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Economic Analysis

Accompanying the document

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

on the Mid-Term Review of the Capital Markets Union Action Plan

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Contents

List of abbreviations

AIM	Alternative Investment Market
CCP	Central Counterparty (clearing)
CCTB	Common Consolidated Corporate Tax Base
CESEE	Central Eastern and South-Eastern Europe
CMU	Capital Markets Union
CR-3, CR-5	Concentration Ratio top-3 and top-5 companies
CSD	Central Securities Depository
ECB	European Central Bank
EDGAR	Electronic Data Gathering, Analysis and Retrieval system
EEA	European Economic Area
EFSI	European Fund for Strategic Investment
EIB	European Investment Bank
ESA	European Supervisory Agency
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
ETF	Exchange-Traded Fund
EU	European Union
EU-27	European Union 27 Member States (excluding United Kingdom)
EUR	Euro
EA	Euro area
EuSEF	European Social Entrepreneurship Funds
EuVECA	European Venture Capital Funds
GDP	Gross Domestic Product
IPO	Initial public Offering
M&A	Mergers and Acquisitions
MFI	Monetary Financial Institution
MiFID	Markets in Financial Instruments Directive
MiFIR	Markets in Financial Instruments Regulation
NFC	Non-Financial Corporations
P2P	Peer-to-Peer
PP	Private Placement
PPP	Public-Private Partnership
RES	Renewable Energy Sources
SAFE	Survey on the Access to Finance of Enterprises
SEC	Securities and Exchange Commission
SME	Small and Medium Enterprise
STS	Simple, Transparent and Standardised
SWD	Staff Working Document
USD	United States Dollar
T2S	TARGET2-Securities
VC	Venture Capital

Executive Summary

This Commission Staff Working Document (SWD) accompanies the Communication on the Mid-term Review of the Capital Markets Union (CMU) Action Plan. The document provides an in-depth economic analysis of underlying long-term trends and capital market failures to underpin the policy priorities of the Mid-Term Review. Each chapter includes an introduction about long-term trends and main indicators. This is followed by a discussion about the drivers of those trends and the general policy implications.

Chapter 1 proposes a coherent economic framework underpinning the CMU long-term objectives and provides aggregate indicators about measures of financial integration, as well as investments. The diversification of the financial system in Europe is still far from optimal, but there are signs in the post-crisis recovery that the financial integration process is moving towards a more sustainable path. Based on the economic framework the chapter identifies a number of indicators to measure progress towards the completion of CMU, also leveraging on internal empirical work conducted by the Joint Research Centre (JRC). Particular attention, as key highlights of the Mid-Term Review, is paid to cross-cutting policy issues such as supervisory convergence and capital market capacity building for the Central, Eastern and South Eastern (CESEE) region.

Chapter 2 reviews developments in the pre-IPO (initial public offering) ecosystem for unlisted companies, such as start-ups, scale-ups and other Small and Medium sized Enterprises (SMEs), to review the areas of non-bank funding for innovation that may call for action. Market-based finance and bank financing complement one another - the banking sector and capital markets have complementary roles and comparative advantages in different stages of development of an economy. Nonetheless, financing constraints remain, in particular for start-ups, scale-ups and non-listed companies. On the one hand, banks tend not to lend to young companies without collateral and certain future cash flows. On the other, capital markets are under-developed in several Member States, leaving SMEs vulnerable to stress in the banking sector. Market-based solutions in this area include business angels, private equity and venture capital, which rely on risk concentration and strong influence on the governance of the firm, as well as crowdfunding and private placement, which rely on risk dispersion and information disclosure by the company seeking funds. These forms of funding need a more holistic approach to help them develop a better ecosystem. Moreover, many entrepreneurs, start-up and small businesses fail due to cash flow problems although having a viable business model. Solutions such as supply chain finance (invoice trading) can help companies overcome temporary cash flow problems.

Chapter 3 focuses on raising equity and debt finance on public capital markets. Access to bond and equity markets occur in waves, depending on macro-economic, firm-specific and institutional factors. Initial access to equity markets facilitates subsequent access to finance (equity, bond, and bank financing) and mergers and acquisition (M&A) activity. Firms' financial structure and access to public markets differs depending on the firm's size (large firms versus SMEs) and across Member States. Dependency on bank-based financing decreased following the financial crisis but still remains high on average. SMEs overall access to external finance shows signs of improvement, but SMEs still face structural barriers to access public markets due to higher information asymmetries, high fixed costs, underdeveloped ecosystems and relatively low demand from institutional and retail investors. Proportionate regulation could help targeting those firms for whom access to public markets is relevant – like fast-growing young SMEs – while ensuring investor protection to preserve sufficient demand from investors.

Chapter 4 reviews how banks can use capital markets to support bank lending. STS securitisation aims to support the revival of the EU securitisation market, which will provide banks with an important tool to manage their balance sheet and transfer risk. Market practices to achieve greater standardisation and transparency of deals can support this process. Covered bonds have proven to be an effective long-term funding instrument for the mortgage loan and public sector loan portfolio of banks. A larger EU market for covered bonds, based on existing covered bond frameworks, would reduce issuance costs for banks and offer an asset class to investors. The development of a new dual

recourse instrument similar to covered bonds – a European Secured Note (ESN) – could provide a focused way of financing SME and infrastructure loans. As several banks across the EU have built-up a large stock of non-performing loans (NPL), improvements to the functioning of the NPL secondary market would benefit from the expansion of the investor base to specialised buyers such as hedge funds and investment firms, helping banks to refocus on their core business.

Chapter 5 discusses long-term institutional investors' participation in capital markets and to support infrastructure and sustainable investments. Equity finance is an important source of long-term investments. The corporate sector in some Member States remains highly leveraged and start-ups, in particular, ask for equity rather than loan finance to support their growth. Equity investment by insurance undertakings and pension funds however remains low. Capital markets could support sustainable finance by redirecting private funds to environmentally-friendly production processes and help to generate financial returns with positive social externalities.

Chapter 6 argues for greater engagement of retail investors in capital markets. EU households have one of the highest savings rate worldwide, but those savings are held predominantly in cash deposits, which may generate insufficient returns to meet long-term liabilities, such as education, health and ageing population. Retail investors are important to support market liquidity for stocks and bonds and thereby reduce the cost of finance for EU businesses, including SMEs. Lack of retail investors' participation relates to market frictions in the forms of explicit transaction costs, information asymmetry and behavioural biases. On the supply side, a lack of (domestic and cross-border) competition may lead to rent-seeking behaviour by service providers. New market entrants, such as FinTech companies, could put competitive pressures on incumbents in the years to come. On the demand side, investors' deviation from the optimal portfolio choice can be minimised through more effective transparency of retail investment products (information disclosure) and ability to deal with behavioural frictions.

This SWD analyses and monitors trends in capital markets that are relevant to the objectives of the CMU action plan. Building on its 2016 commitment to further develop and update indicators to measure CMU objectives,[1] the SWD includes a section at the end of each chapter with a recap of the indicators used in the text. While other factors beyond CMU actions have a sizable impact on the evolution of capital markets in Europe, these indicators offer an insight on the state of development and integration of European capital markets that will inform current and future policy actions.

[1] The Economic and Financial Stability and Integration Review (EFSIR) released in April 2016 presented a set of indicators to help analyse the relevant trends in capital markets' development relevant to the objectives of the CMU Action Plan. Compared to the work undertaken in 2016 EFSIR, only a few indicators have changed by new indicators found to be fitter for the purpose.

Introduction

This Commission Staff Working Document (SWD) accompanies the Communication on the Mid-term Review of the Capital Markets Union (CMU) Action Plan. The economic analysis on the functioning of capital markets in the European Union (EU) in this SWD provides the economic context for the policy actions in the mid-term review. The SWD provides a general context for identifying weaknesses and market failures in the functioning of EU capital markets, some of which may be suitable candidates for action in the CMU mid-term review. The SWD seeks to review the main structural shifts in EU capital markets, understand the drivers of change building on insights from economic theory and conclude, where possible, with key messages for implications on policy. It analyses and monitors trends in capital markets that are relevant to the objectives of the CMU initiative through the use of indicators.[2]

This SWD extends and complements the economic analysis done previously. In particular, the SWD that accompanied the CMU Action Plan of September 2015 provided a thorough rationale for the objectives of the CMU. The 2016 European Financial Stability and Integration Review (EFSIR) provided an extensive statistical overview of the EU financial system, including capital markets.

The SWD starts by introducing a general framework underlying the CMU in Chapter 1 and is then followed by five thematic chapters reflecting the CMU policy areas. Chapters 2 to 4 focus on funding sources and chapters 5 and 6 look at asset allocation.

[2] The use of key indicators should not necessarily be interpreted as an attempt to establish a causal relationship between the indicators and the CMU actions.

1 CMU: a general framework

This chapter presents a general framework for the CMU based on economic theory. The framework identifies relevant indicators to measure the progress of the CMU action plan in the long term. It also provides a framework to prioritise actions. The first section looks at the potential design of the plan and its objectives, which help to identify the long-term indicators. The second section reviews the implementation of the plan so far and its main actions. The last section discusses the future challenges of the CMU mid-term review, with special focus on the institutional architecture.

1.1 The design of the CMU action plan

The CMU action plan builds upon three levels of objectives: **(1) Overarching objectives,** which set the long-term goal of a single market for capital; **(2) Strategic objectives,** which set the direction on how to create a single market for capital; and **(3) Operational objectives,** which define what is the scope of individual policy actions to be effective.

1.1.1 Overarching objectives

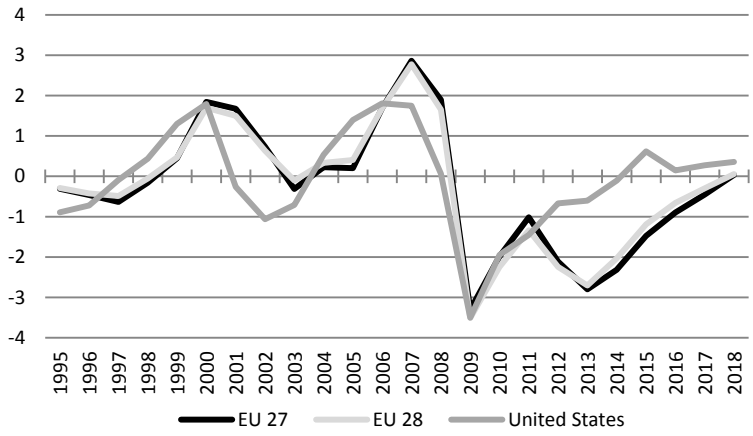
Capital markets are a fundamental part of the financial system. They provide funding to firms and returns to millions of households that have to meet long-term liabilities, like health, education and retirement. A single market for capital would contribute to two overarching objectives in the Commission's agenda for the years to come:

1) Greater support to private and public investments through the development of a capital market architecture that supports all European countries; and
2) More sustainable financial integration process to stabilise and improve the functioning of Europe's financial system.

Greater support to public and private investments

Since the crisis, European economies are still struggling to get back to normal. The difference between actual and potential GDP (i.e. output gap) is constantly below zero and the economy is performing below its potential (see Figure 1.1).

Figure 1.1. Output gap (actual minus potential GDP, %)



Source: European Commission calculations from AMECO.

The weakness of public and private investments is playing an important role in this output gap, compared to other advanced economies. In particular, assuming investment growth and GDP growth at the rates forecasted for 2017, it would take until 2023 for the investment share to recover to 22%, its level in the years 2000-05 (European Commission 2017). At net of its consumption, the creation of

fixed capital has been constantly dropping since early 2000s and only slightly recovering after the recent financial crisis, both in absolute value and returns.

Figure 1.2. Net fixed capital formation (% of GDP)

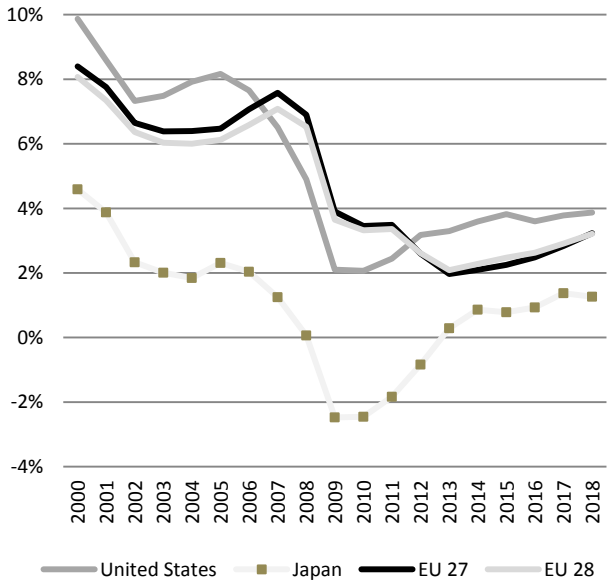
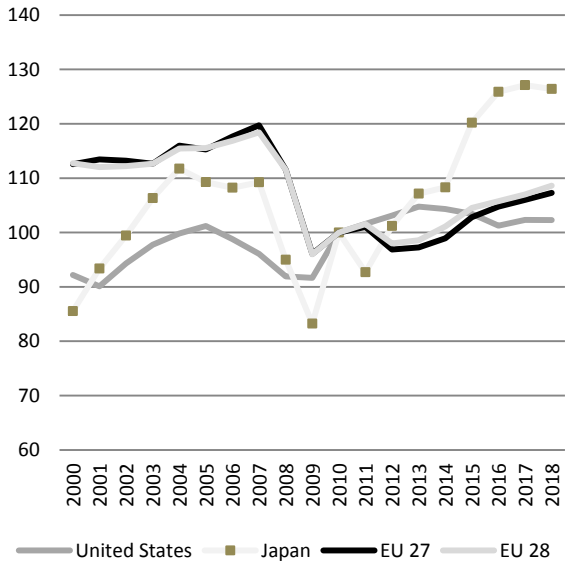


Figure 1.3. Net returns on net capital stock (2010=100)



Source: European Commission calculations from AMECO.

Capital markets can provide a strong support for both public and private investments. For instance, public-private partnerships (PPP) are important tools for infrastructure investments to complement public investments. Capital markets allow the use of risk premia to evaluate public and private investments (risk evaluation). Greater capital markets activity also stimulates private and public investments by providing an exit to investments, especially illiquid ones. Their development across regions in the EU would rely on actions to build capacity in terms of investor base, market infrastructure and supervisory practices.

Finally, the Commission is already working to use capital markets to foster public and private investments. The European Fund for Strategic Investment (EFSI) is one of the three pillars of the Commission's Investment Plan for Europe and helps to finance strategic investments in key areas such as infrastructure, research and innovation, education, renewable energy and energy efficiency. The European Fund for Strategic Investment has the goal to mobilise at least EUR 315 billion in additional investment over the period 2016-2018. Its success is therefore relevant for areas of interventions discussed in the following chapters (in particular, 'Make it easier for companies to raise funds on capital markets' and 'Promote investment in long-term, sustainable projects and infrastructure projects'). The take up of infrastructure or innovation projects under the EFSI instrument represents a useful indicator to assess the extent to which this instrument is boosting long-term investment in Europe. The approval process by the European Investment Bank (EIB) Group having started in April 2015, the number of approved transactions as of April 2017 reached 477. This represented approved financing from the EIB Group of EUR 33.9 billion, expected to trigger a total investment of EUR 183.5 billion.[3]

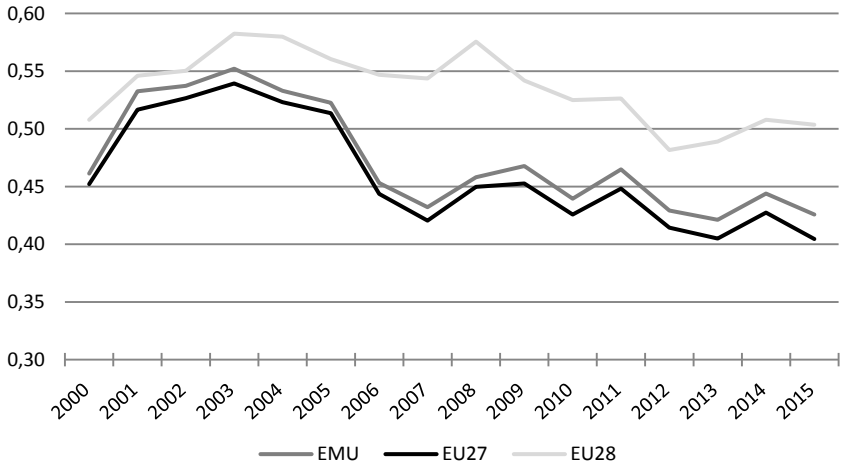
A more sustainable financial integration process

A well-functioning single market for capital relies on a sustainable financial integration process to efficiently allocate resources (Monti Report 2010). The crisis, and following financial fragmentation, suggested that diversification of financial flows is key for a sustainable financial integration process

[3] For a summary of key indicators, please see the end section in Chapter 5.

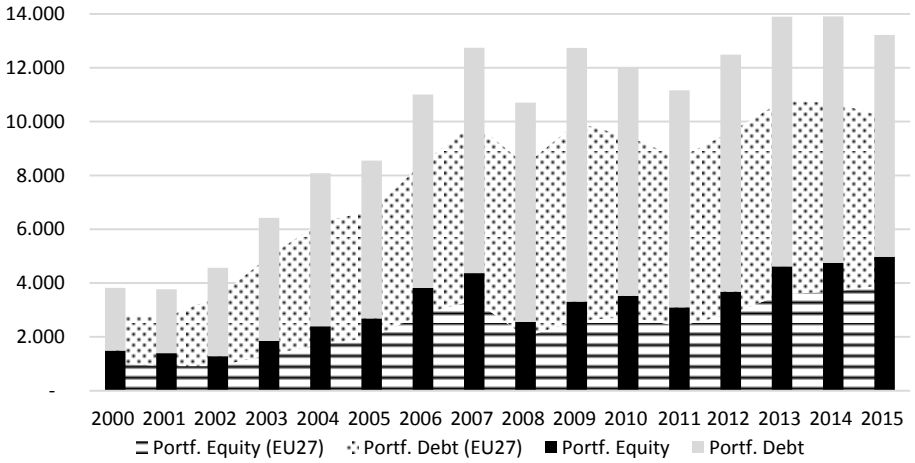
(Five Presidents' Report 2015). Europe's financial system is heavily reliant on bank financing, while the economy may need the support of a financial system that adapts better to the needs of all the firms developing across the funding escalator. The lack of diversification manifested itself via limited geographical risk diversification (see Figure 1.4), i.e. deviation from the optimal allocation, as well as limited portfolio diversification (see Figure 1.5).

Figure 1.4. Geographical risk diversification index (2000-2015)[4]



Source: European Commission (JRC) calculations from the JRC-ECFIN FinFlows dataset. Note: outward diversification index (equity and debt).

Figure 1.5. Debt and equity portfolio investments intra EU (EUR billion; portfolio risk diversification)



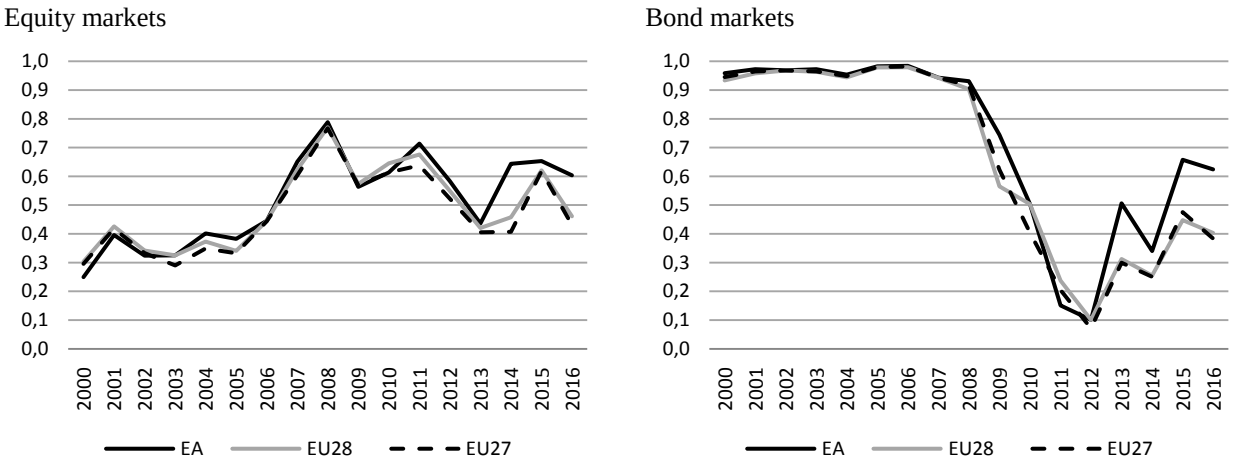
Source: European Commission (JRC) calculations from the JRC-ECFIN FinFlows dataset. Note: Bilateral country flows within the EU.

This integration process based on low risk diversification (geographical and portfolio risk diversification) resulted in lower cross-border risk sharing and did not prevent massive consumption drop across Europe, and more prominently in the euro area, when the GDP shock hit Europe's economy. In particular, investment portfolio flows are largely allocated to debt instruments (let alone the system's overreliance on bank lending; ESRB 2014), while the equity component (which is the one that absorb risk most effectively) is very low on average in the last decade but increasing in the post-crisis. Additionally, home bias (measured as the holding of domestic assets versus their optimal intra-

[4] The index is equal to one, if the domestic portfolio is perfectly geographically diversified and lower than one otherwise. Portfolio theory suggests that a country should optimally allocate its investments abroad according to the "importance" of the partner country, importance being measured as the proportion of this country's assets in the combined pool of assets of all the foreign countries considered. This diversification index is based on Schoenmaker and Wagner (2011).

