application of prudential requirements to intragroup transactions should be introduced; alternatively, it would be beneficial to revise the treatment of such intragroup exposures. In the sections below we will focus on the NSFR, its application to intragroup exposures, and on the importance of allowing the application of the NSFR at consolidated level.

Let's consider the case of two banking entities, A and B, both belonging to the same banking group and located in the Banking Union.

1. Banking Entity A needs to issue 6 medium and long-term (MLT) debt to meet NSFR requirement on repo desk (5% RSF). As the repo book is matched, Entity A is cash rich. It lends short-term its 6 liquidity surplus to Entity B, which belongs to the same consolidated Group. This intragroup loan carries a RSF of 10%, generating a new NSFR shortfall (cf. graph below on Entity A). In order to close that shortfall, Entity A is required to issue further 0.6 MLT debt, that can only be invested in Level 1 assets, in order to maintain its NSFR at 100%.

2. Entity B does not get any ASF credit for the liquidity borrowed from Entity A. Therefore, it can only buy L1 assets, in order not to deteriorate its NSFR (see graph below on Entity B).



6 A more complete analysis of the issues is provided in AFME's paper on "Level of application of the CRR capital & liquidity requirements and the treatment of intragroup exposures" <https://www.afme.eu/globalassets/downloads/divisions/prudential/afme-prd-position-paper-waivers-and-intragroup.pdf>

Case Study 4 - NSFR / Impact of application at solo level

At Group consolidated level, intragroup transactions disappear. The 100% NSFR of entity A at solo level generates unnecessary excess of the NSFR of the Consolidated Group:

Consolidated group			
B/S ASSETS		B/S LIABILITIES	
120	Rev repos L1 (<6 months)	120	Repos L1 (<6 months)
6.6	L1 asset	6.6	MLT debt (>1 year)
126.6	TOTAL	126.6	TOTAL
RSF:		ASF:	
Rev repos L1 (<6m) = 5% RSF = 6		Repos L1 (<6m) = 0% ASF = 0	
L1 asset = 0% RSF = 0		MLT debt (>1 year) = 100% ASF = 6.6	
TOTAL RSF = 6		TOTAL ASF = 6.6	
NSFR = 110% NSFR excess = 0.6			

The example above shows that if 100% NSFR is required at solo level, Entity A needs to issue additional MLT debt to address its NSFR shortfall. It also needs to invest the additional funding into Level 1 assets exclusively to achieve a 100% NSFR; this implies no or limited investment in the real economy and significant negative carry cost for the bank, as banks borrow at a more expensive cost than sovereigns. Moreover, this also leads to a balance sheet increase, which would carry penalising implications in terms of Leverage Ratio and G-SIB requirements.

The example also shows that NSFR asymmetric rules on interbank loans create a non zero-sum game between consolidated NSFR and the sum of solo NSFR requirements (in the example: shortfall at consolidated level < Sum of shortfalls at entity level, respectively 0 and 0.6).

This situation leads to the need to raise unnecessary stable funding (e.g. MLT debt). As the MLT debt remaining maturity needs to be > 1 year to receive a 100% ASF, banks must issue 3 to 5 year maturity debt, and the cost of a 5 year debt is much higher than the cost of a 3 months borrowing required by the LCR.

The application of the NSFR at solo level unduly penalises the optimal allocation of liquidity surpluses within centralised liquidity structures, and constitutes an obstacle to the free flow of liquidity, thus a major impediment for the transmission of monetary policy.

How to achieve a more proportionate treatment?

The NSFR Basel standard has been designed for application at consolidated level.

The EU should require the application of the NSFR at consolidated level, or at least liquidity subgroup status (waivers) should be systematically granted for subsidiaries within the Banking Union (single supervisor, single resolution authority, single rule book, common resolution fund).

Should the NSFR be allowed on a sub group basis, symmetrical treatment for intragroup operations should be considered and not subject to the National Authority approval within the Banking Union.

Finally, we recommend that the European Institutions consider an application of the NSFR requirement at a consolidated level for banking groups with a centralised liquidity management model.

Intragroup flows should be treated in a symmetric manner in the context of the NSFR without territorial constraints or supervisory discretion.

Derogation to solo application of capital and liquidity requirements (CRR Art 8)	Treatment of intragroup transactions for the NSFR (CRR Art428h)
<p>For the NSFR to be a meaningful measure for the diverse banking structures that exist in Europe, it should reflect the way each banking group manages its liquidity and, as such, should be fulfilled on a consolidated or individual basis, according to each banking group's liquidity structure. For those banking groups that manage their liquidity and funding requirements on an individual basis it is more meaningful for the NSFR to be estimated on a solo basis. However, for banking groups with a centralised liquidity management model the envisaged solo application of the NSFR creates an uneven playing field with other non-EU jurisdictions and should thus be reconsidered. In the case of a lack of stable resources at the level of an entity of the group, the one-year time horizon of the NSFR would be sufficient to restore the situation through intragroup transactions.</p>	<p>There is a need to address the prudential treatment of intragroup transactions holistically.</p> <p>The EU's treatment of cross-border intragroup flows and exposures arises because the EU applies Basel standards designed for consolidated application at a solo level.</p> <p>This imposes additional costs on firms, unnecessarily hampering the flow of funds within international banking groups. In turn, this can induce a reduction in the provision of financial services or give rise to additional costs for end-users.</p> <p>The existing, complex system of national & supervisory discretion in this area also creates unnecessary fragmentation within the EU.</p>

What - and where - is the NSFR shortfall?