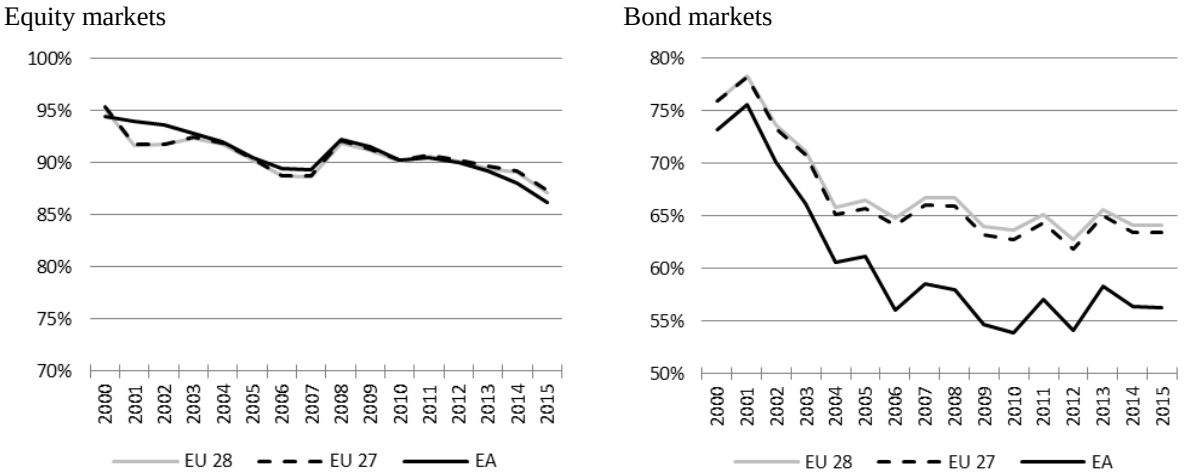
EU allocation) also remains very high, especially in equity instruments, even though experiencing a declining trend in the last two years (see Figure 1.7). In effect, the geographical and portfolio diversification of the financial system in Europe is still far from optimal and there are only timid signs in the post-crisis that the financial integration process is moving towards a more sustainable path, measured by the level of co-movement between price and quantity-based indicators of integration (see Figure 1.6 and Figure 1.7).

Figure 1.6 Price-based integration in Europe[5]



Source: European Commission (JRC) calculations.

Figure 1.7 Quantity-based integration (home bias) in Europe[6]



Source: European Commission (JRC) calculations. Note: No data for Croatia.

[5] The price-based indicator is a measure of financial integration based on the sensitivity of domestic European stock and bond markets to global, US or European drivers. It measures the domestic returns' co-movement with global factors across the EU. The closer the indicator is to 1, the greater integration can be seen in the market. The indicator is estimated via a Principal Component Analysis. Data for bond markets is the yield of generic benchmark sovereign bonds with maturity 10 years, while we use local stock indexes for equity markets. For more details about the estimation procedure, please see Nardo et al. (2017).

[6] This indicator is a weighted average of all EU Member States (except Croatia, for which we do not have sufficient data) and measures the extent to which domestic equity/bonds, held by EU residents in their country, are overweighing their domestic investment portfolio (i.e. holding a proportion of domestic assets that is higher than the relative importance of local equity and bond markets over the total in the EU). The higher the value of the indicator the more home bias is observed (i.e. 1 being that the entire portfolio is invested within the domestic country of the EU). This measure follows the methodology developed in Bruegel (2016).

1.1.2 Strategic objectives

In order to achieve the overarching objectives mentioned above and deal with the long-term issues to create a single market, as highlighted by the Monti report (2010), capital markets would need to be more:

1) **Competitive and efficient** (to deal with 'market fatigue').

CMU should deliver greater access to finance (private investments) and a better framework for public investments (for demand-side policies). Liquidity and market microstructure are also part of the market functioning and efficiency. Increased competition between funding sources and within the financial sector would result in more diversified asset side for capital providers and liability side for capital seekers. A more competitive market and industry structure are key to overcoming 'market fatigue'. Technologies applied to financial services (FinTech) provide an indispensable toolkit to promote access, efficiency and competition among capital markets service providers.

2) **Financially stable and integrated** (to deal with 'integration fatigue').

Improving channels of private risk sharing (i.e. cross-border holdings of financial assets), through the risk dispersion provided by cross-border capital market transactions, is key for financial stability. In effect, on a cross-border basis, capital (and credit) markets are the main channel of risk absorption in case of asymmetric shocks like the last financial crisis (Asdrubali et al. 1996, among others).[7] Stability also includes sounder investor protection to be enforced at EU level. As Figure 1.8 and Figure 1.9 suggest, both greater geographical risk diversification and lower home bias (i.e. propensity to hold domestic assets over other EU foreign ones) could be associated with greater risk sharing via cross-border credit and capital markets (obtained from the net factor income).[8] This means that the more the financial system is diversified according to the 'importance' of the partner country (geographical risk diversification)[9] and according to the 'importance' of the local capital markets vis-à-vis the total EU markets (home bias), the greater is its overall stability, resulting from the greater ability to absorb risk (see Figure 1.8 and Figure 1.9).

[7] In the US, for the period 1964-1990, public intervention is worth 13% of the absorption capacity in case of a shock, compared to a 23% contribution from credit and 39% from capital markets. Geographical and portfolio diversification ultimately stabilises the financial system. For a more extensive discussion and literature review, please see Valiante (2016). A recent estimation for OECD industrialised countries (Poncela et al. 2016, data range 1999-2014) shows an absorption capacity of around 24% for the saving channel, negligible for the public intervention and around 4% for cross border credit and capital markets. It is also important to note that capital gains on cross-border capital markets transactions are not capture by this methodology in the international factor income (cross-border credit and capital markets), but in the saving channel (see Balli et al. 2012).

[8] Also called 'international factor income'. Net factor income is the portion of the Gross National Income coming from cross-border investments (essentially interests and dividends), but it does not include income from capital gains (see the European System of Accounts ESA2010). According to the methodology developed by Asdrubali et al. 1996, this link absorbs the most of asymmetric shocks to GDP among the available channels.

[9] Our analysis, not reported in the SWD, suggests that geographical risk diversification is negatively correlated with home bias within the EU, as confirmation that intra-EU flows move together with diversification.

Figure 1.8. Geographical risk diversification and risk sharing (EU28)

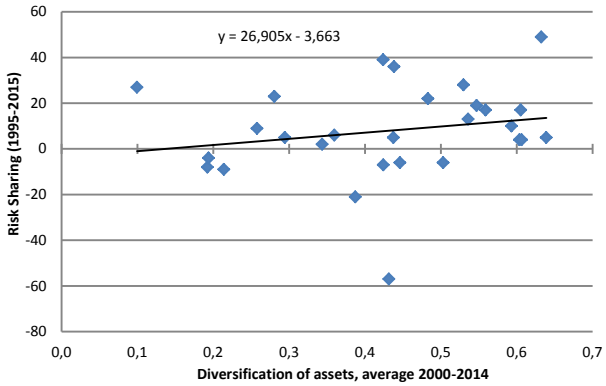
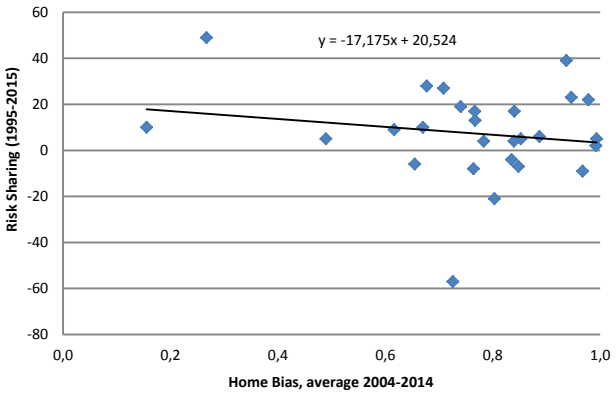


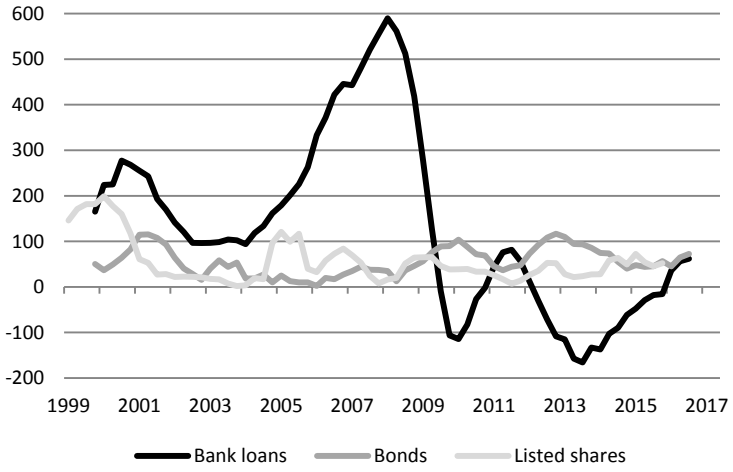
Figure 1.9. Home bias vs risk sharing (EU28)



Source: European Commission (JRC) calculations. Last available estimate is for 2015. Note: For illustrative purposes, Figure 1.9 does not include Ireland and Luxembourg where home bias is close to zero.

Diversification also involves funding sources. In effect, lack of financial diversification exposes the system to further instability caused by the volatility of some financial flows when there is a structural shock (see Figure 1.10).

Figure 1.10. Financial flows to non-financial corporations (EUR billion, net amounts)



Source: ECB and European Commission calculations.

Bank loans do usually have a much higher volatility, compared to listed shares and debt instruments, which are more resilient to asymmetric shocks.

3) **Cohesive** (to deal with 'eroding consensus').

CMU also helps to strengthen the cohesion of the single market plan, as: it is a multi-currency project; it does not need public risk sharing; it does not need an institutional overhaul (like for banking union), beyond the upgrade of the current institutional framework. It also interacts well with banking union, as it complements the importance of greater cross-border credit markets.

1.1.3 Operational objectives

A capital market transaction is a market-based financial transaction that typically involves several capital providers (investors). Compared to a traditional bank lending operation, where there is one institution as the capital provider, which directly collects and processes information, market-based transactions involve multiple capital providers in every transaction (typically through the issuance of a

financial instrument), who do not have the size and cost structure to undergo complex due diligence to collect and process information about the capital seeker. As a result, a system of rules and procedures is usually designed and enforced, in order to give investors and capital seekers the certainty that the transaction will take place and sufficient information will be available, if they do not have the scale to produce the information themselves. For instance, regulators typically foresee disclosure rules to complement the voluntary disclosure of information by the issuer. Components of a capital market transaction are thus:

(1) Information flows that allow price discovery and so pricing;

(2) The execution infrastructure that allows access to markets and products; and

(3) The rules and contracts that allow uniform rules to be applied with a high degree of legal certainty across the EU.

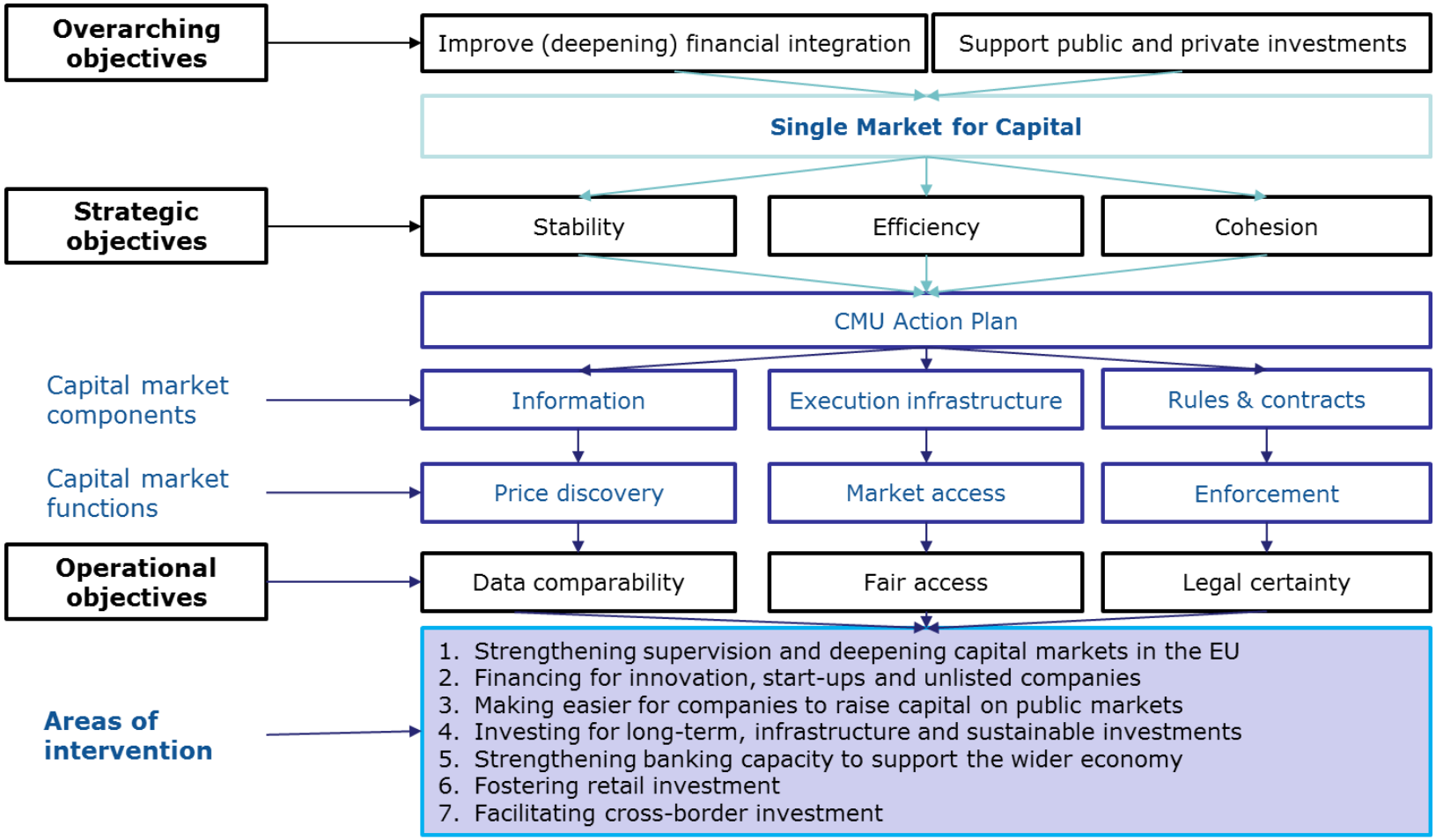
On a pan-European scale, the CMU action plan therefore promotes the following operational objectives:

1. Greater data availability and comparability on a cross-border basis (for price discovery);
2. More accessibility to markets and product (with fair access);
3. Stronger enforcement of rules and procedures (to achieve greater legal certainty and investor protection).

As specified in Figure 1.11, once defined the three levels of objectives (overarching, strategic and operational), the CMU action plan has identified one general area of intervention on supervision and capital market capacity building and six specific areas of intervention according to the developing phases of the funding escalator and investment, which are defined as follows:

1. Strengthening supervision and building capital markets capacity in the EU;
2. Financing for innovation, start-ups and unlisted companies;
3. Making easier for firms to raise money on public markets;
4. Strengthening banking capacity to support the economy;
5. Investing for long-term, infrastructure and sustainable investments;
6. Fostering retail investment; and
7. Facilitating cross-border investments.

Figure 1.11. The CMU Action Plan



1.1.4 Completed actions so far

Over the past 18 months, the Commission has delivered the following 20 actions (out of 33) in accordance with the list announced in the 2015 CMU Action Plan.

	Note: legislative actions are shaded in grey; Tick '√' means that the measure has an impact on that dimension of capital markets and 'X' otherwise	**Price discovery**	**Market and product access**	**Enforcement**
Financing for innovation, start-ups and non-listed companies	*1.* Pan-European venture capital fund-of-funds and multi-country funds (proposal and adopted and selection of managers to be finalised in Q2 2017)	X	√	X
	2. EuVECA and EuSEF legislation review (proposal adopted in July 2016)	X	√	X
	3. Study on tax incentives for venture capital and business angels (adopted in June 2017)	X	√	X
	4. Industry high-level principles for banks' feedback to declined SME credit applications (adopted in May 2017)	√	√	X
	5. Map out existing local or national support and advisory capacities across the EU to promote best practices (staff working document adopted in June 2017)	X	√	X
	6. Report on crowdfunding (published in May 2016)	√	√	√
Making it easier for companies to enter and raise capital on public markets	*7.* Regulation to modernise the Prospectus Directive (agreement reached in December 2016)	√	√	X
	8. Common Consolidated Corporate Tax Base (CCCTB) and debt-equity tax bias (proposal adopted in October 2016)	X	√	X
Institutional investors - Investing for long term, infrastructure and sustainable investment	*9.* Review of infrastructure calibrations for banks through the CRR proposal (proposal adopted in November 2016)	X	√	X
	10. Solvency II calibrations for insurance companies' investments in infrastructure and European Long Term Investment Funds (proposal adopted in April 2016)	X	√	X
	11. Call for evidence on the cumulative impact of the financial reform (Communication adopted in November 2016)	√	√	X

Fostering retail investment	*12.* Following the Green Paper on retail financial services and insurance, the Commission adopted on 23 March 2017 the 'Consumer Financial Services Action Plan: Better products and more choice for EU consumers.'	√	√	√
	13. Consultation on the main barriers to the cross-border distribution of investment funds (consultation closed in October 2016)	X	√	X
	14. Assessment of the case for a policy framework to establish a European personal pension product (legislative proposal due by end of June 2017)	X	√	X
Leveraging banking capacity to support the wider economy	*15.* Credit unions' authorisation outside the EU's capital requirements rules for banks (proposal adopted in November 2016)	X	√	X
	16. Simple, transparent and standardised (STS) securitisations and revision of the capital calibrations for banks (proposal adopted in September 2015)	√	√	X
	17. Consultation on an EU-wide framework for covered bonds and similar structures for SME loans (consultation closed in January 2016)	X	√	X
Facilitating cross-border investment	*18.* Report on national barriers to the free movement of capital (adopted in March 2017)	X	√	√
	19. Business restructuring and second chance framework (proposal adopted in November 2016)	X	√	√
	20. Assisting ESMA in developing and implementing a strategy on fostering supervisory convergence (Supported ESMA in implementing its first and second annual work programme on supervisory convergence in 2016 and 2017).	√	√	√

1.2 CMU mid-term review: focus on supervision and capacity building

The CMU action plan is a structural reform programme, which is being implemented and reviewed over a long time span. Since its launch in September 2015, the action plan mostly focused on measures to improve access to markets and products (see Section 1.1.4), via lowering direct costs. Actions, such as the revised Prospectus rules or the regime for standardised and transparent securitisation, aim to reduce fixed costs of access to markets by lowering listing costs. Other actions to fine-tune prudential treatment of transparent and standardised securitised instruments seek to improve product market access. Actions to address availability of information flows (price discovery) or strengthen rule enforcement to ensure legal certainty are less prominent.

The review of the CMU action plan broadens the policy agenda by adding actions to promote greater price discovery and enforcement across the EU. Among those actions, a key development is the intent to ensure the well-functioning of the capital markets' supervisory architecture. This will ultimately benefit market and product access, price discovery and enforcement of EU rules and private contracts altogether. A sound supervisory architecture would then implement and enforce the Single Rulebook across Europe. Finally, the plan foresees actions to support capacity building for local or regional capital markets that have limited scalability, which would have beneficial impact on the three functions mentioned above.

1.2.1 Pan-European enforcement and supervisory convergence

Capital markets comprise a wide spectrum of market segments ranging from local financial providers that sell products to retail investors to large and complex wholesale market providers like stock exchanges and CCPs that might hide cross-border financial contagion risk. The supervisory approach for EU capital markets needs to be pragmatic and combine supervisory convergence and direct supervision in the most effective and proportionate manner. The ability to enforce contracts with a common supervisory treatment across the EU is key component of a well-functioning capital market, as it is the case for the US (see Box 1). Supervision of capital markets in a complex multilateral environment, as the EU, has to deal with two types of economic costs: monitoring costs and coordination costs.

First, every financial transaction generates monitoring costs. The cross-border dimension of European markets raises this cost even further for national supervisors, who may be discouraged or not allowed to expand their supervisory activity cross-border, while many financial services firms nowadays do operate cross-border. The inability to monitor the counterpart effectively, especially in a dispersed environment like capital markets, requires risk signalling mechanisms that are also delivered by the supervisory infrastructure, such as minimum licensing requirements to enter a market and ongoing monitoring. A well-functioning supervisory mechanism also reduces other monitoring costs by interposing itself between investors and capital seekers in the enforcement of rules and contracts. Enforcement tools include effective and uniform sanctions, redress procedures and proper implementation of EU rules. The credibility of capital market operators is the driving force of capital market integration and a sound supervisory architecture contribute to that too. As a consequence, strengthened pan-European supervision would need to consider areas where to expand the exclusive powers of the pan-European supervisor.

Second, supervision in a community of sovereign states may also face significant coordination costs, due to a collective action problem. As a result, some member states may decide to not align themselves, via 'gold plating' EU rules, with others that cooperate via strictly implementing EU legislation. Supervisory convergence could minimise the risk of a 'race-to-the-bottom' in enforcing EU rules, as well as forum shopping and regulatory arbitrage by private entities operating cross-border. A more solid supervisory architecture at EU level would therefore ensure the implementation of a Single Rulebook for capital markets in the EU, reducing compliance costs for firms and investors, as well as operational costs for supervisors. The latter implies a greater binding role of the pan-European supervisor in solving conflicts among national authorities and more representation of the EU interests in the decision-making bodies of the key European agencies.

Enforcement and supervision in the EU

The underlying rationale for setting up the European Supervisory Agencies (ESAs) was to deepen the EU financial Rulebook, ensure closer cooperation and exchange of information among national supervisors and advance the coherent interpretation and application of rules. By contributing to the promulgation of common rules and ensuring supervisory convergence and coordination the ESAs should shape the further development of a single rule book applicable to all EU Member States and thus contribute to the functioning of the Single Market. To this end, the ESAs have been assigned in the founding Regulations and subsequent secondary Union legislation regulatory, supervisory, financial stability and consumer protection roles and powers.

The creation of a common supervisory culture, with convergent supervisory practices, is a long term process. The ESAs have so far focussed principally on their regulatory role, as deepening the common rule-book was the upper-most priority in the wake of the crisis. Their supervisory and enforcement role may produce even greater impact in the long-term and needs to be stepped up to achieve more consistent implementation and supervision of new EU rules.

Correct and consistent implementation of EU law at national level is essential to enforce a single rulebook, particularly when transposing EU Directives into national law. Significant compliance costs may result from divergent and/or inconsistent transposition of EU Directives into national legislation. When transposing EU Directives, Member States may deviate from the text of the Directives or interpret the rules (including definitions) in different ways. Such divergences undermine the single rulebook and the level playing field and create complexity and additional compliance costs for firms operating cross-border. In addition, in several areas, some Member States go beyond what is required by EU law when implementing legislation at national level. In this context, the ESAs have started conducting peer reviews,[10] but their scope is often very limited and more intrusive powers (such as the 'breach of EU law') have been rarely used.[11]

The need to reinforce the EU dimension of supervision and to strengthen the supervisory framework has been stressed in the Commission Communication on Capital Markets Union – Accelerating Reform of September 2016. The Five Presidents' Report has also acknowledged the need to strengthen the supervisory framework to ensure the solidity of all financial actors.

Role and functioning of ESMA

The European Securities and Markets Authority (ESMA) is the capital market supervisor for Europe's capital markets. The decisions are taken by the Board of Supervisors (BoS), consisting of national competent authorities (peers). Currently ESMA exercises direct supervisory powers only over trade repositories and credit rating agencies. As capital markets deepen and get more integrated, there is a need to ensure that the capacity to supervise and manage risks, especially cross-border, keeps pace. This gives rise to questions on whether ESMA's current toolbox and powers are sufficient and appropriate to underpin efficient and cost effective supervision also in a deeper CMU. The growing cross-border component increases monitoring and coordination costs that cannot be dealt with at national level. For example, the development of more integrated capital markets could justify the centralisation of supervision in certain areas where risk emerges from this cross-border dimension. Reflections on a stronger role for ESMA could most productively focus on those market segments or functions where the degree of integration creates strong spill over effects or synergies that cannot be effectively overseen by nationally segmented operators. Strengthened powers for ESMA would ensure that market participants with a similar business model, size or risk profile are subject to the same intensity and extent of oversight to ensure a level playing field among market participants and equal

[10] Informal investigations into the supervisory practices of National Competent Authorities (NCAs) in defined areas of intervention.

[11] Since 2015, ESMA only conducted five peer-reviews and there are only two ongoing peer-reviews in the first quarter of 2017. These reviews cover limited areas of EU rules implementation. No 'Breach of Union law' procedure (under article 17, Regulation n. 1093/2010) has been formally launched by ESMA since its inception.

protection for domestic and cross-border investors. It would also ensure that potential risks to financial stability that might arise, following the integration of the markets, would be monitored and mitigated in an effective manner across Member States.

Moreover, there are general market support services with a 'public good' dimension that have strong economies of scale and are capable of reducing costs for Member States and supervised entities. These services are mainly data collection, management and publication. This centralisation process is applicable to all sorts of data reporting, including transaction reporting, accounting, business registry information. The simplification that centralisation brings about will improve cross-border data accessibility via greater standardisation and streamlined submission procedures. This process would benefit supervised entities, supervisors and investors at large.

Box 1. Powers of the U.S. Securities and Exchange Commission (SEC)

The U.S. Securities and Exchange Commission (SEC) is responsible for enforcing federal securities laws, proposing securities rules, and regulating the securities industry including stock and options exchanges and the electronic securities markets in the US. The mission of the SEC is to protect investors, maintain fair, orderly, and efficient markets, and to facilitate capital formation.

The SEC has several key powers. First, the SEC interprets and enforces federal **securities laws**. It investigates violations of securities laws and regulations and takes actions when violations have been uncovered. The SEC can bring a civil action, or an administrative proceeding which is heard by an independent administrative law judge. The SEC does not have criminal authority, but may refer matters to state and federal prosecutors.

Second, the SEC oversees the **disclosure made by public companies**, as well as the registration of transactions, such as mergers, made by companies. The SEC requires public companies to disclose meaningful financial and other information to the public, providing a common pool of knowledge for all investors. It maintains an online database called EDGAR (the Electronic Data Gathering, Analysis, and Retrieval system). EDGAR provides investors with access to the information filed with the agency. It is also possible to file complaints and report violators of securities laws via EDGAR.

Third, the SEC oversees securities trading and markets. It oversees the inspection of **securities firms, clearing infrastructure, brokers, investment advisers** and **ratings agencies**, as well as private regulatory organizations in the securities, **accounting** and **auditing** fields. The SEC interprets proposed changes to regulations and monitors operations of the industry.

Fourth, the SEC **oversees registered investment companies**, which include mutual funds, as well as registered investment advisers. The SEC focuses on ensuring that disclosures about mutual funds, ETFs and other such investments are useful to retail customers, and that the regulatory costs which consumers must bear are not excessive.

Finally, the SEC can make use of **no-action letters** to issue guidance in a more formal manner. A company seeks a no-action letter from the staff of the SEC when it plans to enter uncharted legal territory in the securities industry. For example, if a company wants to try a new marketing or financial technique, it can ask the SEC staff to write a letter indicating whether it would or would not recommend that the SEC take action against the company for engaging in its new practice.

1.2.2 Building capacity for Europe's regional markets

The importance of geographical location proximity in complex financial ecosystems is an unsettled discussion in economic literature. In order to create liquidity, capital markets need volumes and so rely on strong economies of scale. As a result, also due to technological developments in recent years, capital markets tend to consolidate around big clusters of liquidity, which are usually big Member States or regional trading hubs, due to benefits that spill over the entire economy (Pandit et al. 2002). Nonetheless, not all forms of finance need centralisation to develop. Geographical proximity still matters for many of them and for specific categories of users, such as start-ups. For instance, despite its ability to make geographical proximity less important, crowdfunding is not able to overcome all the distance-sensitive costs related to information (Agrawal et al. 2015). It is less clear whether public

equity markets for SMEs at national level or more locally are more beneficial than centralised regional hubs in any given area (Klagge & Martin 2005). While trading of listed blue chips becomes increasingly international, cost of equity is higher for firms that come from countries with a weak governance and institutional design (Boubakri et al. 2016). Spatial proximity between financial intermediaries and SMEs facilitates information exchange to lower transaction costs and non-cost barriers for capital provision (Klagge & Martin 2005). Some specialised regional stock markets can also attract the interest of other forms of finance (like private equity), which finds in these markets either an exit or a guide to price SME risk. There is also evidence that firms' propensity in looking for external finance grows in proximity of venture capital markets (Colombo et al. 2016).

The development of capital markets across the EU should consider the different maturity of capital markets across Member States. For market based finance to be a viable and sustainable alternative to bank lending, the CMU needs to build the financial circuits, market conventions and technical and legal infrastructures that will allow market participants to operate at local, regional or national level while, at the same time, to transact confidently on a pan-European scale. There is a need to broaden the geographical reach of capital markets so that all Member States reap the benefits of deeper and more integrated capital markets. Mobilising the local investor base in regional markets requires more than the presence of a regional market. Some Member States would need to strengthen their capacity also in other areas than access and competitiveness of financial intermediation, such as supervisory capability or other policy areas that help to create an environment conducive to capital mobility in the region, as well as clustering of specific forms of finance (e.g. venture capital, private equity or SME crowdfunding tools). Technical assistance may help these Member States. The Central Eastern and South-Eastern Europe (CESEE) region is an area where some capacity building for the development of a regional hub in specific forms of finance can be achieved. The incidence of bank finance in this area is lower than the rest of the EU (154% of GDP versus 410% of GDP). Banks are mainly foreign-owned and they operate under limited interference by local governments, thus with a more market-oriented behaviour. Non-financial firms' access to capital markets is lower that the EU average (6% versus 21% for the EU). Issuance of debt securities is considered irrelevant for SMEs in the CESEE region (ECB Safe Survey on Access to Finance). Insurance and pension funds are only partially involved in capital markets activities, often because the national regulatory framework creates additional constraints. Households exhibit strong bias towards cash or deposit instruments, but their participation in equity investments is mixed across countries.

1.3 Key indicators[12]

Support to public and private investments

Indicator	Last 5-year average	Latest observation	Value
Ouput gap (actual minus potential GDP, % of GDP)	-1.83%	2016	-0.69%
Net fixed capital formation (% of GDP)	2.42%	2016	2.63%
Net returns on net capital stock (index value rebased in 2010 as equal to 100)	101.6	2016	105.8

A sustainable financial integration process

Indicator	Last 5-year average	Latest observation	Value
Geographical risk diversification index (outward flows, equity and debt; index value between 0 and	0.5	2015	0.5

[12] EU, unless indicated otherwise.

1)			
Debt portfolio investments intra EU (end of period; EUR trillion)	EUR 8.71 trillion	2015	EUR 8.25 trillion
Equity portfolio investments intra EU (end of period; EUR trillion)	EUR 4.22 trillion	2015	EUR 4.98 trillion
Price-based integration in EU (bond markets; index value between 0 and 1)	0.31	2016	0.4
Price-based integration in EU (equity markets; index value between 0 and 1)	0.51	2016	0.46
Quantity-based integration in EU (home bias; index value between 0% and 100%)	82%	2015	80%

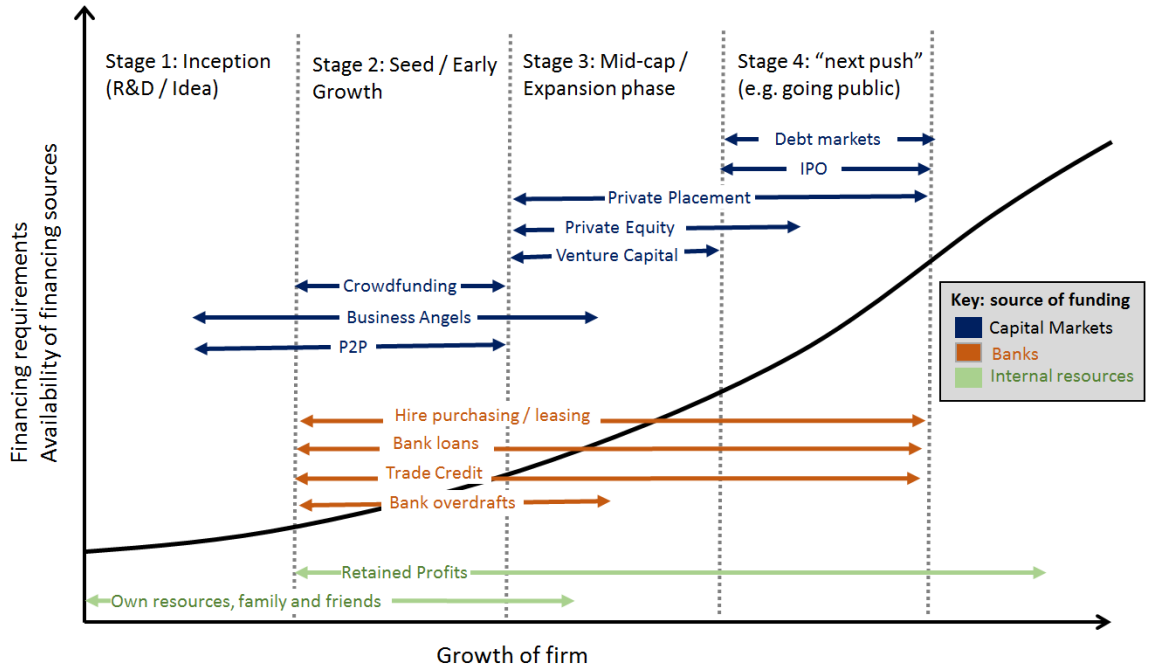
2 Financing for Innovation, Start-ups and Non-listed Companies

Access to a diversified pool of funding options is critical for financial stability and economic growth. Successful entrepreneurs, start-ups, scale-ups and firms need access to different types of financing to fund innovation and their expansion. This chapter reviews the funding channels via capital markets for innovative and growing firms seeking to raise equity or debt outside the banking system, and explores the overall challenges to improve the pre-IPO environment in the EU.

2.1 Markets and banks along the funding escalator

A company's financing needs evolve with its growth in size and specialisation over time. Its stage of development, growth objectives, innovativeness, operations, and credit profile determine its financing needs. This is generally defined in corporate finance as the 'funding escalator'. In the start-up phase, a company needs mostly cash to develop its business idea. Most founders begin by investing their savings, making use of personal credit facilities, and tapping family and friends for funds (Robb and Robinson (2014)). For founders who have exhausted such 'personal' finance, raising outside finance is a considerable challenge. For instance, start-ups generally do not generate steady cash flows to pay interest and—beyond re-mortgaging the founder's personal assets — they lack other kinds of collateral (Schmalz et al 2013). This makes them unattractive candidates for standard corporate debt financing (e.g. loans) (Berger and Udell 1998; Aghion et al 2004).

Figure 2.1. Funding escalator



Source: Commission services.

Although retained earnings increase when a company is successful and grows, a firm's external financing stays typically high in the growth stage. Once the firm enters the mature stage, financing structures adjust to the pace of earnings, business growth and collateral at disposal. At a certain point, the company may decide to go public, offering its stock to the general public on a security exchange as a means of equity financing and/or issuing bonds.[13] If a firm cannot or does not want to put all retained earnings to operational use, it may decide to buy back its debt or equity.

[13] For a discussion on the respective advantages/disadvantages of debt and equity in the financial structure, we refer to the European Commission Staff Working Document SWD(2015) 183.

There are various ways in which funding other than bank lending is provided. Leasing, factoring and various forms of trade and supply chain finance are capable of easing corporate financial problems, but are usually more expensive than bank loans. Loans by non-banks, including crowdfunding and peer-to-business platforms, are other potential sources of finance but are underdeveloped to date, even if they often carry lower borrowing costs than bank loans. Still another source of alternative finance, particularly suited for fast-growing firms, is private equity (especially in the form of venture capital).

2.1.1 Interaction between bank and market-based funding

Banks and capital markets are two vital components of the financial system, complementing each other. Bank and market funding offer different mechanisms to overcome information problems, such as adverse selection and moral hazard.

Bank-based financial systems enjoy economies of scale and scope in information gathering and processing, ultimately giving the bank an informational advantage in its relationship-based activity.[14] Traditional credit channels, based on bank loans, rely on the heavy cost structure of the credit institution, which can collect much information on the credit risk of a borrower and/or ask for collateral to overcome information barriers because it can internalise the legal costs of such procedures. As a result, banks are in a better position than capital markets to address the inherent agency problems between debtors and creditors in long-term funding relationships (Leland and Pyle (1977) and Diamond (1984)). The relationship-based funding allows a firm to develop a reputation for good creditworthiness and ultimately to access finance at a lower cost (the "certification effect"). This way, banks also gain special knowledge from performing complementary functions on a large scale (e.g. account keeping for borrowers, provision of payment instruments). As a result this funding tool is more suitable for firms that already have a history of cash flows and business operations.

Market-based funding fills the funding gap left by traditional credit channels. The availability (or not) of collateral and future cash flows are typically priced-in the overall cost of financing and not necessarily a barrier to access funding. As a result, the strength of capital markets is to provide services to finance novel, longer-duration and high-risk projects. Non-bank finance at early stage of firm development is generally more flexible than bank finance (e.g. as regards repayment schedules or providing finance based on expected future earnings). Therefore, by complementing bank funding, capital markets enlarge the potential investor base.

Using US data, Adrian et al. (2013) find evidence that bonds and banks were substitutes during the 2007-09 crisis. For Europe there is evidence that the bond market, to some extent, had filled the funding gap left by the banking sector. Cariboni et al. (2017) find an increase in the access to the bond market by the corporate sector (amount issued, number of issuance, first time issuers, even by riskier and unlisted companies) in the period 2012-2014. Thus a more balanced funding structure between bank and market sources can make the real economy more resilient to shocks hitting the banking sector or the public markets.

2.1.2 The SMEs funding jigsaw

Firms' financing constraints affect their investment decisions and growth prospects. Empirical evidence suggests that financing constraints affect particularly small, young, or single-unit firms. Their business prospects are more difficult to evaluate for investors, as they are perceived as riskier due to the lack of business diversification and collateral. Indeed, information asymmetries are often more pronounced for small firms in their early stages, namely from Stage 1 (inception) until stage 3 (expansion) in the funding escalator model.[15] According to the 2016 ECB Survey on the Access to Finance of Enterprises (SAFE), market-based sources of finance such as equity and debt securities

[14] An alternative view is provided by Dang et al (2017) stating that the allocation of projects between banks and financial markets does not rely on any comparative advantage that banks may have in evaluating and overseeing its assets. The key distinction between banks and capital markets is the way the two institutions *process* the information.

[15] See Chapter 3 for the assessment of information barriers for bigger firms' decision to access public markets.

account only for respectively 12% and 3% of the total funding of a SME. The use of alternative financing sources increases with the size of the firm, even though multiple tools alternative to bank lending exists in the early stage of business development (Table 2.1). In effect, most start-ups fail, so funding a start-up is a risky endeavour. It is not uncommon that the company doesn't have a product yet when it asks for funding. Even if the company had a product, they often need to develop the market for it. To forecast cash flows and therefore putting a valuation on such a firm is not an easy task as production costs and market size have to be estimated. These factors greatly intensify the core problems of any business financing arrangement—namely, uncertainty, information asymmetry, and the risk of opportunism (Gilson (2010)).

Table 2.1. Use of financing instruments by Euro-area non-financial corporations (average; % of total sample over 2009-2014)

	Micro %	Small %	Medium %	Large %
Retained earnings	24	30	38	46
Grants/subsidised loans	12	16	20	22
Banks overdrafts	38	43	40	42
Bank loans	28	39	43	48
Trade credit	26	30	35	38
Other loans	9	12	19	28
Leasing	19	40	50	56
Debt securities	1	1	1	4
Mezzanine	1	2	4	6
Equity	4	6	8	9

Sources: ECB and European Commission Survey on the access to finance of enterprises.
Note: More than one funding source possible.

Insufficient financial knowledge is an obstacle restricting SMEs' access to external funding. SMEs tend to lack general familiarity on how to finance their business and how to tap alternative sources of finance, including the relevant information to submit to potential investors or lenders. A 2016 British Business Bank survey shows an increase in awareness of peer-to-peer lending platforms amongst smaller businesses. For equity crowdfunding, the increase in awareness appears to have plateaued after several years of rapid growth. Awareness was higher amongst scale-ups compared to the start-up and stay-ahead groups. However, the gap between awareness of the existence of finance types and awareness of specific providers (i.e. who to contact) is increasing. Although awareness of venture capital has increased to 64% in 2016, the results of the survey suggest that less than one in five smaller businesses can name a specific provider. Only a minority of SMEs (13%) reported using external advice when applying for finance in 2016 and this figure has fallen from previous years (around 19% in 2015). A Call for proposals on improving access by innovative SMEs to alternative forms of finance under Horizon 2020 has been published on the Research Participant Portal of Directorate-General for Research and Innovation's Europa site[16].

A lack of awareness about credit reports and credit history and their importance for funding purposes also restricts the external finance options. Many SMEs are not able to get their own credit history to justify funding. The lack of transparency on banks' feedback to SMEs about their creditworthiness makes it even harder for SMEs to build their financial knowledge and, most importantly, for investors to gather information on the risk profile of the company. Banks' feedback to borrowers varies in quality in Europe. The lack of verifiable information about SMEs restricts access to multiple market-based funding sources. Investors and lenders need some level of verifiable information about a company and financial statements, as well as a firm's credit history and payment behaviour, are essential to assess the repayment capacity of an SME. Credit information services are also useful to assess the creditworthiness of clients or suppliers. Credit institutions also share only partial data with other market participants (such as business registries, credit bureaus and business information and scoring firms) varying significantly across Member States. The lack of standardised, verifiable and

[16] http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/altfi-01-2017.html

accessible credit information about SMEs represents a significant barrier for alternative finance providers to invest into European SMEs.

This funding gap is further widened by the general constraints on access to finance for SMEs in Europe. The 2016 ECB SAFE survey states that SMEs continued to signal improvements in the availability of external sources of finance and that banks show increased willingness to provide credit at lower interest rates facilitating further access to bank financing for SMEs. However, there is still significant divergence across countries regarding the difficulties in accessing external sources of finance. Some 24% of SMEs in Greece, 12% in Ireland and 11% in Italy, Portugal and the Netherlands, respectively, mentioned that access to finance was the most significant problem, compared with 7% of SMEs in Austria, 7% in Slovakia and 6% in Germany. While different productivity levels can justify some of these divergences, the results of the 2016 European Commission's Innobarometer survey also confirm that access to funding is a key obstacle for spurring R&D and the commercialisation of innovative products or services. It is also harder to access finance for firms operating in countries whose regulatory environment is considered risky, burdensome or overly expensive due to extensive bureaucracy. Access may be easier, instead, for firms that are able to resort to foreign capital markets, such as firms that are part of a multinational group. However, unlike large corporations, small companies have very limited access to foreign capital markets.