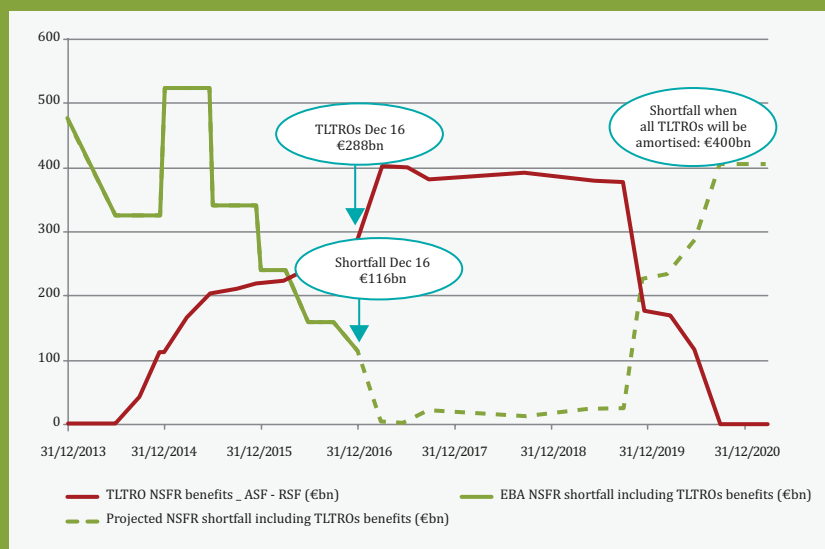
What is the real NSFR shortfall? EBA studies indicate that average NSFR is estimated at 112% for all banks in the sample and at 108.8% for GSII/O-SII, as of December 2016 (EBA CRDIV-CRR Basel III monitoring exercise, Sept 2017). Aggregate NSFR shortfall for EU non compliant banks is estimated by EBA to ~€116 bn (non compliant banks shortfall is mainly related to the wholesale & capital markets activities - see below - which explains why the shortfall is almost exclusively generated by GSII/O-SII, where such activities are significant). However, **EBA shortfall analysis does not consider the effects of monetary policy**. In particular, these figures include the effects of targeted longer-term refinancing operations (TLTROs), which provide financing to credit institutions for periods of up to four years. They offer long-term funding at attractive conditions to banks in order to further ease private sector credit conditions and stimulate bank lending to the real economy. TLTROs are 100% Available Stable Funding (ASF) in the NSFR as long as the remaining maturity is above 1 year, or 50% ASF if the remaining maturity is between 6 months and 1 year.

TLTROs also require an additional ~50% Required Stable Funding (RSF) for the assets encumbered towards ECB as a guarantee. Indeed, under the assumption that these assets would be mortgage loans, TLTRO would generate an additional RSF of 35 % (difference between 100% for encumbered loans and 65% for unencumbered), to be adjusted by an estimated 135 % over-collateralisation rate. The benefit of the TLTROs in the NSFR shortfall is calculated as the ASF diminished by the RSF.

When TLTROs are approaching the reimbursement date, their benefits in the NSFR are not recognised any more. TLTROs need then to be replaced through market medium/long-term (MLT) debts, which are much more expensive. Hence, **the NSFR shortfall is underestimated**. As of December 2016, the shortfall at European level should be adjusted upwards by ~€ 288 bn to ~€ 400 bn, which is 3.5 times more than the EBA result. The graph on the right (sources: ECB, EBA, Bloomberg) shows the profile of TLTRO benefits (ASF-RSF) amortisation. According to EBA methodology, aggregated NSFR shortfall would optically disappear from March 2017 to Dec 2019, giving a false sentiment of comfort, while the shortfall will actually reach ~€400 bn for GSII/O-SII, once the ECB has normalised its monetary policy.

Where is the NSFR shortfall? Beyond the aggregate numbers, it is important to understand which activities and products would suffer a particularly significant NSFR shortfall. AFME has undertaken a study on the impact of the NSFR on capital markets activities, to complement the EBA report on the NSFR published in December 2015, which, by focusing on average, sector-wide numbers, offers an incomplete perspective. Our study shows that: 1) NSFR deficits arise mainly in connection with capital markets activities rather than with commercial banking business; 2) the application of the BCBS standard would result in a regulatory long-term funding requirement in excess of €4.5 trn for capital markets activities at a cost to the industry of more than €80bn (to get a better sense of the magnitude, that amount can be compared with GSIBs global revenues, which were approximately €380bn for 2015).