2.2 Characteristics of Europe's funding escalator

In the pre-IPO space, the level of information that is required for the fund provider changes with the degree of risk concentration in funding. Business angels, venture capitalists and private equity funds, which rely on risk concentration, often operate with information mainly on the business idea and its development, exercising active control on the governance of the firm. Private placement for mid-caps and crowdfunding, instead, relies much more on the information provided by the entrepreneur and there is limited expertise and possibility for the fund provider to have a strong influence on the governance of the firm.

2.2.1 Funding with risk concentration

Venture investments are long-term investments in private, unlisted companies with the potential for growth. Investment is concentrated in one or few investors. In return for investment into the company, business angels, venture capital and private equity funds receive equity stakes in the business and partner with management teams to support growth plans and make improvements to the business with the aim of increasing its value. The returns on investment are realised either through a sale (or exit) of the business or through the distribution of the firm's profits. This kind of equity investments are typically made in less mature companies, like seed or start-up companies (especially for business angels and venture capitalists) and scale-up firms (mainly for venture capitalists and private equity funds). These market-based investments are often characterised by a high degree of proximity between the investor and the entrepreneur, as the investors often adopt a very hands-on role in the deals in which they invest, providing entrepreneurs with advice and contacts.

Business angel investment

'Business angels' are private individuals that provide financial support and often operational counsel mainly to start-ups, without relying on financial intermediaries. With their know-how, capital and contacts, business angels provide support throughout the growing phase of the company they invest in. Kerr et al (2011) suggest that ventures funded by successful angel groups experience superior outcomes to rejected ventures, by improving survival rates, exits, employment, patenting, Web traffic, and financing. They confirm the positive effects for venture operations, combined with a higher likelihood of successful exits. The main exit strategy for business angels is acquisitions by larger companies.

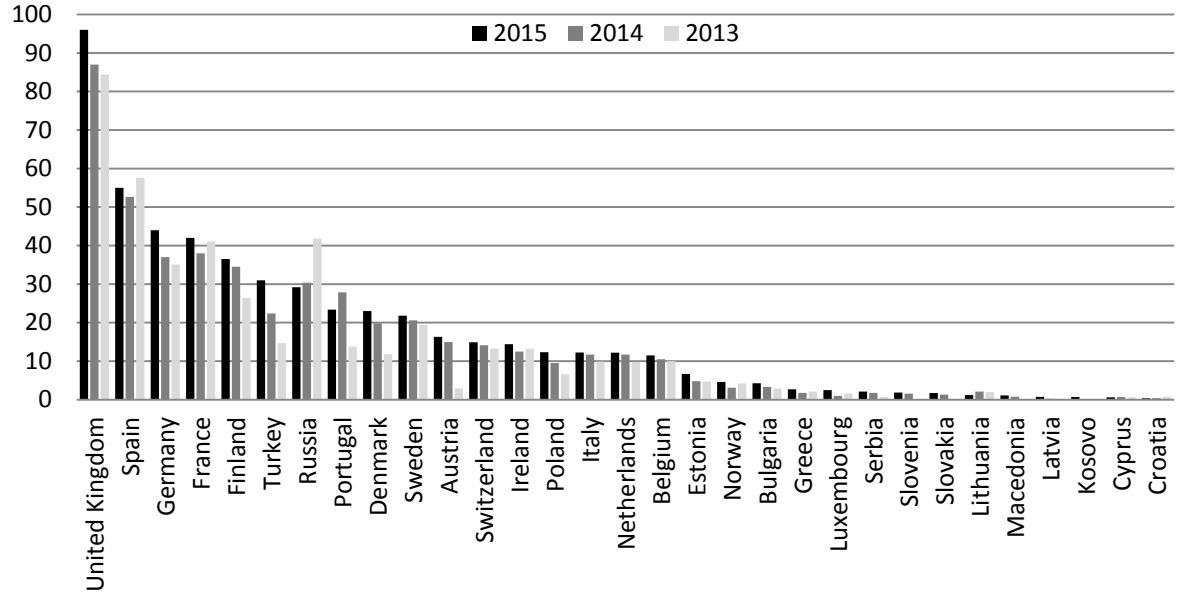
The visible part of the angel investment market is those investments made through an angel network or syndicate (OECD (2016)). Due to the informal nature of the investment and the absence of any official definition of angel investment, the overall size of the market of business angel investments is a

difficult estimation. Available figures suggest that the amounts invested by business angels in the EU are small and highly concentrated. The 2015 statistics compendium by the European Trade Association for Business Angels, Seed Funds and Early Stage Market Players (EBAN) show that the visible part of business angels' outstanding investment in the EU amounted to EUR 607 million in 2015 (a growth of 5.0% from 2014). The investors' community grew to 303 650 investors closing 32 940 deals (EBAN 2016).

The United Kingdom is the largest European business angel market with EUR 96 million of investment in 2015. Spain, Germany and France are the following biggest players, while Finland, Denmark and Sweden are continuing to grow at steady rates (Figure 2.2). Business angel activity is increasing in the CESEE (including Baltic) regions, but the markets remains very small.

EU Member States use personal income tax incentives for business angel investments in different ways, partly explaining significant cross-country differences. Most incentives are not applicable to cross-border investments in the EU amplifying fragmentation of local business angel ecosystems and national or European networks.

Figure 2.2. Evolution of angel investment by country (2013-2015, EUR million)



Source: EBAN European Early Stage Market Statistics 2015

Venture capital

An important source of finance for start-ups is also venture capital. This category of investors manages the high risk of failure by diversifying their investments across a portfolio of companies, and through careful selection of the firms in which they invest, using specialist expertise to assess the quality of the entrepreneurial team and their proposed product (Gompers and Lerner (1999)). They take – often substantial – control rights and use them to enhance the quality of decision-making and mitigate the potential for opportunism by the entrepreneur (Kaplan and Strömberg (2003)). Venture capital is usually invested through funds, often provided by institutional investors. Venture capital requires geographic proximity for the investor to be able to participate actively in decision-making (Lerner 1995). Consequently, venture capitalists tend to be based in areas where there are large 'clusters' of new firms, typically near a source of technological innovation such as a university (Martin et al 2002).

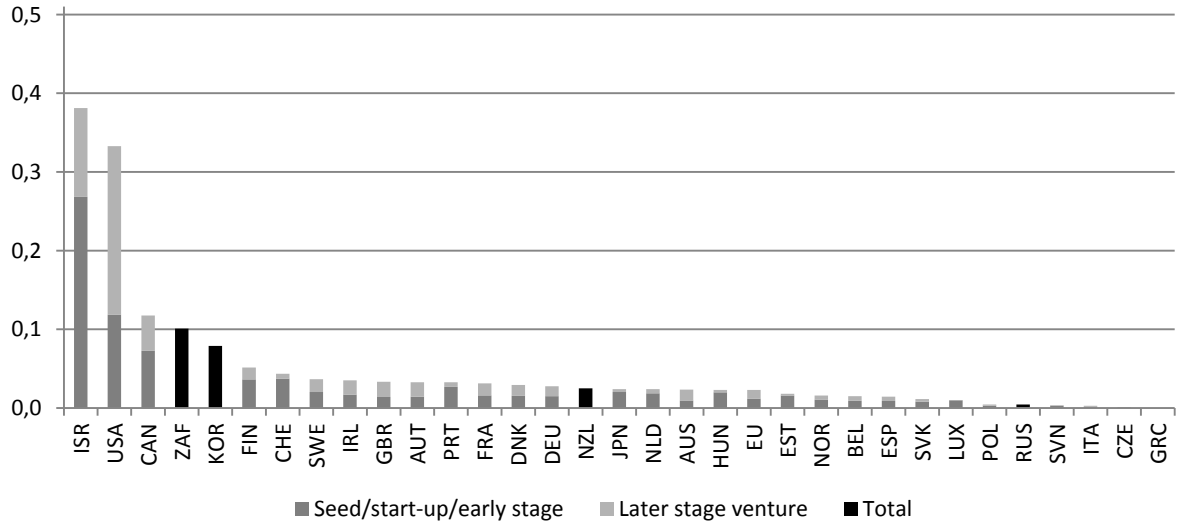
Despite positive effects on economic growth, venture capital constitutes a small part of total SME external financing. Venture capital represents a very small percentage of GDP in EU Member States (less than 0.05% of GDP). The amount of venture capital invested was EUR 4.4 billion across 3 134 deals in 2016 (Invest Europe 2017). Companies active in growing business sectors such as life sciences, communications and electronics attract the majority of the available funds (KPMG 2016). The venture capital industry in Israel and the US is more mature, representing in 2015 around 0.38%

and 0.33% of GDP respectively. Europe also lacks "unicorns" in the EU, i.e. young private companies with limited performance record that are valued at over EUR 1 billion). The EU has only 17 unicorns in just a handful of Member States (as of July 2016), compared to 90 in the US and 40 in Asia.

EU venture capital funds remain fragmented and lack scale (the average size of EU venture capital funds is half the average size of US funds) and geographical reach (around 90% of venture capital investment is concentrated in eight Member States[17] and venture capital investment is virtually non-existent in some Member States). Similar to trends experienced elsewhere in the world, European venture capital investors have become more selective. The evaluation of investment decisions takes longer and due diligence is more extensive. The EU venture capital market needs to stimulate private VC funding as government agencies have been the most important contributor to the EUR 40 billion that the EU venture capital market has raised since 2007 (Invest Europe 2017).

Established or growing technology hubs exist across Europe (London, Berlin, Madrid, Paris, Dublin and Stockholm). Europe's varied technology hubs may be an important advantage when it comes to stability. At the same time, the complexity of this diversity creates challenges for start-ups when they reach a scale that surpasses the initial domestic scale. Different regulatory environments, cultures and languages all add to the complexity. This leads some of the start-ups to abandon the option to grow internationally within Europe and target the US or China first.

Figure 2.3. Venture capital investments (% of GDP, 2015)

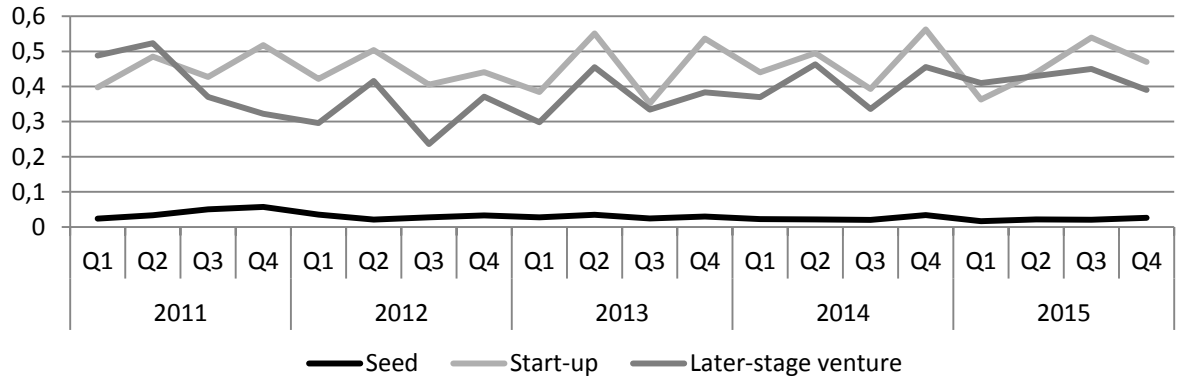


Source: OECD. Note: 'Total' for those countries that have no breakdown.

During the fourth quarter of 2016, the governments of Germany and France took a major step toward growing their innovation ecosystems. The two governments announced the creation of a joint EUR 1 billion fund to assist start-ups in their countries to evolve beyond the seed-stage, which is the most difficult challenge.

[17] UK, Germany, France, Sweden, the Netherlands, Spain, Austria and Finland.

Figure 2.4. Investments by stagein the EU – 1Q2011 – 4Q2015 (EUR billion)



Source: Invest Europe

The maturity level of various tech hubs throughout Europe is rising, with new centres like Scandinavia and France emerging, while established hubs in Germany, the United Kingdom and Ireland continue to evolve. Creating the conditions for these ecosystems to develop and integrate across Europe is an essential pre-condition for capital markets to support innovative firms. Moreover, consolidation among start-ups in Europe is expected, particularly with acquisitions led by corporate investors looking for strategic investments. There are a number of well – capitalized companies in the region, which are actively looking for M&A. FinTech and health-tech are expected to continue to be major investment areas for VC investors in Europe, while emerging areas, such as Artificial Intelligence, machine learning and deep tech, are expected to take on a higher investment priority.

Main obstacles to the development of venture capital investments are market fragmentation and constraints on the supply side of the market. European venture capital investors have difficulties with reaching critical size and sufficient diversification in their portfolios. Three quarters of venture capital funds were in 2014 smaller than EUR 82 million and only 20% of funds had raised more than EUR 100 million over the last six years. Moreover, the activity is concentrated in a few Member States, such as the United Kingdom and France. Larger venture capital funds would be able to realise scale economies, specialize and thus possibly attract additional capital commitments for individual companies. However, the high degree of fragmentation along national lines limits the growth of the market and prevents economies of scale from materializing, which implies relatively high transaction costs.

Private equity

Private equity refers to investments in the equity of a company provided on a private basis, typically by funds that collect funds from multiple entities, including banks, NFCs, institutional investors (e.g. pension funds or asset managers), high net worth individuals (HNWI) and governments. By investing in private equity funds, banks and NFCs typically aim at acquiring an indirect strategic interest in entities that could generate synergies for their businesses. Public authorities, on the other hand, invest in private equity funds as a mean of achieving public policy goals, such as supporting specific sectors of the economy, activities that are ultimately expected to boost productivity, growth and employment.

Common investment strategies in private equity investments include: leveraged buyouts, venture capital, growth capital, distressed investments and mezzanine capital.

In 2016, the total amount of equity invested in European companies remained stable at EUR 53.7 billion compared to 2015, representing the second highest level since 2008. The number of companies decreased by 7%, but remained over 5 900, of which 83% are SMEs. Over a third of the total amount invested in European companies came from cross-border investments. Almost 400 funds raised new capital. This decrease by 9% compared to 2015 indicates a trend towards larger funds in 2016. In the last four years, European private-equity funds have raised over EUR 240 billion to invest into companies in Europe, more than twice the amount raised in the four years following the financial

crisis (Invest Europe 2017). Half of the total private equity investments in Europe are managed out of the United Kingdom. Most of that cash comes from overseas firms and investors that access the bloc via the United Kingdom. Moreover, the sector is heavily reliant on access to talent from across the EU and to the single market. France and Sweden follow in importance. As regards the type of private equity investors, over one third of private equity funds raised in 2016 came from institutional investors, in particular pension funds (34%), investment funds (18%) and insurance companies (12%). Private equity investment is considered particularly attractive by some insurance corporations and pension funds as the long-term nature of their liabilities allows them to invest in long-term and less liquid assets, with the objective of generating a higher return. Private equity investment by public authorities reached 10% of the total. Regulatory or self-imposed constraints on asset allocation of investors into private equity funds, such as banks, insurance or pension funds may create barriers to investments in this type of funding, which is a key element for the scaling-up of innovative firms.

2.2.2 Funding with risk dispersion

Funding in the pre-IPO space can also take the form of a dispersed funding tool, with different barriers hampering its cross-border developments. These barriers are mainly informational ones for proper price discovery or transactional costs, in the form of compliance or other listing-type costs.

Box 2. Supply Chain Finance (SCF): the role of market-based solutions

On-time payment is essentially what corporations would like, even if prompt payment cannot always be managed. Supply Chain Finance management solutions allow companies to optimize their working capital effectively. SCF is not a static concept but is an evolving set of practices using or combining a variety of techniques.

In 2015, the Receivables Finance industry in the EU provided over EUR 168 billion of working capital financing to over 171,000 businesses, about 85% of which are SMEs. Revenues generated by reverse factoring solutions are expected to grow at an annual rate of 20%, approximately. Payables finance or reverse factoring could offer access to an untapped market worth USD 800 billion in unrealized profits as of today. This figure only takes into account the solutions offered to purchasing companies rated as investment grade (McKinsey 2015).

Efficient supply chain is an important part of any business establishment that can have a significant impact on operations and the very survival of the venture. Faced with increasing pressure to meet short-term liquidity needs, companies are looking for easy and convenient ways to manage their working capital and supply chain. As a result, the need for innovative financial supply chain management solutions has been increasing. And that is where financial technology companies have recently been triggering a transformation towards greater efficiency and seamless solutions. A growing number of Fintech start-ups are enabling SMEs to access payment services that were previously the domain of large corporates.

Supply chain finance enables buyers to ease payment terms while also ensuring the cash flow of their suppliers is improved, thereby reducing instability within the supply chain. The enabling of transparency across the supply chain means that suppliers always know precisely when they will be paid and can plan their finances accordingly. Predictability is often more important than speed when it comes to payments.

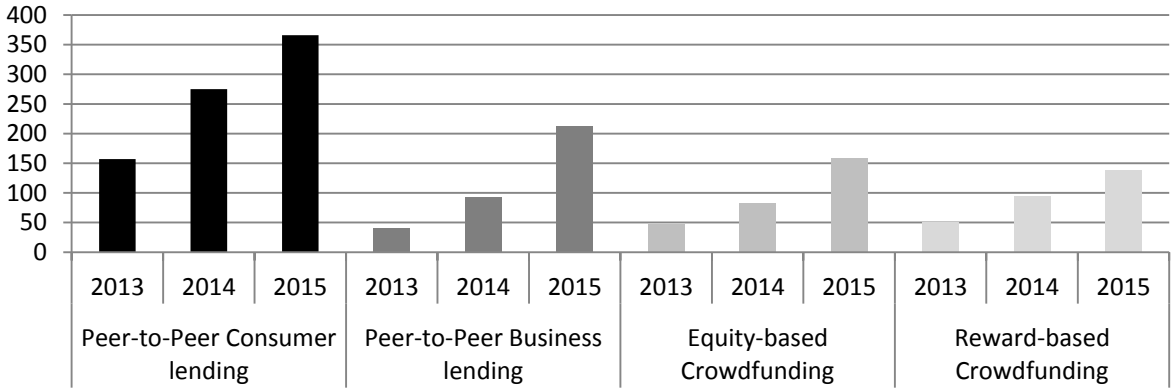
Crowdfunding

Crowdfunding refers to raising capital through large numbers of small contributions for a specific project. Crowdfunding platforms are websites that enable interaction between fundraisers and the crowd. The crowdfunding sector in Europe has continued to grow over the last years. Based on one of the largest datasets currently available, with figures from 367 European platforms which are stated to represent 90% of the visible market, the European alternative finance market grew by 92% to reach the value of EUR 5.43 billion in the year 2015 (University of Cambridge Centre for Alternative Finance 2016). In 2015 the United Kingdom remained market leader in terms of size with a total market

volume of EUR 4.41 billion, followed by France (EUR 319 million), Germany (EUR 249 million), the Netherlands (EUR 111 million), Finland (EUR 64 million), Spain (EUR 50 million), Belgium (EUR 37 million) and Italy (EUR 32 million). When looking at market volume per capita, the United Kingdom was first with EUR 65.88, followed by Estonia (EUR 24.02) and Finland (EUR 11.65).

In terms of crowdfunding type, peer-to-peer consumer lending and peer-to-peer business lending accounted for the largest activity in 2015, with approximately one third (EUR 366 million) and one fifth (EUR 212 million) of total market activity respectively. Equity-based models, such as equity-based crowdfunding and real estate crowdfunding across Europe account for around a fifth, while non-financial return based models accounted for another 16% in 2015.

Figure2 5. Alternative Finance Volume by Model in Europe (excl. UK) 2013–2015 (EUR million)



Source: European alternative finance report 2016

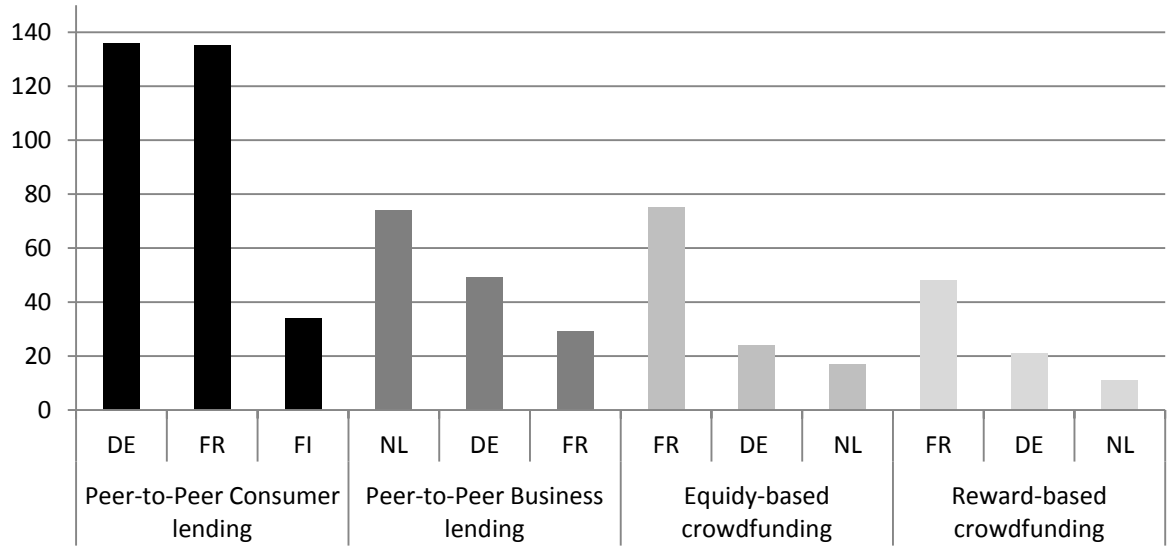
Equity-based crowdfunding is particularly significant for funding business start-ups. The average deal size in equity-based crowdfunding is now approximately EUR 459 000, in contrast to just over EUR 190 000 for debt-based securities, just under EUR 100 000 for peer-to-peer business loans and just under EUR 10 000 for peer-to-peer consumer loans.

A third form of crowdfunding used for business is 'loan' crowdfunding (also known as 'crowdlending' or 'marketplace lending'). As the name suggests, this involves (retail) funders advancing credit to businesses, usually with the aid of credit scores produced by the platform. It too has grown very rapidly as a form of small business finance. As mentioned above, debt financing is unsuitable for firms without fixed assets, which is borne out by the fact that loan crowdfunding tends to be sought by established small businesses, as opposed to start-ups (Mach et al 2014).

Asset class shares within P2P have remained very consistent. For the last 2 years SME lending has represented around 45% of the volume while consumer and invoice lending have 38% and 12% respectively.

Furthermore, there is a rising institutionalisation of crowdfunding – 26% of peer-to-peer consumer lending, 24% of peer-to-peer business lending and 8% of equity investment. This is combined with a high degree of automation in lending (selection or bidding processes) – 82% of consumer loans, 78% of traded invoices and 38% of business loans. Invoice trading is gaining momentum – growing from EUR 7 million in 2014 to EUR 81 million in 2015. Finally, the formation of new platforms has peaked and a phase of consolidation has started.

Figure 2.5 Top Three Countries by Model - Alternative Finance Volume (excl. UK) 2015 (EUR million)



Source: European alternative finance report 2016

Due to the lack of a precise definition of crowdfunding and the absence of applicable EU legislation, localised platforms that want to operate cross-border have to comply with several – and often divergent - national rules. Market activity in the crowdfunding sector remains mostly domestic. Almost half of platforms indicated that not even a part of the funds they helped raise were supplied by foreign investors. A third of platforms indicated that they had raised less than 10% from foreign investors. Different consumer or investor protection rules, among other factors, seem to lead many platforms to refuse to provide their services to non-residents and make extension to new markets possible only through new establishments. With regards to foreign outflows, 76% of platforms reported that 0% of the funds raised went to projects outside the national border.

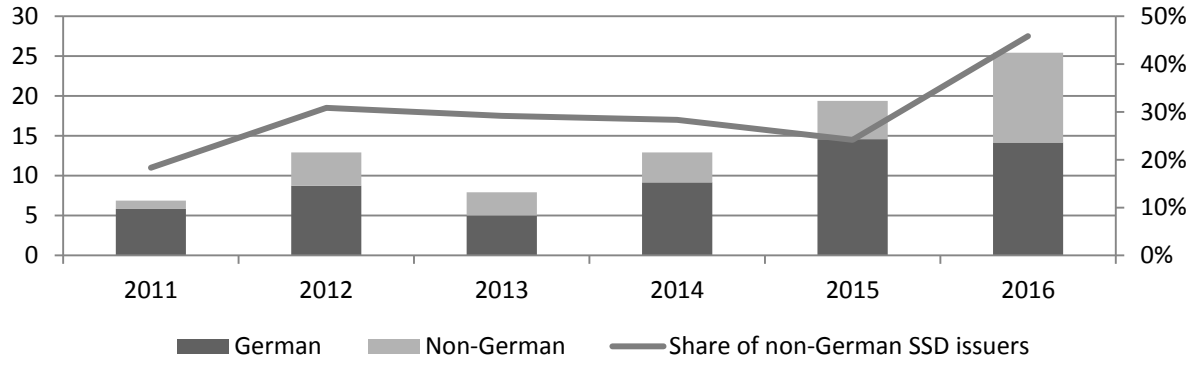
Private placement

A private placement is generally understood as a medium or a long-term financing transaction of debt securities (in a loan or a bond format) between a listed or unlisted company and a small number of institutional investors, without a public offer. Investors involved in private placements are usually banks, mutual funds, insurance companies and pension funds.

Private placement markets broaden the availability of finance for unlisted medium-sized companies. A key benefit of taking the private placement route for mid-sized companies is the diversification of their funding away from bank lending. In the current low rate environment, the development of private placements is also beneficial for institutional investors as it allows for higher yields, asset risk diversification and long-term asset matching.

With more than EUR 26 billion at the end of 2016, the German *Schuldschein* is by far the largest private placement market in Europe (Scope Ratings 2017). More than 80% of *Schuldschein* loans are bought by banks, particularly German savings and cooperative banks. *Schuldschein* have also created a growing interest among international investors since they represent a third of the total number of investors. The demand for issuing by foreign firms reached 45% in 2015 in the German *Schuldschein* market (Scope Ratings 2017).

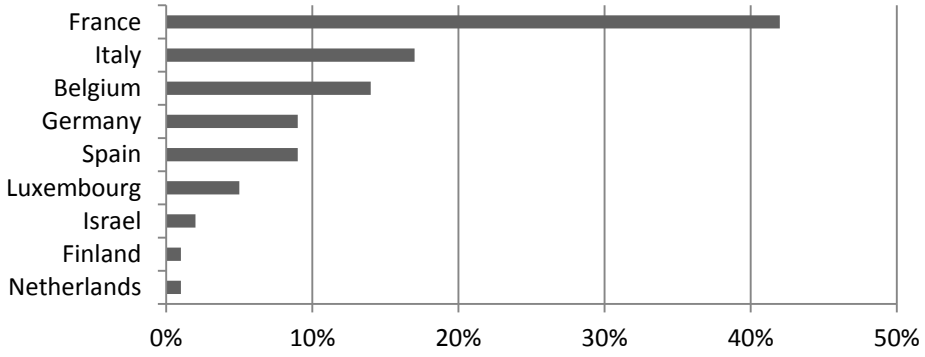
Figure 2.6. Shuldscheindarlehen volume of German and non-German issuers (EUR billion)



Source: Scope Ratings

The European private placement markets beyond Germany are smaller, but growing, with EUR 8.4 billion raised and 103 deals in 2015, compared to 4.7 billion and 85 deals in 2014 (Dealogic 2016). Outside Germany, the French Euro-PP market remains the private placement largest market with EUR 4.8 billion in 2015. Insurance companies are the largest investors in French Euro-PPs.

Figure 2.7. 2015 European Private Placement Volume (EUR 8.4 bilion) By Country



Source: Dealogic

The credit quality of issuers accessing the French Euro-PP market is wider than in the German market as it is open to non-investment grade credit quality as well. HSBC estimate that around 40% of the issuers have an implied BBB- (investment grade) rating, 15% of them have a better rating, and around 28% are an implied BB+/BB grade.

Despite its recent success, the development of private placement markets is very uneven and the PP market was sluggish in 2016. Although private placement activity is now well-established in France (Euro-PP) and Germany (*Schuldschein*) and is taking off in few other Member States; it remains largely underdeveloped in many EU jurisdictions.

Due to a lack of a mature private placement market in the EU, companies in the EU have historically been actively tapping the US private placement. In 2015, Europe-based groups raised EUR 8.1 billion of private placement funding in the US, representing 20% of the EUR 40 billion total paper issued in the US in 2014.

2.3 General policy implications

Successful entrepreneurs, start-ups, scale-ups and other small and medium-sized firms need access to different types of financing to fund innovation and their expansion. The work focuses in particular on strengthening market-based finance in a number of key areas, notably the following:

1. **Venture capital**: EU venture capital markets remain fragmented, lacking scale and geographical reach. Good progress has been made on the implementation of the venture capital package that the Commission brought forward in the CMU Action Plan. It is expected that the European VC Funds-of-Funds will be able to commence capital raising and investing in Q3 2017. It will have firepower of around EUR 1.6 billion, with cornerstone investments of up to EUR 400 million from public finances. Agreement on the European Venture Capital Funds (EuVECA) proposal could pave the way to extend the range of managers eligible to market and manage these funds, increase the range of companies that can be invested in by EuVECA funds, and make the registration and cross-border marketing of these funds easier and cheaper. The comprehensive study is being published on tax incentives for venture capital and business angel investments offered by the Member States. It identifies good practices for the design and implementation of key features (e.g. targeting) of such tax incentives which could help improve their effectiveness and foster the development of local capital markets

2. **Markets for the private placement of corporate debt** have made big strides in recent years, but their development is very uneven in Europe. Building on the experience of well-functioning national regimes (such as Schuldscheine in Germany and the Euro-PP market in France), the dissemination of best practices could enhance the take-up of private placement across a wider selection of EU Member States which are big enough to host a local private debt market. Moreover, insurance undertakings could be incentivised to invest to a greater extent into markets for privately placed corporate debt and for private equity through a reduction of the prudential treatment of these instruments in Solvency II.

3. **Supply chain finance**: Many entrepreneurs, start-ups and small businesses fail due to cash flow problems although having a viable business model. Market practices on supply chain finance to help companies overcome temporary cash flow problems, such as factoring and invoice trading, are already well established and should be further boosted by the increasing up-take of electronic invoicing (notably in light of the implementation of Directive 2014/55/EU on electronic invoicing in public procurement). FinTech firms are opening up new supply-chain financing opportunities for SMEs that were previously unavailable. Banks are also partnering up with FinTech firms to improve the existing models. The identification of best practices would provide support for the development of supply chain finance.

4. **Better connecting SMEs with alternative finance possibilities**: Member States have taken local initiatives or support initiatives to better connect SMEs with alternative finance providers and disseminate SME information to support creditworthiness assessment, in particular by harnessing the potential of FinTech solutions. In April 2017, the Commission services also published a Call for Proposal under the Horizon 2020 programme to improve access to alternative forms of finance by innovative SMEs. The aim would be to allow funding capacity building projects to address information barriers for SME funding and increase the range of financing opportunities by drawing on these successful local initiatives.

2.4 Key indicators [18]

EU SMEs' funding structure

Indicator	Last 5-year average	Latest observation	Value
Issuance of equity by euro-area SMEs over the last six months, % of total SMEs surveyed (SAFE survey)	4.3%	Jun 2015	1.4%

[18] EU, unless indicated otherwise.

Funding with risk concentration

Indicator	Last 5-year average	Latest observation	Value
Angel investments outstanding investment (visible part), EUR million	EUR 580[19] million	2015	EUR 607 million
Venture capital, investment, EUR billion	EUR 3.8 billion	2016	EUR 4.4 billion
Private equity, investment, EUR billion	EUR 46.9 billion	2016	EUR 53.7 billion

Funding with risk dispersion

Indicator	Last 5-year average	Latest observation	Value
Alternative Finance (Crowdfunding) Volume by Model in Europe, EUR billion	NA	2014	EUR 1.2 billion
European Private Placement Volume (EURO PP plus *Schuldschein*), EUR billion	EUR 19.7 billion	2015	EUR 27.8 billion

[19] Last 3-year average

3 Making it Easier for Companies to Enter and Raise Capital on Public Markets

Raising capital on public markets broadens the financing alternatives available to firms.[20] Access to public markets benefits firms by diversifying their investment base and by facilitating subsequent access to financing and M&A activities. For SMEs, ready access to equity markets also offers an 'exit strategy' for investors who invested in the earlier stages of the firm's life cycle. Given that SMEs might face additional structural barriers compared to large firms,[21] they are discussed separately.

Investors benefit from public markets also thanks to additional diversification opportunities and increased transparency. In effect, mandatory disclosure of listed firms mitigate information asymmetries, reducing investors' search costs and allowing them to take better informed investment decisions.[22] In a broader perspective, it stimulates the use of market-based financing which, in turn, supports economic growth (Cornède et al. 2015).

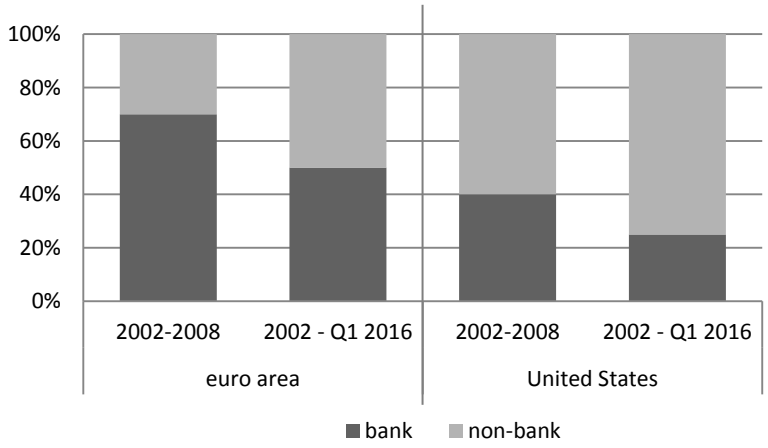
3.1 Access to public markets: long-term trends

EU capital markets, relative to the size of the economy, remain underdeveloped and fragmented compared to other developed countries like the US or Japan. For instance, stock market capitalisation to GDP in Europe was about one third of the ratio for the US in 2015. Significant differences in the depth of equity and bond markets also exists within Europe, with Member States that joined more recently often having less developed markets.

3.1.1 Financial structure of EU firms

EU firms are typically known for their overreliance on bank lending, especially for SMEs. In the period from 2002-2008, banking lending accounted for 70% of total financing in the euro area, compared to only 40% in the US (See Figure 3.1).

Figure 3.1 Share of bank to non-bank financing of NFCs in the euro area and the US (cumulated transactions)



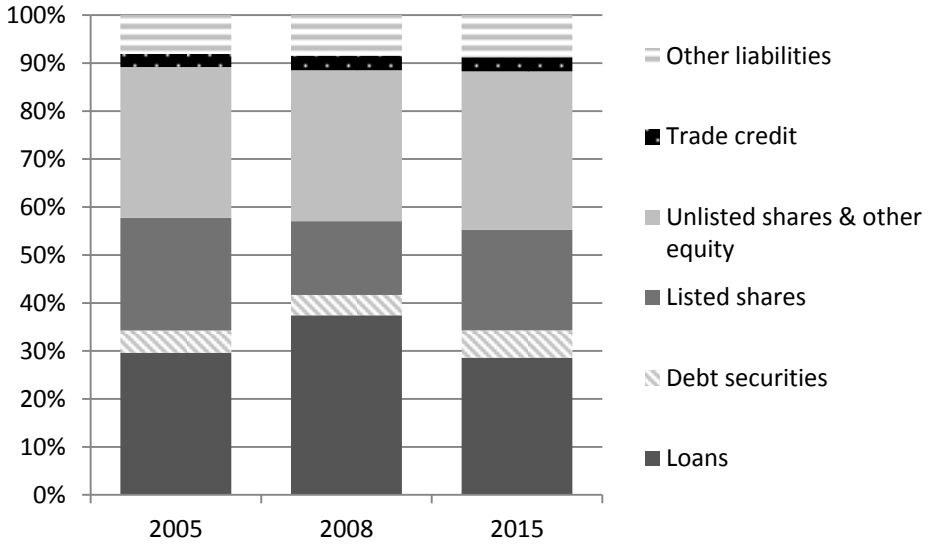
Source: ECB, Federal Reserve System.

Furthermore, loans grew in the run up to the crisis at the expense of market-based financing. The financial crisis revealed the rigidity of this undiversified funding model, as the capacity of banks to lend, especially to high-risk sectors and SMEs, became seriously impaired due to deteriorations in the

[20] Access to public markets is more relevant for firms that are in the later stages of their life cycle. See Chapter 2 for details on the funding accelerator model and financing options during the prelisting phase. In view of the well-developed European bank lending system, bank-based and market-based financing largely complement each other. (See Chapter 2 as well).
[21] The financing mix of SMEs also differs from the one observed for large firms.
[22] See Chapter 6 for details.

quality of banks' balance sheet assets and capital constraints. Corroborating this finding, Campolongo et al (2016) show that the role of cash is more important during the banking and sovereign debt crises. Following the financial crisis, the dependence on bank financing in the euro area has decreased, accounting for 50% of total financing in the period from 2002-2016. This statistics is mainly driven by big corporates' access to non-banking funding, such as corporate bonds.

Figure 3.2 Sources of funding of NFCs in the EU (% of total liabilities)

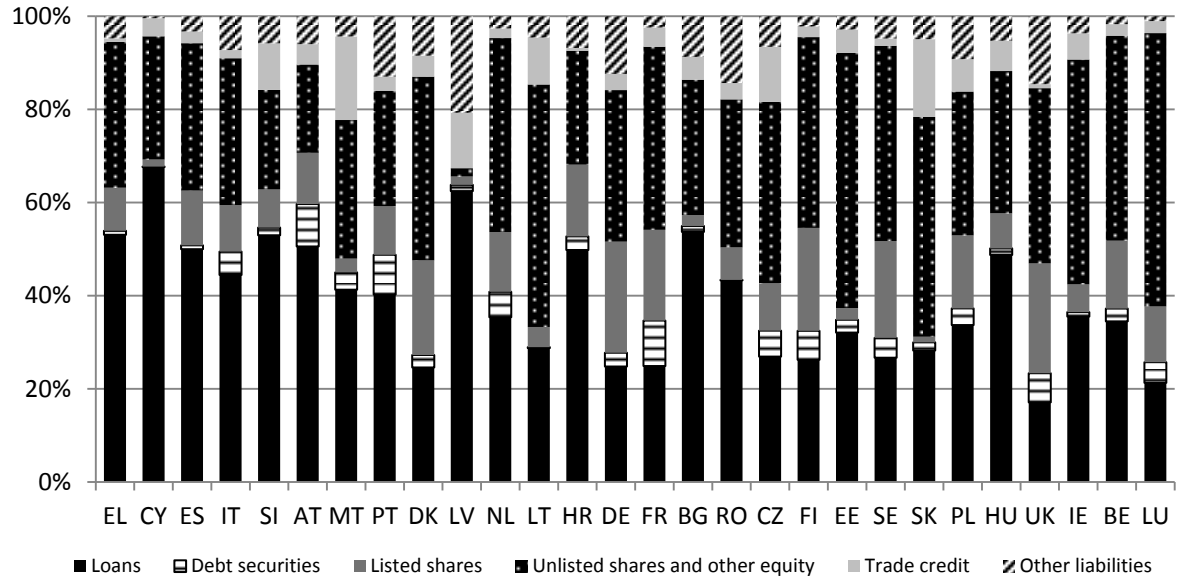


Source: ECB and Eurostat. Note: Consolidated data.[23]

Dependency on traditional credit (bank loans and other loans) has remained stable over the past 10 years at around 30% (see Figure 3.2 and Figure 3.3). Bank loans are particularly important in countries like Greece and Cyprus, while they have a low importance for firms in Belgium, Luxembourg and Ireland. Although evidence on equity is mixed across euro-area Member States, there are only a handful of countries where companies rely on listed shares on a solid basis. Other equity & unlisted shares, which is not public market-based funding appears to be the dominant source of equity and overall funding. Listed shares represent 20.9% of overall funding of NFC in the EU in 2015. NFCs' outstanding debt securities in the EU have also increased in recent years, but are rather small compared to total NFC funding.

[23] The *Loans* category is comprised of domestic loans by MFIs and other loans which includes cross-border loans by MFIs. *Listed equity* refers to equity securities listed on a recognized exchange or any other form of secondary market. *Unlisted & other equity* comprises all forms of equity other than those classified as listed equity. *Unlisted shares* are equity securities not listed on an exchange and include shares issued by unlisted limited liability companies as follows: (a) capital shares; (b) redeemed shares whose capital has been repaid but which are retained by holders; (c) dividend shares, also called founders' shares, profits shares, and dividend shares, which are not part of the registered capital. (d) Participating preference shares or stocks. *Other equity* includes: (a) all forms of equity in corporations which are not shares; (b) investment by general government in the capital of public corporations whose capital is not divided into shares and which by virtue of special legislation are recognised as independent legal entities; (c) investment by general government in the capital of the central bank; (d) government investments in the capital of international and supranational organisations, with the exception of the IMF, even if these are legally constituted as corporations with share capital (e.g. the European Investment Bank); (e) the financial resources of the ECB contributed by the national central banks; (f) capital invested in financial and non-financial quasi-corporations. (g) the financial claims that non-resident units have against notional resident units and vice versa. See Eurostat (2013) for further details.

Figure 3.3 Sources of funding of NFCs in the EU (2010-2015, % of total)



Source: ECB and Eurostat. Note: Consolidated data.

Focus on SMEs

A firm's financial structure and its financing mix are dependent on a firm's size.[24] For SMEs, bank-related products are perceived to be the most relevant financing source for SMEs, while the use of market-based financing is marginal at best (see Table 2.1). Based on the 2016 ECB SAFE survey, market-based sources of finance such as equity (12%) and debt securities (3%) are relatively less important for SMEs. In most countries included in the 2016 survey (except Greece and France), SMEs indicate that they have sufficient access to external funds compared to their needs for external financing (external funding gap), marking a significant improvement compared to 2013-levels were the financial gap for countries was still predominantly negative. Nevertheless, SMEs are very heterogeneous: some low-growth, very young or SMEs with strong family ties might not have the need to attract external funding, while other SMEs might have a strong need for external funding but might still be faced with a negative funding gap. SMEs in Europe are indeed very diverse in their financing mix and the extent to which they experience access to finance problems (Masiak et al. 2017).[25] Debt-financed and internally-financed SMEs report comparatively the most problems with access-to-finance with respectively 23.4% and 27.6% of all SMEs that report high occurrence of access-to-finance problems belonging to these two groups. At the same time, about 50% of the SMEs that report low access-to-finance problems are internally-financed SMEs, illustrating that there is also a large group of internally-financed SMEs that do not experience supply-side restrictions and consciously choose not to finance externally.