Therefore - and as highlighted in the case studies included in this publication - AFME has significant reservations on the current BCBS NSFR standard with respect to its impact on capital markets, including the severe restrictions it creates on banks' ability to provide market services which facilitate client financing, investing and hedging. A number of transactions, very important for end-users, appear to be materially penalised by the NSFR as banks could be forced to long-term fund what are in essence short-term transactions.



Case Study 5 - Pension funds' use of OTC derivatives

Introduction

Pension funds are significant users of OTC derivatives, to hedge their future liabilities. Under the EMIR regulation, pension funds face requirements for the central clearing of derivatives. Where previously two market parties signed and cleared derivatives contracts on a bilateral basis, under EMIR there is an intermediary (the central clearing house) that takes over the clearing activities.

After an interest rate change, the value of the swap contract decreases for one party to the contract and increases for the other party. The party for which the value of the contract has decreased is required to post collateral, called 'variation margin'. In the bilateral market, variation margin can be posted either using cash or using liquid, high quality (government) bonds. Under central clearing, the variation margin requirement is restricted by the central clearing houses and clearing members to cash only. This produces new substantial liquidity risks for pension funds, that are generally fully invested and do not hold large cash buffers. Under the new legislation, a decrease in the market value of interest rate swaps may trigger significant cash margin calls across the board for pension funds. While holding high cash reserves mitigates these liquidity risks, this would also have a negative impact on aggregate investment returns, undermining the goal of providing adequate old age pension benefits.

The impact of NSFR and Leverage Ratio requirements

Pension fund use of high quality government bonds as collateral for Variation Margin in derivatives transactions is further restricted due to the fact that High Quality Liquid Assets (HQLA) are not recognised proportionally in the proposed banking legislation. Only cash is fully recognised for offsetting purposes. This has a direct implication for executing derivatives transactions, in which only cash can be posted as a variation margin. As a result, pension funds need to hold large cash buffers or rely on the repo markets to convert assets into cash. However, both the NSFR and the Leverage Ratio (LR) requirements are impacting the functioning of the repo-market. Firstly, the collateral in repo transactions will be assigned a significant Required Stable Funding factor according to the proposed Net Stable Funding Regulation. Secondly, the Leverage Ratio Framework does not treat cash and high quality government bonds equally for netting purposes regarding the exposure measure in repo transactions. Therefore, under the currently proposed Basel III banking legislation, liquidity needs and risks in the pension fund sector – and probably the whole financial sector – will sharply increase. In order to mitigate systemic risks, it is crucial that this new legislation recognises high quality government bonds as eligible for variation margin (capital calls) in derivatives transactions, so as to ensure proper functioning of the short-term financing (repo) and derivatives market.

The following example, provides an illustration of the liquidity risks associated with the derivatives exposure, an average hypothetical pension fund under EMIR. The composition of the investment portfolio of this average pension fund is reported in the table below. The table also sets out how the different derivatives and assets help to hedge against interest rate and currency risks. Total assets amount to 1 billion euros. Liabilities are 1 billion euros as well, with a duration (interest rate sensitivity) of 20 years. Consequently, the funding ratio is 100 percent, while 50 percent of the fund's interest rate risk is hedged.⁷

Asset mix (EURm)	Market value	Nominal or notional value	Duration (years)	Share of interest rate hedge	Share of currency hedge
Government bonds	400	400	12.5	25%	0%
Interest rate swaps	0	250	20	25%	0%
US equities	300	300	0	0%	0%
European equities	300	300	0	0%	0%
Currency swaps	0	300	0	0%	100%
Total	1000			50%	100%

⁷ A more complete analysis of the issues is provided in the following article: "Systemic Aspects of Pension Funds and the Role of Supervision", by R. Beetsma, S. Vos and C. Wanningen (2016) https://www.cesifo-group.de/portal/page/portal/DocBase_Content/ZS/ZS-CESifo_Forum/zs-for-2016/zs-for-2016-4/forum-2016-4-beetsma-vos-wanningen-pension-funds-december.pdf

Case Study 5 - Pension funds' use of OTC derivatives

The table below shows the pension's funds liquidity needs in a stress scenario. The stress scenario includes a 0.45 percentage point (i.e. 45 basis points) rise in the interest rate and a 7 percent depreciation of the euro against the dollar. The variation margin increases.

The amount of cash the pension fund needs increases from zero to 44 million euros (4.4 percent of the total portfolio), because only cash is eligible to fulfil the variation margin requirement. The daily exchange of variation margin could actually lead to the fund having to sell its bonds or shares directly in order to generate cash.

Liquidity needs (EURm)	Variation margin requirement	Variation margin (% assets)	Initial margin requirement	Initial margin (% assets)
Interest rate swaps	EUR 23	2.25%	EUR 50	5.00%
Currency swaps	EUR 21	2.10%	EUR 60	6.00%
Total	EUR 44	4.35%	EUR 110	11.00%

How to achieve a more proportionate treatment?