3.1.2 Developments in public equity and debt markets

The relative size of European public equity and debt markets is low and shows significant dispersion across Member States. The value of corporate bond and stock markets as % of GDP equals 12% and 56% for the EU (10% and 51% for EU27, respectively), compared to 31% and 112% for the US. United Kingdom figures hold the middle between US and EU27 figures with corporate bond and equity markets equal to 18% and 78% of GDP (Wright & Bax 2016). Capital market development also

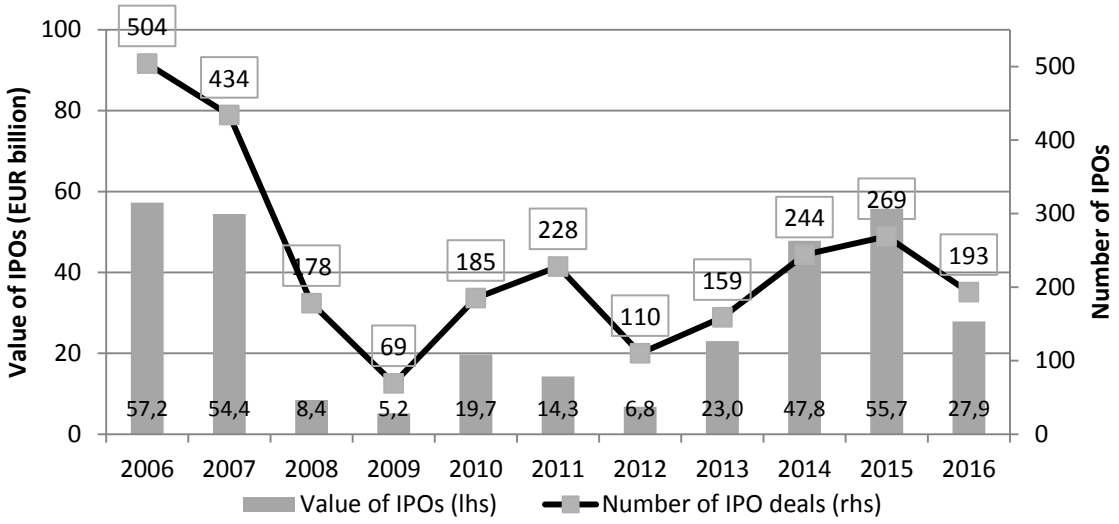
[24] See also Chapter 2 for further details.
[25] Based on hierarchical cluster analysis they identify 7 groups of SMEs: debt-financed SMEs; internally-financed SMEs mixed-financed SMEs with focus on other loans; mixed-financed SMEs focus retained earnings or sale of assets; state-subsidised SMEs; trade-financed SMEs; and asset-based financed SMEs.

varies considerably across European countries. Countries that joined the EU more recently often have lower ratios than the EU27 average. As a general indicator of access to public markets, 3,796 prospectuses were approved in the EEA in 2015, coming from 3 931 in 2014.

Equity Issuance

IPO activity in Europe has been moderate and rather volatile over time (see Figure 3.4). The number of IPOs decreased dramatically during the financial crisis. The activity, measured by volume, rebounded strongly after the crisis but has lost momentum since. In 2016, European IPO activity declined significantly with a drop of 27% in the number of IPOs compared to 2015. This represents a 51% decrease in value to EUR 27.9 billion (Figure 3.4). The number of IPOs is also much lower than before the crisis. Taken together, the figures suggest that the deal size per IPO has increased. The breakdown of IPO activity based on the market capitalisation of the issuing firms clearly illustrates that large firms account for the majority of the total deal value (see Figure 3.5; see note for definition of cap segments). In 2016, they account for 66% of total deal value compared to 24% and 6% for mid-cap and small-cap firms. In addition, the number of IPOs is also much more volatile for smaller firms compared to large firms, illustrating that the IPO market for smaller firms is less stable and more vulnerable to shocks.

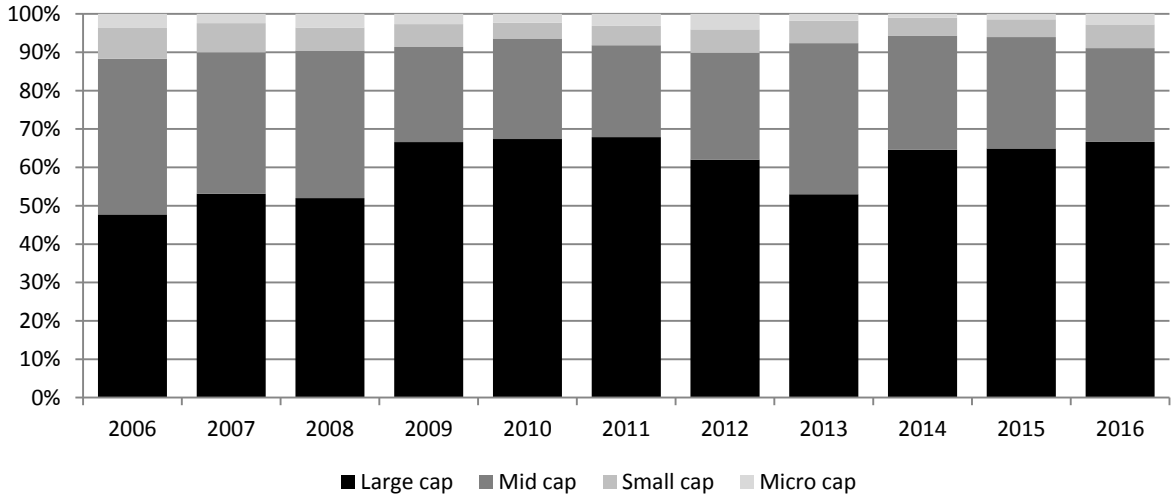
Figure 3.4 European IPO activity



Source: Dealogic

The average value per IPO has increased from EUR 113 million in 2006 and even EUR 75 million in 2009 to EUR 144 million in 2016. IPO activity in Europe is also strongly concentrated: the United Kingdom plays a prominent role with 28% of the total EU28 market measured by IPO value in 2014-2016, representing approximately one fifth of all IPO deals (See Figure 3.6, box). The EU market is also concentrated measured by IPO to GDP (see Figure 3.6) or measured by IPO concentration per stock exchange. The London Stock Exchange account for 24% of IPOs measured by value, while CR-3 (London, Frankfurt, Madrid and CR-5 (CR-3 plus Amsterdam and Milan) account for 44% and 57%, respectively.

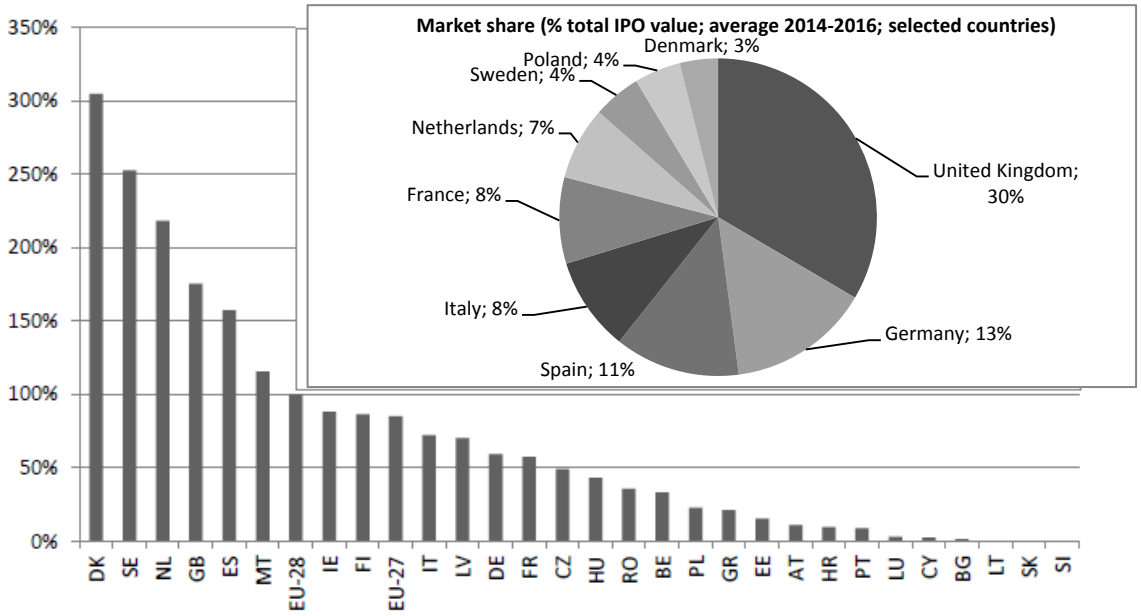
Figure 3.5 Breakdown of IPO activity according to firm market capitalisation, % of total value



Source: Dealogic.
Note: Break-down is based on market capitalisation. Following the World Federation of Exchanges, large market cap segment comprises companies with a market cap > USD 1.3 billion; mid-market cap segment comprises companies between USD 1.3 billion > market cap > USD 200 million; the small market cap segment comprises companies of between USD 200 million > market cap > USD 65 million; the micro market cap segment consists of companies with a market cap < USD 65 million.

Looking at long-term trends worldwide, IPO activity (for firms in general and growth firms) has decreased in advanced economies. Over the period 1995-2014, IPO activity in advanced economies decreased significantly with the number of IPOs and amount raised in 2014 shrinking by 63% and 57%, respectively compared to the average in the period 1995-2000 (OECD 2015a). The opposite trend is noticeable for emerging markets spurred by IPO activities of Chinese companies, accounting for 62% of all capital raised on emerging markets since 2008.

Figure 3.6 IPO activity in the EU (value as %GDP; EU = 100; average 2014-2016)



Sources: Dealogic, AMECO

Corporate Bond Issuance

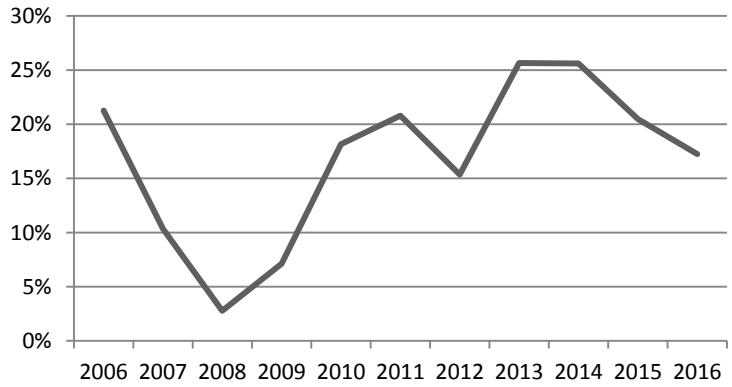
Corporate bond issues increased and have mitigated the effect of bank lending constraints at least for large firms. Compared to 2006, the number of corporate bond issuances in Europe has nearly doubled

in 2016 to 788, representing a volume of EUR 240 billion in 2016 (Figure 3.8). This trend mirrors the evolution witnessed in advanced economies were non-financial corporate bond amounts nearly doubled from 2000 to 2014.

The strong increase in issuing activity following the 2008 financial crisis suggests that in this period debt securities had some degree of substitution effect for shrinking bank lending (see Figure 3.8). This finding is confirmed by world-wide data that demonstrate that the number of first time bond issuers increased significantly in the 2008-2010 period (OECD 2015a). In addition, the risk profile of bonds changed, with riskier bonds being issued after the 2008 financial crisis.

The relative importance of the high-yield bond issuance fell dramatically during the crisis, representing only 3% of the total issuances (21% in 2006). High-yield bond issuances grew very rapidly in the post-crisis period, peaking at EUR 57 billion in 2014 (representing 26% of total issuances), to decrease to EUR 41 billion in 2016.

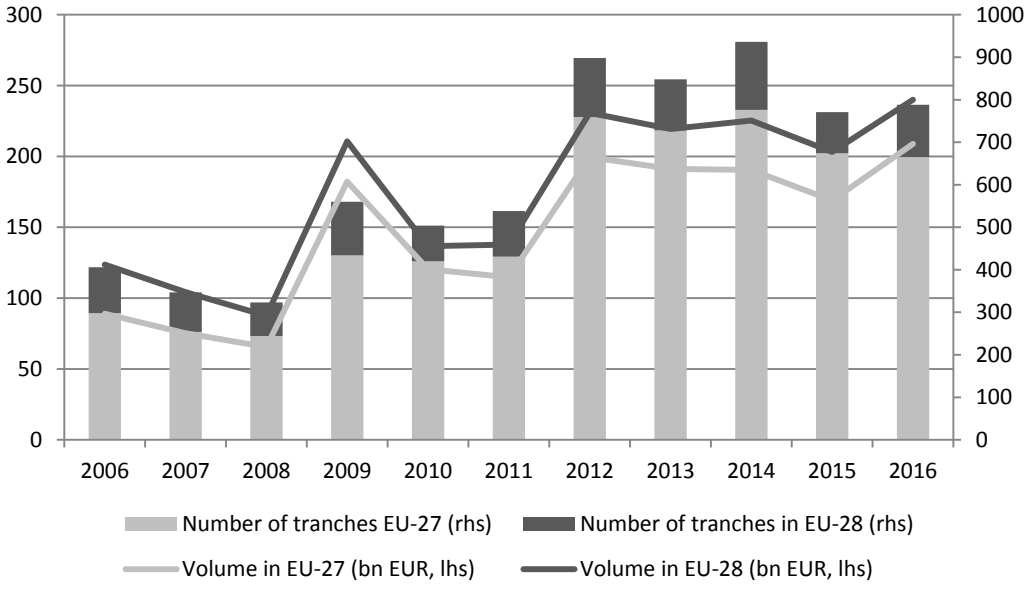
Figure 3.7. High-yield bond markets 2006-2016 (gross issuance value, % total)



Source: Dealogic

Contrary to large firms, SMEs reacted to the shrinking availability of bank financing by relying increasingly on internally generated funds and alternative financing like trade credit (Masiak et al. 2017, Casey & O'Toole 2014, Ferrando & Mulier 2015).

Figure 3.8 Corporate bond issuance by NFCs in Europe



Source: Dealogic

3.2 Drivers of going public

3.2.1 Equity

The decision to issue equity to the public is determined by general economic conditions, the institutional framework and firm-specific factors. In considering an IPO, a firm has to evaluate the advantages of an IPO with costs associated with the IPO process and the costs of being listed.

IPOs occur in waves. This might occur (i) if managers try to time the IPO to profit from relative overvaluation, (ii) because they are tempted by previous successful IPOs, or (iii) because they may want to go public when they face low adverse selection costs which would lead to clustering of IPOs over the business cycle. Although many studies conclude that firms appear to time their IPO to profit from (relative) overvaluation, Ditmar and Ditmar (2008) challenge this conclusion: they conclude that IPOs waves are related to the fact that equity issues occur more frequently in the early stages of the business cycle when cash flow is likely to be too low compared to the many interesting investment opportunities.[26] As a result, broad regulatory initiatives that are put in place to support economic growth will positively affect the probability that firms will go public.

The IPO market is also influenced by the institutional framework, both directly and indirectly. A country's lending infrastructure or its financial development for instance impact a firm's capital structure decision, which in turn will impact its need to raise capital on public markets. Financial regulation may also affect the IPO market. It is often introduced to reduce information asymmetries between investors and issuers. Firms that are characterized by high information asymmetries will be reluctant to raise equity because they may face large costs (Myers 1984, Myers & Majluf 1984). From an investor's perspective, financial regulation in general, and regulation on disclosure requirements in particular, can reduce information asymmetries and boost investors' confidence in the functioning of public markets. Increased compliance costs introduced by tighter regulations for publicly traded firms could however reduce the attractiveness of going public, especially for small firms in case of one-size-fits-all regulation. Financial regulators should thus strike a balance between stimulating access to finance and consumer protection. Proportionate financial regulation could help in achieving this balance, while at the same time avoid regulatory overreach.

Various firm-specific motives could support a firm's intention to conduct an IPO. Firm could offer public equity to reduce their cost of capital and optimize their financing mix. Going public also allows a firm to diversify its financing structure and ownership which results in more external monitoring and enhances corporate governance due to increased market scrutiny, although - as suggested by the pecking order theory (Myers & Majluf 1984, Myers 1984) - firms that face high asymmetric information costs might prefer to exhaust internal financing first. Firms might also attempt to obtain an optimal debt ratio, which according to the static trade-off theory is reached when the corporate tax advantage of debt is balanced against the (discounted) value of the costs of financial distress (see also Modigliani & Miller 1958, 1963). This theory indicates that equity financing suffer from a tax disadvantage – given the widely applied interest deductibility of debt financing – and that policy actions to reduce this unequal tax treatment between debt and equity finance could influence a firm's reliance on equity. Additionally, a firm's capital structure will also be affected by IPOs if it increases a firm's financial flexibility and bargaining power with banks. This will reduce the cost of credit, lower the overall cost of capital and allow firms to diversify its funding. Going public also allows insiders to cash out, which might be particular relevant for venture capitalists for which the IPO provides an elegant opportunity to exit. Going public might also be initiated with a view to future M&A activities. Companies could become a takeover target or shareholders may want to establish a market price when they intend to cash out or sell the company. Alternatively, the firm may want to acquire other

[26] Contrary to previous studies, they did not study IPOs alone but analysed IPOs and share repurchases (i.e. opposing transaction to IPO) together. Based on this analysis, Ditmar & Ditmar (2008) show that both are correlated and that the increased volume for both transactions is not driven by overvaluation.

companies in the post-IPO period. Finally, an IPO may be undertaken to increase reputation, credibility, and investors' recognition.

Empirical evidence suggests that the motives depend on firm characteristics such as age, size, etc. In a survey of Chief Financial Officers (CFOs) from 12 European countries, CFOs view enhanced visibility, financial flexibility and funding for growth are important universal factors (Bancel & Mittoo 2009). Other studies conclude that going public to facilitate subsequent acquisitions is a key driver (Celikyurt et al. 2010, Brau & Fawcett 2006). Newly listed firms are very active acquirers. Although this partly reflects the fact that they are often active in industries with intense M&A-activities, they are more active than firms already listed in these industries. Moreover, newly listed firms are predominantly acquiring firms (instead of being take-over targets). IPO activity also affects subsequent market activities and funding practices. A firm's M&A appetite is supported not only by the initial capital injection but also by subsequent access to capital markets**.** Hence, well-functioning and liquid capital markets are important in order to ensure the further development and growth of firms (Helwege, Pirinsky, & Stulz 2007). M&A activities by IPO firms are supported by the fact that the IPO largely resolves the uncertainty regarding the value of the firm (Zingales 1995). This uncertainty resolution, together with improved public information after the listing, also positively affects the firms bargaining power when securing additional financial means. Empirical evidence shows that in the post-IPO period firms reduce the cost of bank credit[27] and increase their debt capacity (Pagano et al. 1998, Celikyurt et al. 2010). This evidence suggests that mandatory information and disclosure requirements of firms positively affect a firm's visibility and access to finance. It helps the firm to diversifying its funding needs by increasing its bargaining power vis-à-vis its lenders.

In considering an IPO, a firm needs to balance the economic advantages of an IPO with the costs associated with the IPO process and the costs of being listed. The costs of going public depend on the market choice and the size of the issue. Direct costs related to the IPO include underwriting fees, professional fees (legal advisers, audit and accounting fees, etc.), compliance costs and initial listing fees. In addition, IPOs tend to be offered at a discount which is an indirect cost to firms. After the IPO, the firm also has to deal with recurrent regulatory costs related to disclosure and corporate governance obligations and has to pay additional professional and annual listing fees.[28]

Costs of listing vary depending on the market choice and the size of the issue. The Federation of European Securities Exchanges estimates the cost of an IPO to be between 3 and 15% of the amount raised (FESE 2015). This is in line with estimates of other market players in Europe: Deutsche Börse and Euronext estimate the average cost at 8.7% and 7.5%, respectively.

The choice of the actual listing market, is an important element in the IPO decision. Going public will not only alter a firm's funding structure, it will also affect a firms ownership structure, corporate governance structure and information stream. Disclosure requirements and corporate governance obligations will increase the accountability of a firm compared to an unlisted firm. These elements are determined by the prevailing legal system and are therefore factors to be considered when a firm chooses its issuing market.[29] The market choice is considered to be important in terms of managing visibility and investors' expectations, as well as the ability to raise capital in the future. Institutional settings and market functioning are also key factors for institutional investors when considering an IPO investment. In a survey of 321 institutional investors, 53% of respondents indicated that the exchange is an important determinant of their investment decision. Liquidity, regulatory environment and high corporate governance standards are reported as key decision criteria.

[27] IPO firms experience not only lower interest rates but also less credit concentration after the IPO.

[28] Increased compliance costs following the introduction of the Sarbanes–Oxley Act (SOX) is one of the main determinants of delisting in the US (Marosi & Massoud 2007, Leuz et al. 2008). See Martinez & Serve (2016) for an overview of delisting motives.

[29] The legal system will also affect overall IPO activity. La Porta (1997) shows that firms' reliance on external capital increases with the level of investor protection. Hence, lack of harmonization of legal requirements will explain to some extent cross-country differences in external funding and IPO activity.

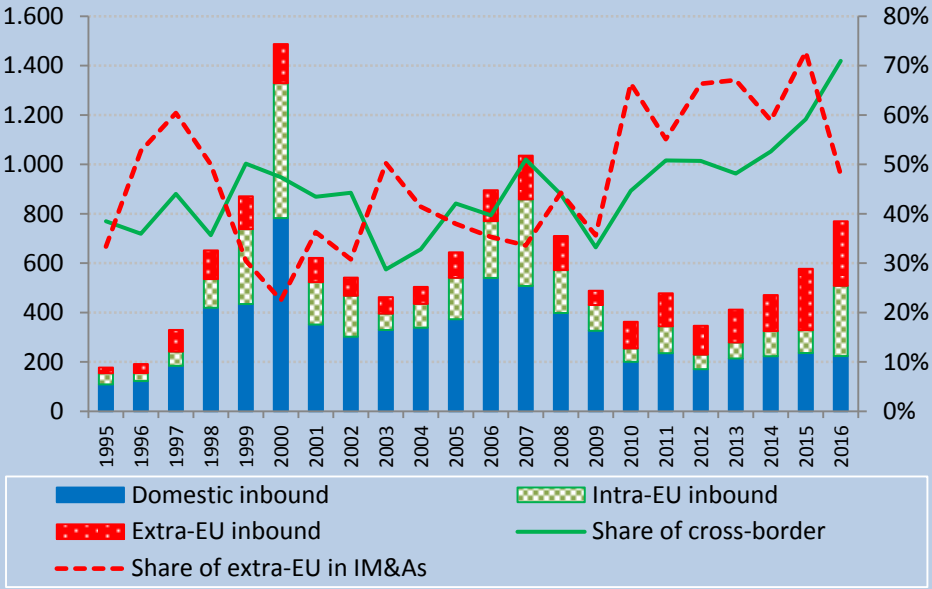
Besides firm-specific factors such as size and internal governance systems, the choice of the IPO market is also influenced by the prevailing ecosystem (e.g. analytics and research, underwriting and brokerage functions). A firm's broker has an important influence on its market choice decision. In addition, the presence of prestigious underwriters and degree of venture capitalist syndication may impact the market choice.

Finally, market choice is influenced by firm size, with smaller firms considering growth markets as an alternative for listings on traditional markets. Compared to large firms, the market choice of smaller firms is also more influenced by the costs of listing.

Box 3. M&A activity in Europe

M&A activities are volatile, with pronounced boom and bust phases, spurred by the availability of credit, changes in government policy (e.g. deregulation), innovation, and high stock valuations facilitating stock financed take-overs. Economic conditions are the key factor influencing the M&A market.

Figure 3.9 European M&A activity (EUR billion)



Source: Dealogic

The 2008 financial crisis marked the end of the last M&A wave and stalled the M&A market for an extended period. Although confidence has gradually returned to capital markets supported by accommodating monetary policy, firms initially held back from M&A actions, and preferred to pay out dividends or start-up stock repurchasing programs. The M&A market reached a tipping point in 2013 and has started to pick up significantly since 2014 supported with an increase in very large transactions. Interestingly, cross-border M&A activity has become relatively more important since 2009.

Focus on SMEs

In general, access to equity markets by smaller companies is limited and mostly young, fast growing SMEs use public equity markets to raise capital (OECD 2015). Based on evidence from the US market and (to a lesser extent) the European market, Ritter et al. (2013) argue that SMEs might follow a strategy to get big fast by becoming part of a larger organisation that has a relative advantage in terms of realising economies of scope and scale, which could explain why some SMEs are not considering to access public markets.

There is a clear IPO gap for SMEs. It is estimated that the IPO market in Europe is only half the size of the one in the US, and for smaller deals it is only about one third (Wright 2014, Didier et al. 2015).

Masiak et al. (2017) also demonstrate that a significant number of internally financed SMEs appear to deliberately opt to shy away from external financing.

SME dynamics are also distinct in the post-IPO phase. Rose & Solomon (2016) found that the probability of staying listed within the first five years following an IPO is lower for small firms compared to mid-cap and large-cap firms, suggesting that small firms may experience structural disadvantages that accentuated their unsuitability to raise capital in the public equity market.[30]

Taken together, these results suggest that equity markets have significant potential for SMEs to attract funding, but are likely not to be relevant for all SMEs. Hence, it is important to clearly identify those SMEs that could benefit from a better access to equity markets, identify the barriers they face and to ensure that financial regulation is sufficiently targeted to these firms.

Compared to large firms, smaller firms face a number of structural disadvantages owing to their size and the heterogeneity of SMEs. Firstly, information asymmetries are more pronounced for small firms compared to larger ones. SMEs lack track record and are less visible. Adverse selection costs should therefore be more serious for the listing of young and small companies (Pagano et al. 1998). In addition, the lack of standardization and harmonization of performance and other financial data adds to the information gap between insiders and investors. According to the pecking order theory, firms that are characterized by high information asymmetries will rely more heavily on internally-generated means. Secondly, SMEs are confronted with high fixed costs of becoming listed compared to the deal size. The Federation of European Securities Exchanges (FESE) estimated that in 2015 the costs varies from 10 to 15% of the amount raised from an initial offering of less than EUR 6 million to 3 to 7.5% from more than EUR 100 million (FESE 2015). On top, recurrent compliance costs after listing (e.g. information disclosure) have to be taken into consideration as well.

Table 3.1 Listing costs (as a % of the amount raised)

Amount raised from the IPO	***Cost of raising capital (as a % of the amount raised)***
less than EUR 6 million	10 to 15
between EUR 6 million and EUR 50 million	6 to 10
between EUR 50 million and EUR 100 million	5 to 8
more than EUR 100 million	3 to 7.5

Source: Federation of the European Securities Exchanges (FESE) (2015).

Growth markets could alleviate some of the cost concerns given their lower admission costs, more flexible listing criteria and less stringent disclosure requirements.[31] A proportionate approach aimed at SMEs could therefore be helpful. Such an approach should be balanced and should not undermine consumer protection. Thirdly, market funding for SMEs might be hindered by a lack of demand.[32] The participation by institutional investors is hampered by a lack of market liquidity and available research coverage (OECD 2015b). Market infrastructure (market makers, etc.) and equity research coverage are important to increase liquidity and visibility of SMEs, but they are underdeveloped in Europe (ECSIP 2013). Aggregation of SMEs investments by pooling listed SME securities could increase the liquidity of SME investments and, in turn, could broaden the base of institutional investors. In this regard, Bartlett & Solomon (2016) show that the decline in small IPOs in the US market since 1998 can be partly attributed to a decrease in the demand by large equity mutual funds. The growth in asset under

[30] Within five years of an IPO, only 55% of small capitalization companies remain listed on a public exchange, compared to 61% and 67% for middle and large capitalization companies, respectively.

[31] Less stringent measures should still assure high quality information. This can for example be achieved by requiring the same disclosure content as on the main exchange but reduce the number of disclosure moments WFE (2016).

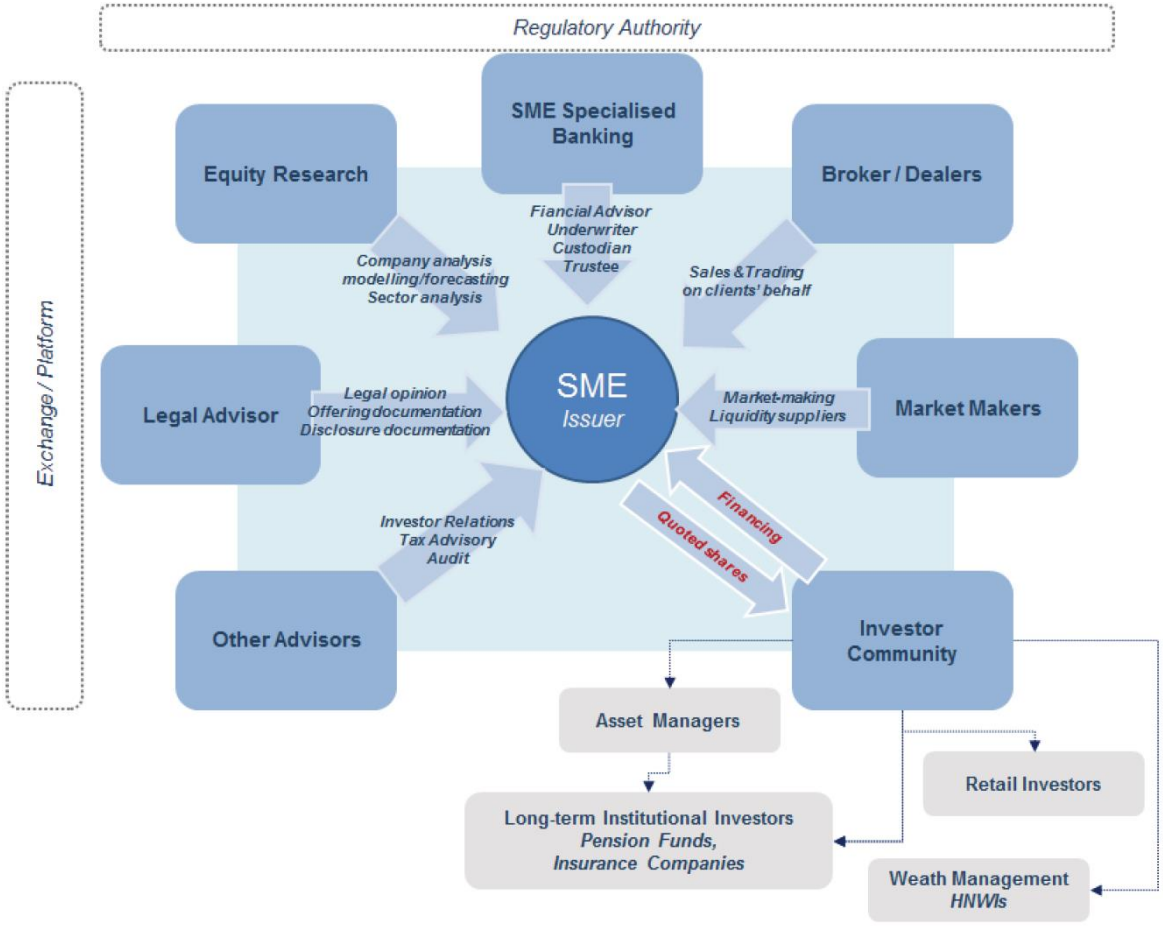
[32] Rose & Solomon (2016) also stress the importance to foster investor demand for small IPOs to revive the SME IPO market.

management for these funds leads to larger investment positions and an increased attention to liquidity exposure.

Besides institutional investors, retail investor participation is also underdeveloped. Appropriate investor education[33] and investor protection appear to be key factors to promote retail investments in listed SMEs. Retail investors should clearly understand the higher risks associated with investments in SMEs and the quality of IPOs by SMEs needs also to be monitored closely. Retail investors' participation in the market, for instance through the allocation of part of their pension fund investments, would deepen the market and provide a strong impetus for its development.

Fourthly, the existence of a well-functioning listing ecosystem is essential for SMEs. The ecosystem consists of investment banks, SME-specialised banks, sales, brokers, research analysts, advisers, market makers, and other parties that support the SME IPO process and subsequent listing process (see Figure 3.10). The ecosystem is especially relevant for SMEs given that they are often locally oriented (thus relying on a well-developed local ecosystem) and often are less knowledgeable about the listing process. Nevertheless, the ecosystem for SMEs appears to be too narrow owing to a large extent to a lack of economic incentives for market players to provide such services.

Figure 3.10 Ecosystem for SME listings



Source: OECD (2015b)

Equity research is of particular importance for SMEs given that they have lower visibility than large cap firms and information is more opaque and scarce. A market failure however exists provided that, despite the clear need for SME equity coverage, analysts tend to orient their coverage to large caps

[33] Note that financial education of SMEs might also be important to raise their awareness of market-based financing opportunities.

(Weild & Kim 2009), as research on large caps is more profitable. Providing good quality research on SMEs is relatively harder in view of the characteristics of SMEs (e.g. higher information asymmetries). It is argued by market participants that SME coverage is hardly profitable in view of the low trading activity in SME stocks (ECSIP 2013). Hence, some exchanges opt to subsidize research by paying for research reports or analyst fees (Harwood & Konidaris 2015, World Federation of Exchanges 2016).

Advisers can reduce the information asymmetries between investors and issuing SMEs. Advisers are typically corporate finance firms approved by the stock exchange that offer SMEs assistance in the IPO and listing process by assessing the appropriateness of a SME seeking admission and supporting the firm in fulfilling the ongoing listing obligations. NewConnect and AIM are two European stock exchanges that use the system of authorised or nominated advisers extensively (Harwood & Konidaris 2015).

Liquidity of SME stocks should also be supported. Liquidity is a vital element in order to attract institutional investors. Changes in the market structure (due to, among other things, the rise of high-frequency trading and ETFs) have however increased the focus on liquid large-cap stocks (OECD 2016). Market makers could reinforce the ecosystem by providing additional liquidity to the market and many stock exchanges encourage market making for SME listings.[34] Economic incentives could be put in place by policy makers and stock exchanges to develop more mature ecosystem that can support SME listings (OECD 2015b).

Investments in equity markets are also subject to home bias, i.e. the tendency to overweight domestic stocks. Although this is a common feature of equity investments, the lack of cross-border investments may be more pronounced for SME IPO markets. Empirical research shows that foreign investors prefer large stocks. Hence, market fragmentation further curtails SMEs access to equity markets.

Box 4. Post-trading market infrastructure

Well-developed and efficient and post-trading systems are vital to ensure a smooth, stable and resilient operation of trading markets. CCPs and CSDs are essential in this context as they ensure that securities can move safely from sellers to buyers.

Regulatory intervention has already made significant progress in this area by increasing transparency, accessibility and standardisation of systems and operations. A key aspect throughout all regulatory initiatives enacted has been to promote competition and reduce or, where possible, eliminate barriers to cross-border transactions. Nonetheless, the systems and environment supporting European post-trade operations often remain fragmented and many of the barriers to cross-border clearing and settlement identified in the Giovannini reports are still present. Moreover, the European Post-Trade Forum (EPTF), an expert group set up by the European Commission in 2016, found 13 structural, operational, legal and tax related barriers to an efficient functioning of the single market in post-trade services.

There are however signs that the European market is progressively moving towards more centralised infrastructures and is developing solutions to cross-border post-trade workflows (cf. MiFIR, T2S).

At the same time, the financial industry is investing heavily in the automation of post-trade processes (e.g. FinTech solutions), thereby increasing efficiency, and stimulating competition. While the ongoing transformation and innovation are expected to reduce fragmentation, they may potentially also give rise to new harmonization needs.

3.2.2 Corporate bonds

Corporate bond issuance is determined by firm-specific characteristics, general macro-economic factors, and by the bond market structure.

[34] See OECD (2015) for the importance of market makers, and Harwood & Konidaris (2015) for examples of market-maker models.

As regards firm characteristics, firms might first use internally generated means and network financing (family & friends) in the early stages of their life cycle and subsequently borrow from banks. Only in later stages, firms might consider to access public bond markets. Firm characteristics will affect a firm's choice between bank and market-based financing. Firms that are larger, more profitable, and more creditworthy, or have more investment opportunities will access public debt market quicker (see amongst others Denis & Mihov (2003), Hale & Santos (2008) and Mizen et al. (2009)). In addition, a firm's reputation,[35] and the extent to which it has already received funding from private bond markets or syndicated loans affects its reliance on the public bond market, indicating that a firm's track record provide a signal for subsequent public debt financing (Hale 2008). Moreover, the provision of collateral and the presence of tangible assets will facilitate public debt finance provided that these elements act as a buffer in case of default.

Bond issuances are related to macro-economic conditions although, unlike for IPOs, market timing appears not to be a major influence in bond issuance activities. In times of recessions, there is an increased demand for low-risk products. As a result bond issues are countercyclical, at least for investment-grade issuers.[36]

The cost of corporate bonds is also affected by the market structure. Bond market liquidity is an important feature for issuers as well as for potential (institutional) investors. Secondary markets for corporate bond have experienced significant (structural) changes, stemming from monetary policy, technological developments, the growth of the asset management industry and the changing role played by banks as market-makers, changing risk appetites of investors in response to the crisis, and financial regulation and a rise in corporate issuance.[37]

In addition, bond markets are not integrated. Debt issues in domestic and international bond markets have different characteristics, even when issues are made by the same firm (Gozzi, et al. 2015). Issues in international markets tend to be larger, have lower yields, include more fixed rate contracts, have shorter maturities and denominated in foreign currency. Hence, bond markets appear to be segmented. Frictions like tax, regulation and information asymmetries could hamper the integration of debt markets. International bond markets are also not accessible for all firms, with firms that issue debt abroad being much larger and also more leveraged than those that stick to domestic issues.

Focus on SMEs

SMEs make little use of public bond issues because they face a number of barriers. According to OECD (2015a), public bond issues by firms with an asset size of USD 250 million or less decreased from 7% in 2000 to only 2% in 2014. In addition, the median value of bond issues has increased as well.

SMEs have a number of structural disadvantages when considering a bond issuance, similar to those for equity issuances (higher information asymmetries; more uncertainty surrounding their creditworthiness; limited track record; lower visibility; high issue costs). From an investor's point of view, SME financing might require more frequent monitoring, diversification and economies of scope which are easier achieved by banks and bank lending.

Overall, the analysis and literature review shows that European equity and bond markets remain underdeveloped compared to other developed economies, reflecting in part capital market fragmentation. Access to public markets occurs in waves due to its dependence on macro-economic

[35] In line with the reputational model (Diamond 1991), both firms with high and low reputation enter the public bond market quicker than firms with an intermediate reputation. Hale (2008) finds corroborating evidence for this theory.

[36] A similar pattern is documented for other types of external finance, with public equity issuances and private loans do not significantly decline during downturns for investment-grade borrowers while they do for noninvestment-grade borrowers (Erel et al. 2011).

[37] In response to the crisis, policy measures - such as stricter bank prudential rules, tighter limits on hedging requirements, and a push for greater transparency - were put in place to make the financial system more resilient which, in turn, might potentially negatively affect liquidity. Given that different liquidity metrics point to different directions, existing studies are inconclusive.

activity and is further influence by firm-specific and institutional factors. It affects a firm's current financing mix, facilitates subsequent funding opportunities (via better access to equity and bond markets and improved bank lending conditions) and impacts a firm's subsequent involvement in M&A activities. Access to public markets is lower for SMEs because they face additional challenges due to higher information asymmetries, high fixed costs, underdeveloped ecosystems and relatively low demand from investors.

3.3 General policy implications

European equity and bond markets remain underdeveloped compared to other developed economies, reflecting in part capital market fragmentation. Access to public markets is lower for SMEs because they face additional challenges due to higher information asymmetries, high fixed costs, underdeveloped ecosystems and relatively low demand from investors.

Further work is needed in the following directions:

1. **Adapting the regulatory environment to support SMEs' access to public markets**. The regulatory regime for SME Growth Markets introduced by MiFID II needs to strike the right balance between avoiding unnecessary administrative burden and providing sufficient investor protection. A sustained focus on 'proportionality' is needed to take account of the specific challenges confronting smaller issuers (compliance costs including for financial reporting, governance and culture changes contingent on becoming a 'public company'), small exchange operators (limited listings and low trading volumes, illiquid stocks) and the specific constraints of the surrounding ecosystem (brokers, underwriters and research analysts).

2. A disappearance of local ecosystems surrounding stock exchanges, i.e. a network of brokers, equity analysts, credit rating agencies, lawyers, accountants focusing on local SMEs, reduces capacity to support companies at the IPO stage. The decline is particularly acute for equity brokers specialising in SMEs. Due to regulatory and technological changes, equity trading is focusing on large caps, thus leading to a decline in the liquidity of SME shares. This low liquidity can deter institutional investors from investing in SME shares. As liquidity is weak, brokers specialised in SMEs also experience a decline in their brokerage fees. Therefore, those brokers may not be incentivised anymore to provide **equity research on SMEs**, which in turn may have a downward impact on liquidity. If there is a decline in local ecosystems, the costs of SME IPOs could potentially rise, as SMEs are compelled to rely on large banks' services when going public (according to OECD, 55% of the global IPO volume was conducted by the top 20 banks in 2016).

3. **Tailoring disclosure requirements for SMEs**. The above analysis highlights the deterrent effect of regulatory disclosures for small or initial issuances. The rapid agreement on revised EU Prospectus rules has been a significant achievement. It paves the ways for calibrating prospectus requirements for listings on growth markets. This reflection should also extend to financial reporting where care must be taken to create a cliff-edge effect in financial reporting obligations for small issuers coming to public markets in terms of their financial reporting obligations. This must be balanced against the desire to promote comparability and readability of financial reports to maximise engagement by a wider pool of international investors. A voluntary, tailor-made accounting solution, which could be used by companies admitted to trading on SME Growth Markets, could be another way to reduce structural informational barriers. The International Accounting Standards Board (IASB) is currently working on its disclosure and materiality projects, including the usability and accessibility of International Financial Reporting Standards (IFRS). This can be an important reference point for this work.

4. There is a **weak pipeline of SMEs seeking a listing**, as IPO costs (such as auditors', corporate advisors', lawyers' fees and listing fees) are high and can deter SMEs from seeking an admission of shares to trading. According to FESE (2015), the costs of an IPO can account for up to 12-15% of the capital raised by an SME, compared to 2.5 - 3.5% for the costs of listing for large corporates and only 2% for corporate bond issuances. After the IPO, the listed SMEs also face high compliance costs from EUR 150 000 to 500 000 a year for companies with less than EUR

150 million of capitalisation. Best practices could be developed on the use by Member States of EU funds to partially finance costs borne by SMEs when seeking admission of their shares on the future SME Growth Markets.

5. The **lack of institutional investor appetite for SME shares** creates a mismatch between capital demand and capital supply for SME shares. European households and institutional investors have a lot of savings that could be invested, but a very low flow of investment is effectively channelled into SME shares. As a consequence, there is little incentive for small companies to list their stocks on a stock exchange. It should be assessed whether investment could be unlocked, for example, through support from a public-private investment fund, in close cooperation with the European Investment Bank that invests in SME listed shares.

6. **Improving corporate bond market liquidity**. Corporate bond markets are an increasingly important funding channel for larger companies, and the size of viable issuances has been declining, allowing more companies to tap this market. This has been facilitated by the development of private placement markets in some Member States. The Commission's Expert Group on Corporate Bond Market Liquidity due in September 2017 will work on how to sustain these positive developments, and to improve liquidity in secondary markets for these instruments.