In the Leverage Ratio rules, high quality liquid assets (HQLAs) should be recognised as eligible variation margin (VM). Banks' inability to offset the replacement cost in OTC derivatives exposures with HQLAs received as VM incentivises banks to request cash VM from their counterparties, including those clients who would typically post HQLA as VM. Without changes to the way these cash equivalent assets are treated in the LR exposure measure, pension funds and other end-users that rely on the ability to post securities as collateral, will instead post cash as VM, or be shut out of the derivatives market. This goes against the policy objective reached by European policymakers for EMIR and CRR under which corporates and pension funds should not be forced to post cash margin, and the non-centrally cleared derivatives markets should remain workable for them to continue to hedge at an acceptable cost.

In the NSFR rules, we welcome the fact that under the EC proposal, for derivatives transactions, the funding value of high quality liquid assets (Level 1 HQLA) received by the bank from its counterparty is recognised (i.e. can be deducted from the mark-to-market value of the derivatives assets, therefore allowing a lower level of required stable funding for derivatives).

Case Study 6 - IPU requirement and potential fragmentation of markets

Introduction

The IPU is a new requirement proposed by the EC for certain non-EU financial institutions to establish an EU intermediate parent undertaking (sometimes also called intermediate holding company) where they have two or more banks or investment firms in the EU.

The draft requirement is set out in new Article 21b of the revised CRD. It applies where a third country group (any group whose ultimate parent is incorporated outside the EU): (a) has two or more EU institutions (banks or investment firms incorporated in the EU); and (b) is a non-EU G-SII or has total European assets of EUR 30 billion or more. For this purpose, total assets are to be assessed based on the sum of the total assets of (i) the consolidated balance sheet of each institution in the EU and (ii) any branch of the third country group authorised in the EU.

In this context, it is important that the IPU requirement is implemented in a way which does not create unnecessary fragmentation of capital markets. Financial firms headquartered outside the EU provide an important contribution to financing the European economy and they represent a large percentage of European capital markets activity. They can channel global capital flows into financing European infrastructure, projects, businesses and consumers. The EU's openness to such players introduces diversification of funding sources for the European economy, and increases competition. This in turn leads to more choice for clients and more liquidity for the markets.

Role of non-EU firms in some European markets

EQUITY MARKETS - 6 non-EU firms are in the top 10 for equity underwriting in Europe. They accounting for 39.9% of equity underwriting in Europe.

INVESTMENT GRADE BONDS - Non-EU firms are 5 of the top 10 for investment grade bond issuance in Europe. These 5 non-EU firms perform 22.2% of IG bond underwriting in Europe.

LEVERAGED LOANS - Non-EU firms are 3 of the top 10 for leveraged loan issuance in Europe. These 3 non-EU firms perform 12.8% of leveraged loan issuance in Europe.

HIGH YIELD BONDS - Non-EU firms are 5 of the top 10 for high yield bond issuance in Europe. These 5 non-EU firms perform 31.6% of high yield issuance in Europe.

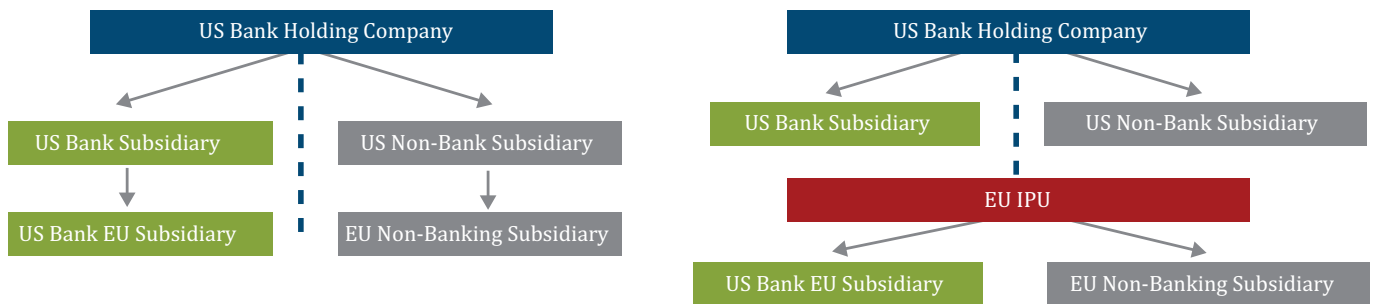
Source: Dealogic, 2017

The case of the application of the IPU to US banks

US Banks are required by US law (Regulation K and W) to separate their activities into 'Banking Chain' and 'Non-Banking Chain' entities with clear limitations.

As shown in the chart below, establishing a single EU IPU would cut across this separation. To comply with the rule, the IPU and all EU subsidiaries structured under it would need to be either in the Bank chain or Holdco chain. In the Bank chain, they would prohibit certain non-Bank permissible activities in the EU. In the Holdco chain, they would have significant implications/business constraints. In either case, US firms' ability to service clients in Europe would be curtailed.

Case Study 6 - IPU requirement and potential fragmentation of markets



How to achieve a more proportionate treatment?

The following modifications to the proposed IPU requirements would make it more operational, while also avoiding a fragmentation of global markets:

- Allow alternative structures when a single EU PU would i) conflict with 3rd country structural requirements or the group's global resolution plan or ii) be disproportionate;
- Postpone application to e.g. 2023 (i.e. assuming entry into force 1/1/2019) to allow sufficient time for planning, also in Brexit context.

IPU requirement and branches

While EU branches of third-country banks ("branches" below) are not in the scope of the proposed IPU, some stakeholders have suggested a broader scope for Art. 21b, so to capture such branches. This would be unjustified for the following reasons:

From a resolution and supervisory perspective:

- Branches will be resolved by their home resolution authorities;
- BRRD provides powers for EU host resolution authorities to deal with such branches if necessary;
- Significant branches are included in the recovery and resolution planning process, and considered by Crisis Management Groups;
- BRRD also contains powers for resolution authorities to require structural changes if necessary;
- Third-country groups cannot undertake activities through branches without authorisation by their EU host supervisor.

From an economic and business perspective:

- Branches are used for valid business reasons: for example, counterparties engaging through branches are counterparties of the bank itself; thus they benefit from the creditworthiness and entire balance sheet of that bank;
- Resources will have to be down-streamed from the third country parent to the newly formed EU IPU;
- The transformation of branches into new subsidiaries may well limit the sizes of deals these entities will be able to undertake, as a result of large exposure limits.

Such an approach could also give rise to increased international regulatory fragmentation and a "race to the top" in terms of ring-fencing along national or jurisdictional lines.

If a case is made that the existing system of third-country branch supervision needs re-visiting, we would recommend that alternative methods are envisaged for dealing with this, such as giving increased harmonisation of branch supervision throughout the EU and/or direct oversight powers in certain cases for the ECB. However, the subsidiarisation of international branches would be disproportionate, with implications that have not been sufficiently thought through.

Case Study 7 - Impact of FRTB on emerging markets and high potential economies

Introduction

Emerging markets (EMs) comprise nearly 60% of global GDP, and this figure is expected to rise. European and neighbouring EMs are an important part. Wealth creation in EMs offers extensive socio-economic benefits (improved income distribution, education, infrastructure development). Deepening of emerging equity and debt capital markets has been a consistent trend over time. Foreign investment has been attracted, and the cost of equity and debt financing has fallen gradually – benefiting business growth & employment creation in EMs. Improved market liquidity and efficiency has effectively lowered the cost of capital for emerging market firms.

EU and global banks play an important role in emerging markets, including:

- Lending and other services to firms and individuals conducting business in developing markets;
- Helping entities to raise capital from debt and equity markets by connecting investors with those in need of capital;
- Supporting capital raising in the primary markets; promoting secondary markets in the debt or equity issued;
- Supporting emerging market firms' and investors' risk management needs.

FRTB will have a disproportionate impact on EMs

The FRTB will result in a very significant increase in regulatory capital for EMs banks and global banks operating in those markets, with a negative impact on the price and availability of capital. Impact studies forecast that FRTB will require banks to hold 2.5 times today's market risk capital under what are referred to as "standardised rules". Under the best of cases, with the more favourable internal models approach, capital will still increase 1.6 times on aggregate.

While this section focuses on the particularly negative effects on EMs and high potential economies, it is important to stress that the problems, and the suggested solutions, outlined here are also important in all markets, as they would avoid disproportionate capital increases and unintended effects on market access and liquidity. Basel is currently working to reconsider some important elements of the FRTB (including the NMRF; and the P&L attribution test): it is crucial that EU legislators ensure coordination with (and do not front-run) the Basel process and allow flexibility in order to consider the timing of implementation in other jurisdictions.

The issue of non-modellability of risk factors (NMRF)

Non-modellable risks – What are they? One aspect of the FRTB that is particularly relevant to EMs is the modellability of risk factors. This is a new requirement within the internal models approach, where the regulatory objective is to ensure enough market data is available to support modelling. The FRTB framework includes strict conditions under which banks are allowed to use models for various risk factors. This includes a requirement for "real" price observations which is defined as 24 observations per year with a maximum interval of 30 days between 2 consecutive observations. If this criterion is not met, the risk factor is classified as "non-modellable" and a punitive capital add-on is required.

Meeting the conditions for modellability of risk factors, as currently designed, is extremely challenging. Based on industry analysis, even in the US only circa 50% of bond issuers would fulfil this requirement; in the EU, and particularly in the smaller Member States/Eastern Europe, we expect much smaller proportion of the market to be able to meet the requirement. Many EU and EMs markets tend to exhibit seasonal behaviour, with limited trading during the summer months or at the end of the year. Furthermore, by definition, new issuances will not exhibit the necessary time series of real observations for the first 12 months after issuance.

Case Study 7 - Impact of FRTB on emerging markets and high potential economies

Consequences of risks being classified as non-modellable - Overall, the capital add-ons associated with these non-modellable risk factors may account for 30% to 50% of total internal models capital for banks – with the greatest impact being felt by emerging markets. This is likely to have a negative impact on market making activities in corporate bonds, particularly those for medium sized companies, and decrease the overall liquidity available particularly in these markets. This conflicts with the goal of developing European capital markets and reducing reliance on bank funding in the context of the Capital Markets Union. Impacted European countries also include high potential economies like: Poland, Hungary, Czech Republic, Ukraine, and Romania. Other impacted economies include significant neighbouring countries.

How to achieve a more proportionate treatment?

Data pooling - By using third party vendors and data providers, emerging market banks can effectively pool transaction data in order to improve their chances of overcoming some of the hurdles in the rules. This would reduce particularly punitive capital impacts on banks – and help prevent the loss of liquidity in key EM debt & equity capital markets.

Increased observation gap - Increase the gap between observations to two months. Rules that treat EMs no differently from well-established developed markets are being highlighted to regulators. When proving the modellability of risk factors, a maximum period between observations of one month is not sensitive to quiet trading periods in EMs.

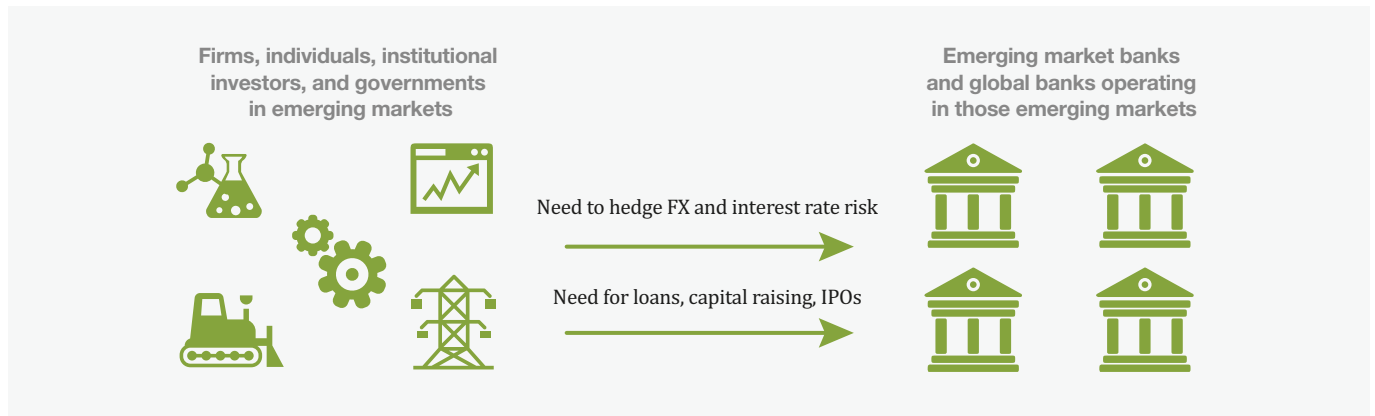
Overview - Issues linked to the non modellability of risk factors in EMs:

- EMs have a very different distribution of liquidity within asset classes compared to more developed economies. Industry analysis has found that even plain vanilla FX option trading referencing Eastern European currencies (e.g. Hungarian Forint) is penalised by FRTB.
- FRTB has the effect of penalising participants in EMs as products lack the data quality required for proving modellability and would have the unintended consequence of increasing the entry barrier to EMs. It will segment the market between offshore and onshore players with trading activity gravitating to most liquid products.
- In some emerging economies there are more restrictive data privacy rules that could restrict those EM banks from fully participating in data pooling by third parties. This would expose many of their risk factors to punitive capital add-ons.
- It is also more likely that banks will capitalise activities in EM on standard approach due to the high cost of desk level internal models, validation requirements and cost of non modellable risk factors. This could lead to significant increase in end-user costs or availability of products where the SA leads to significant increase in capital requirements.

Other areas where EMs are particularly penalised by the current FRTB standard

In addition to NMRF, there are a number of other areas where the FRTB particularly penalises EMs.

1) Emerging Market Currencies - FRTB requires the use of liquidity horizons (the number of days it would take to exit a position) within internal models. The liquidity horizon mandated for more liquid currency pairs is 10 days, but 20 days for many emerging market currency pairs. FX trading in emerging markets will be materially penalised.



2) Non-investment Grade and non-rated issuers - Risk weights are materially higher for non-investment grade and non-rated underlying/issuers within FRTB standardised rules. This penalises EMs, where the proportion of non-investment grade & not rated issuers is relatively large, compared to developed markets.

3) Small Cap Equities - The liquidity horizon requirements within FRTB internal models stipulate a longer horizon for small cap equity price risk of 20 days versus 10 days for large caps. It is 60 days for small cap volatility versus 20 days for large caps. This disproportionately increases the capital costs of banks trading in these small caps.

Case Study 8 - NSFR impact on short facilitation provided by banks to end-users

Introduction

Among the services that banks provide to their customers who want to invest in capital markets, particularly significant is the short (selling) facilitation service.

What is 'Short Selling'? Short selling is the sale of a security that is not owned by the seller, or that the seller has borrowed. The objectives of a short sale can be:

- Hedging: Short selling may be prompted by the desire to hedge the downside risk of a long position in the same security (or a related one).

- Making a profit: Short selling can be motivated by the belief that a security might be overpriced (which is possible even for well run companies). If the price of the security subsequently declines, the short-seller will be able to buy it back at a lower price and to make a profit.

Role of short selling

The role of short selling includes:

- “Correcting overpriced stock, facilitating price discovery, facilitating hedging and other risk management, promoting liquidity through market making” (IOSCO Report on short selling, 2009);
- Short selling gives market participants the ability to express different viewpoints, fostering price formation, and allocation of capital where more needed/deserved. It can act as the ‘canary in the coal mine’ and help avoid bubbles;
- Recent studies show the importance of short selling for market liquidity, particularly for small cap firms (e.g.: Battalio, Mehran, Schultz, NYFed, 2012; Beber, Pagano, 2013). Recital 5 of the EU short selling regulation states “While in certain situations it could have adverse effects, under normal market conditions, short selling plays an important role in ensuring the proper functioning of financial markets, in particular in the context of market liquidity and efficient price formation.”

The link between short selling and securities lending

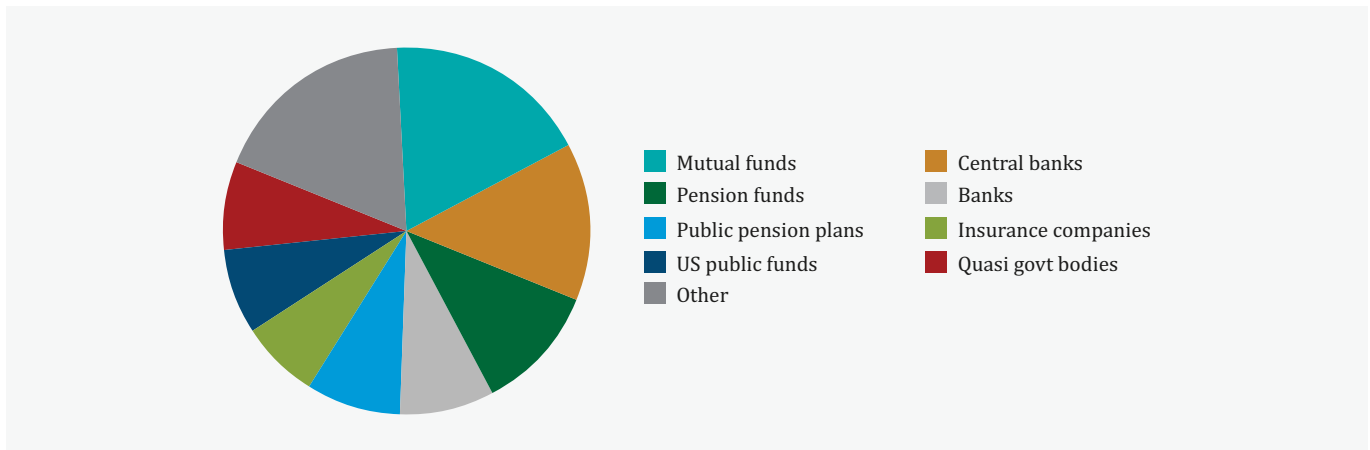
The link between short selling and securities lending is very important. In their short facilitation activities, banks play a critical role by bringing together investors who must borrow securities and lenders who have securities to lend.

In a typical short sale, the investor who ‘goes short’ must borrow the relevant security from another institution willing to act as a security lender.

As shown in the graph below, a large share of securities lending is done by mutual funds, pension funds and insurers: for them, this is an additional way to improve the return on their assets.

The size of the securities lending market is very significant: the total balance of securities on loan at year end 2014 was around \$1.8TN (of which \$750BN Equity securities - source: Markit).

Figure 11: **Securities lending by participant type**



Source: 2013 - Oliver Wyman

Case study: equity short facilitated via stock borrow

In a typical securities lending transaction, a bank brings together a borrower and lender(s) to facilitate a client's long-short investment.

- Long-short strategies aim to lock in returns or limit downside risk by buying one security (or basket) and selling another;
- Banks play a critical role in this transaction by bringing together investors who must borrow securities to execute their strategy and lenders who have securities to lend in inventory.

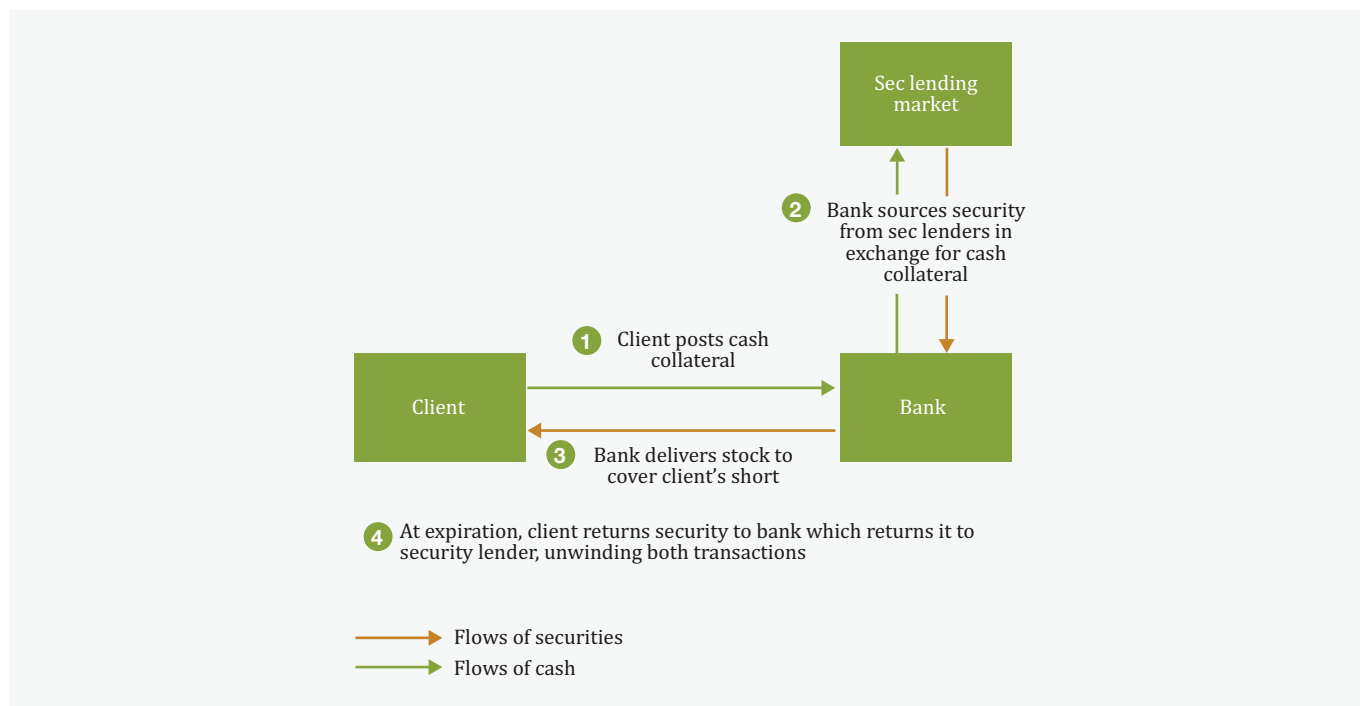
Transaction description

The securities lending transaction is initiated with a short sell order from a client seeking to lock in returns or limit downside risk from a long position. To cover the "short leg" of the transaction, the client seeks to borrow the stock from the bank. The client therefore posts cash collateral to the bank (flow 1 in the chart below), fully funding the transaction and removing liquidity risk for the bank.

The bank sources the stock from security lenders in exchange for cash collateral. When the bank pledges cash collateral to borrow securities (flow 2), a 15% RSF requirement is applied to the cash collateral (i.e. it is treated as a "loan" to a financial institution).

At expiration, the client returns the stock to the bank which returns it to the security lender, unwinding both transactions.

Case Study 8 - NSFR impact on short facilitation provided by banks to end-users



Banks' short facilitation activities can become uneconomical

Under the NSFR, banks facilitating client shorts are burdened with a significant penalty: although the bank receives cash collateral (i.e. the short sale proceeds) from a client, which provides an effective funding source for short-dated client-related assets, this liability receives 0% ASF recognition; however, when the bank pledges cash collateral to borrow securities, a 15% RSF requirement is applied to the cash collateral. This can make banks' short facilitation activities uneconomical.

How to achieve a more proportionate treatment?

A more proportionate approach would be the application of a 0% RSF factor to the cash collateral posted by the bank to the securities lender.

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/ About AFME

The Association for Financial Markets in Europe (AFME) is the voice of all Europe's wholesale financial markets, providing expertise across a broad range of regulatory and capital markets issues.

We represent the leading global and European banks and other significant capital market players.

We advocate for deep and integrated European capital markets which serve the needs of companies and investors, supporting economic growth and benefiting society.

We aim to act as a bridge between market participants and policy makers across Europe, drawing on our strong and long-standing relationships, our technical knowledge and fact-based work.

Focus

on a wide range of market, business and prudential issues

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deep policy and technical skills

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with European and global policymakers

Breadth

broad global and European membership

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