3.4 Key indicators [38]

NFCs financial structure

Indicator	Last 5-year average	Latest observation	Value
Bank loans, % of total liabilities[(i)]	13.9	Q2 2016	11.8
Bonds, % of total liabilities[(i)]	4.3	Q2 2016	4.7
Listed shares, % of total liabilities[(i)]	16.5	Q2 2016	17.9
Bonds, EUR billion, outstanding volumes	1 640	Q2 2016	1 984
Listed shares, EUR billion, outstanding value	6 242	Q2 2016	7 561

[(i)] unconsolidated data.

Developments in public equity and debt markets

Indicator	Last 5-year average	Latest observation	Value
European IPOs, EUR billion, total value of deals	32.2	2016	27.9
Corporate bond issuance by NFCs, EUR billion, total value	223.7	2016	240.0
Approved prospectus, total number, EAA	4 049	2015	3 796

[38] EU, unless indicated otherwise.

4 Strengthening banking capacity to support the wider economy

Efficient capital markets solutions can help banks to strengthen their lending business through (i) risk transfer, balance sheet management and the pricing of illiquid assets (e.g. securitisation, secondary market for NPLs), and (ii) wholesale funding (e.g. covered bonds, ESNs). This chapter reviews developments in asset securitisation which helps banks to transfer risks. It reviews funding techniques that banks can use, notably covered bonds to finance mortgage and public sector loans as well as a similar new instrument, European Securitized Notes, which banks could use to finance SMEs and infrastructure loans. The final section focuses on secondary markets for non-performing loans (NPLs).

4.1 Asset securitisation

Securitisation is a financing mechanism in which credit institutions package loans which they have granted into securities and sell them to investors.[39] Through this process, illiquid financial assets (such as mortgages, loans, leases) are bundled together and converted into liquid securities, funded by and tradable in the capital markets. Securitisation is a useful tool for banks to transfer risk to other institutions or/and investors and thus to reduce funding costs and increase their funding capacity. Securitisation benefits investors by giving them access to assets which they could not otherwise access.

Securitisation entails risks when done in a complex, opaque or atypical way. Such risks materialised during the last financial crisis, when misaligned incentives (with overreliance on mathematical models and third party opaque risk assessment and guarantees) created a volume-based securitisation process that amplified the crisis imposing huge losses on banks that were later bailed out.

4.1.1 Trends in securitisation markets in Europe

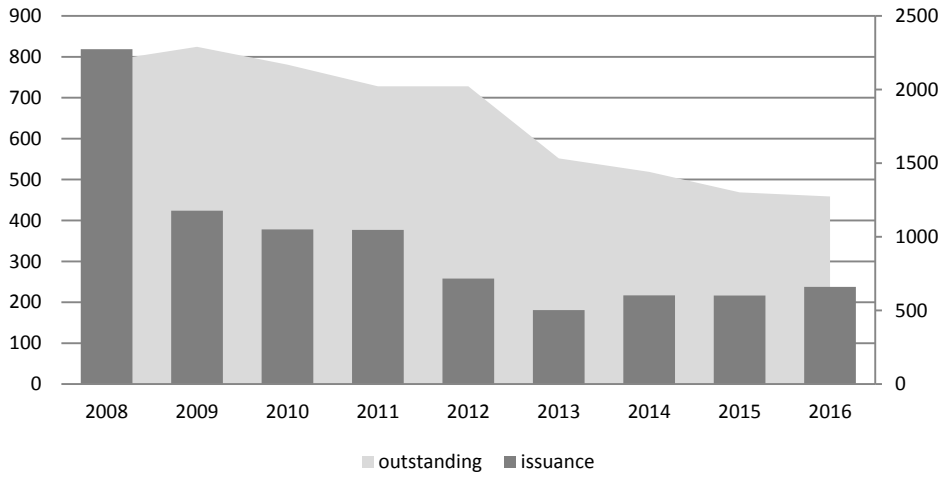
Amid global distrust, securitisation activity remains subdued. In Europe, following constant growth for almost a decade prior to the financial crisis, securitization activity plunged markedly and has not yet fully recovered. Since 2008, when EUR 105.5 billion of securitised products were issued, the European securitisation market has nearly halved. At the end of the fourth quarter of 2016, the securitisation market amounted to EUR 1 274 billion of outstanding value.

The weak demand for securitisation products in Europe reflects a global problem of distrust due to the role that securitisation played during the crisis. Underscoring the high credit quality of European securitisation issuance, credit rating upgrades keep outpacing downgrades among European securitised products over the last quarters. Also during the crisis, EU securitisations performed far better than their US counterparts.[40]

[39] A typical example of securitization is a mortgage-backed security but other loans, such as SME loans, could also get securitised.

[40] European securitised products have proven remarkably safe during the crisis, generating near-zero losses. Illustrating this, default rates of AAA EU RMBS products never really exceeded 0.1% while the rate was 16% in the US. For riskier (BBB-rated) products, EU securitisation also performed very well, with worst-performing classes defaulting in 0.2% of the cases at the height of the crisis as compared to the default rate of 62% in the US.

Figure 4.1 Issuance/outstanding amounts of securitised products in Europe, in EUR billion

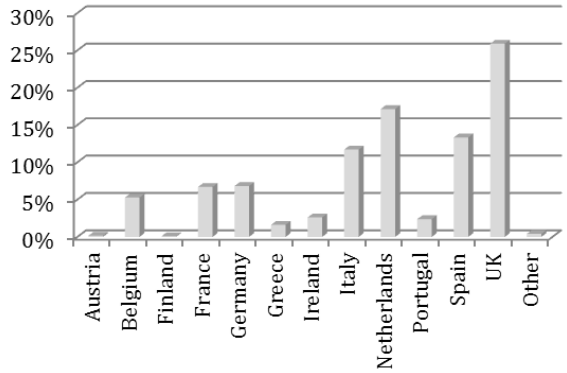


Source: AFME

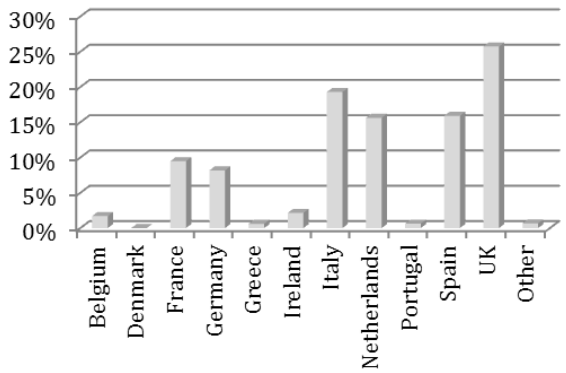
Securitisation market remains unqually developed in the EU. The United Kingdom and the Netherlands constitute the biggest markets, holding a combined 40% share in the total outstanding amount. Italy and Spain have, each, market shares exceeding 10%. In total, those four mentioned countries are over 60% of the European securitisation market. The share of France, Germany and Belgium in the EU securitisation market exceeds 5% each while shares of other EU countries are lower. The described breakdown stays rather constant over time and is similar when based on securitisation issuance, a better proxy for market dynamics. The latest securitisation issuance data for the EU shows that combined slightly smaller market shares of the United Kingdom and of the Netherlands while slightly bigger market shares for both Italy and Spain, reflecting positive trends in the development of these two markets.

Figure 4.2 Outstanding/issuance amounts of EU securitised products in 2016, by country of collateral (% of total)

Outstanding



Issuance



Source: AFME

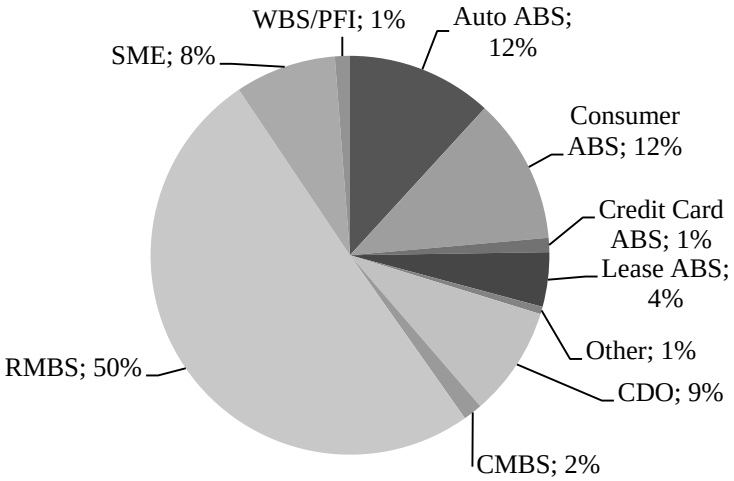
Residential Mortgage Backed Securities (RMBS) systematically make up the majority of the EU securitisation market. The UK and Dutch RMBS led placed totals in Europe in 2016. Explaining the popularity of securitised transactions involving residential mortgages is the fact that the latter are standardised, have long maturities, and generate regular payment streams. Another important segment is securitisation on a short term basis, usually through ABCP programmes.

In contrast, SME loan securitisation remains weak in the EU, representing merely 7% of outstanding securitisation. SME securitisation has exhibited a changing trend over the last years. It peaked in 2007 at EUR 77.3 billion and it failed to revert to such levels ever since. Most of the transactions executed prior to the crisis where placed with investors and a significant amount of transactions was synthetic.

Germany and Spain constituted the most active markets. From 2008 onwards, the volume, type of placement and geography of SME securitisation changed significantly. Only a minority of transactions was placed with investors (with the majority of deals being retained, mainly for repo funding with the Central Bank). Synthetic securitisation dropped sharply and markets in Italy, Greece and Portugal became more active.

The particularity of SME securitisation is that they usually have smaller portfolios than other securitisations. In addition, the small size of SME loans implies a higher number of pooled assets. Consequently, SME securitisation is generally more expensive than securitising other, more standard types of loans such as mortgages. SME securitisation also usually requires substantial resources on the investor side to assess the credit quality of the underlying assets and of the resulting securities. The cost of SME securitisation is further exacerbated by limited standardisation or an outright lack of data on SME loans, which makes it hard for prospective investors to compare the risk-return characteristics between products. Data problems and gaps sometimes make credit rating agencies refrain from rating SME securitisations[41]. Next to high set-up and operational costs, SME securitisations have generally lower returns on the underlying assets, which makes structuring a profitable SME securitisation difficult. In jurisdictions where the sovereign rating cap binds securitised product into lower credit ratings, the disadvantage in investing in SME securitisation becomes even larger. The described factors restrict the investor base for SME securitisation, making it a niche market.

Figure 4.3 Total securitisation issuance in the EU (in 2016) placed by type[42]



Source: AFME

4.1.2 Levers to revive securitisation in the EU

In an effort to revive the securitisation market in the EU, the Commission presented the Simple, Transparent and Standardised (STS) securitisation proposal in September 2015. By differentiating 'high-quality' securitisation products from other securitisation transactions, the intention is to identify securitisations that are standardised, that use consistent and well understood structures, where the issuer retains some of the assets that are being securitised, and where the obligations for all the parties involved are clear. Considering the lower risk profile, the intention is that STS securitisation is supported by preferential treatment in the capital requirements and in the Liquidity Coverage Ratio (LCR) for banks. In addition, insurance companies will face lower capital requirements for securitisation positions that meet the "high quality" requirements.

[41] Credit rating agencies typically require 3-5 years of financial performance and credit history when rating a securitised product

[42] RMBS stands for residential mortgage backed securities; WBS/PFI stands for whole business securities/project finance initiatives; ABS stands for asset-backed securities; CDO stands for collateralised debt obligations; CMBS stands for commercial mortgage backed securities.

European SMEs, which currently fund themselves mainly using bank credit, are expected to draw important benefits from a revived securitisation market. Direct benefits can be expected in several ways: (i) inclusion of ABCP in the STS framework will foster the growth of this important source of short-term SME financing; (ii) granting a prudential treatment equivalent to STS for certain simple types of synthetic securitisations, i.e. those used by public development banks to fund SME loans, benefits for SMEs coming from the STS initiative will be ; (iii) introducing a single and consistent EU securitisation framework and encouraging market participants to develop further standardisation, the STS initiative should reduce operational costs for securitisations, with important benefits for the cost of credit to SMEs, and (iv) thanks to promoting the securitisation market as a whole, investors and issuers will build expertise around assessing, pricing and trading securitisations. This in turn should reduce due diligence and credit analysis costs, helping SME loans to become a more viable asset for yield-seeking investors. Moreover, indirect benefits to SMEs can be expected increased bank credit reflecting that banks can obtain capital relief by securitising other loan portfolios.

The revival of the securitisation market in the EU is expected to benefit all Member States and not only those with deep capital markets and developed financial infrastructures. Countries where the funding of banks and the credit provision in general tends to be more problematic will benefit from a revived funding channel. Also, a single and harmonised framework for EU securitisation could lay the foundations for developing securitisation markets where these are currently not developed, like for instance in Member States in CESEE.

Still, the described action constitutes only a first step towards a full recovery of the securitisation market in Europe. Legislative efforts should be combined with adequate market practices, supporting the growth of the securitisation market, such as greater standardisation and transparency of deals. Moreover, information problems surrounding the SME sector and hindering the securitisation of SME loans need to be resolved. Finally, the success of the STS initiative will also depend on the general economic and monetary conditions, the demand for investment and credit, and developments in alternative funding channels.

4.2 Covered bond markets

Covered bonds are a very important source of bank funding in many Member States and are used to refinance mortgage loans and, to a lesser extent, other asset classes.

4.2.1 Market trends

The covered bonds market has a long and successful history in Europe, witness the increasing trend in issuance and buildup of outstanding amounts (see charts below). The outstanding volumes of covered bonds in the EU reached EUR 2.2 trillion at the end of 2015. About 80% of outstanding amounts stems from 6 EU Member States: Denmark is by far the country with the largest new issuance volumes (EUR 164 billion). Other major issuers are Sweden (EUR 61 billion), Germany (EUR 58 billion), France (EUR 45 billion), Spain (EUR 42 billion) and Italy (EUR 29 billion). Poland and Romania are developing their markets. There has also been an expansion of the covered bond market outside the EU, with the highest growth rates observed in non EU countries, primarily in Australia (+97%), and Canada (+75%), and with first issuances by Asian countries in 2015.

Covered bonds have performed well in crisis periods, notably due to their low-risk structure (dual recourse). Covered bonds were also attractive because they could be used as collateral to access the several funding initiatives made available by the ECB and by other central banks.

Figure 4.4 Issuance of covered bonds (EUR billion)

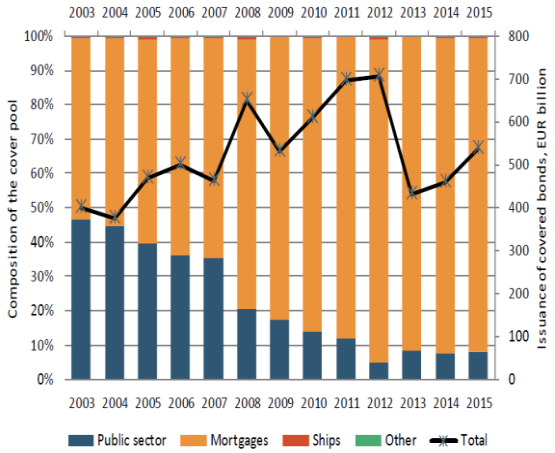
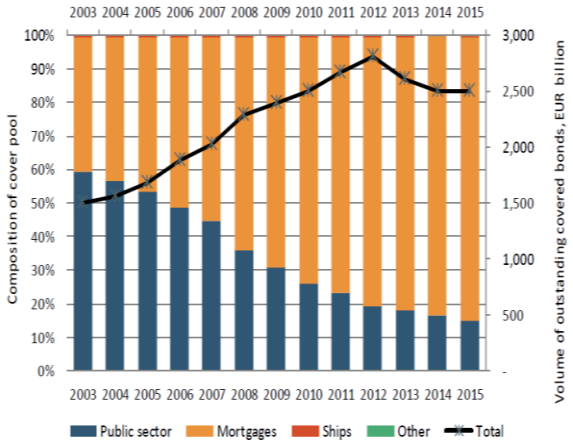
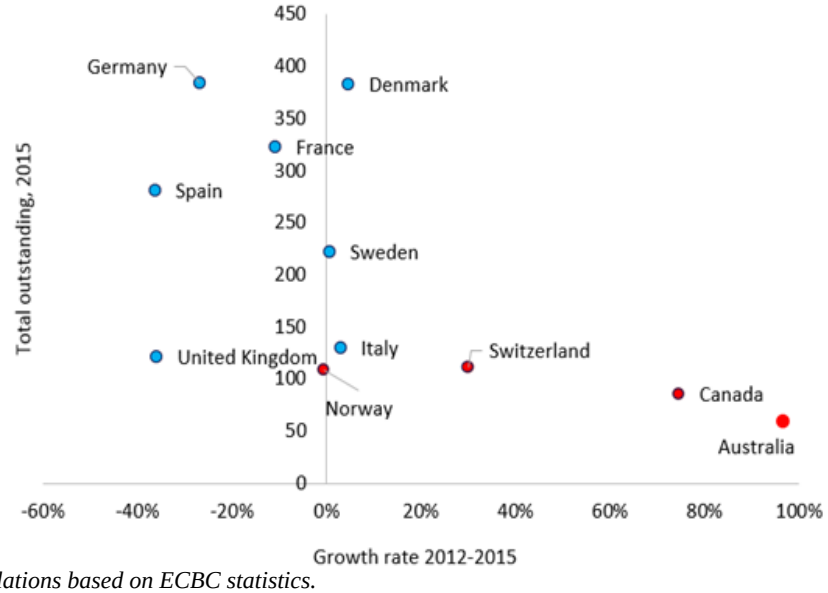


Figure 4.5 Volume of outstanding covered bonds (EUR billion)



Source: EBA, ECBC.

Figure 4.6 Covered bonds outstanding versus growth rates in selected world countries



Source: Own calculations based on ECBC statistics.

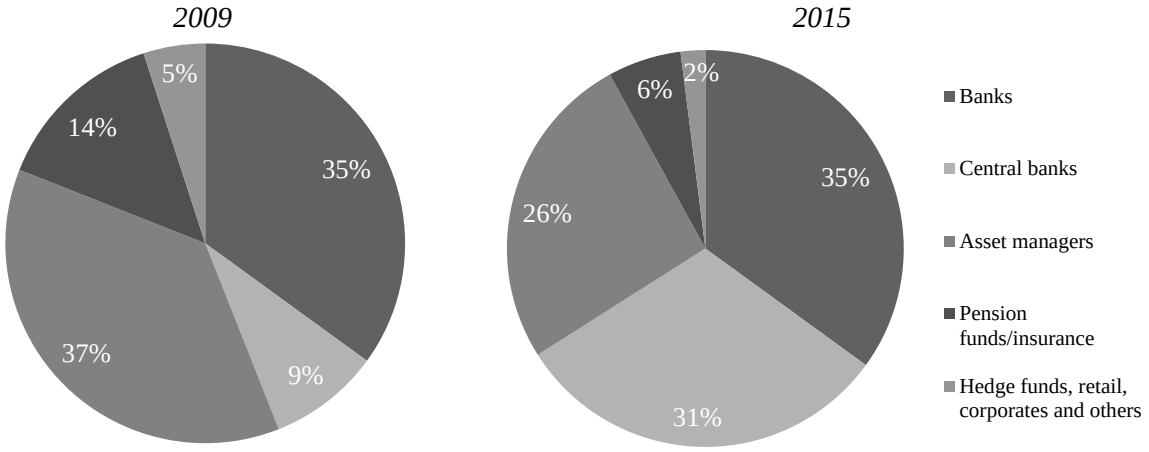
The trend of an increasing use of mortgages as cover pool collateral continues (residential and commercial real estate mortgages), and a parallel decline in the share in volume of public sector loans and other asset classes in the cover pools; shipping loans, SME loans, infrastructure loans and aircraft loans[43]. One of the reasons is that most national laws do not allow for the use of SME and infrastructure loans as a cover pool asset class. Another reason is that SME loans are not eligible as covered bond collateral under the Capital Requirements Regulation (which, in turn means that they are not accompanied by preferential risk-weighting). The regulatory treatment in CRR reflects that the credit quality of a cover pool backed by SME and infrastructure loans and the related refinancing risk are potentially higher than in the case of mortgages or public sector loans. Moreover, the credit assessment of such a cover pool is more difficult than for traditional asset classes due to diversity of SME loans, the long-term and complex nature of infrastructure loans, and the lack of clear and standardised credit information on SMEs, and on the types and features of infrastructure loans.

[43] In most Member States, eligible assets for inclusion in the cover pool are prescribed by legislation and are usually mortgages and private sector obligations.

There has also been a tendency towards longer maturities[44], justified by the search for higher yields. Issuance of soft-bullet maturities, where redemption dates can be extended under certain circumstances, has seen growing popularity as it helps issuers to their over-collateralisation requirements. As extendable maturities give the pool manager more time to sell assets after an issuer's insolvency, soft-bullet structures might assure a higher recovery value and greater ratings stability.

In terms of the covered bond investor base, banks are still the largest covered bond investors (with 35% of investor base in 2015), amid favourable regulatory treatment in the EU: (i) in the Capital Requirement Regulation (CRR, art. 129) giving a preferential treatment to covered bonds; (ii) in the EU liquidity coverage ratio (LCR) framework, which allows the inclusion of covered bonds in the liquidity buffer and is a crucial driver for banks' investments in covered bonds; and (iii) in the EU banking recovery and resolution framework, which exempts covered bonds from the scope of the bail-in instrument. Central banks have substantially expanded their share. The ESCB, in the framework of its quantitative easing asset purchases has bought so far about EUR 200 billion. By contrast, asset managers, insurance and pension funds have shown a tendency to reduce their investments (their share decreased from 50% in 2009 to 32% in 2015). Favourable treatment under Solvency II, which grants low-spread risk factors to covered bond, might be expected to reverse this trend for investments by insurance undertakings.

Figure 4.7 Allocation of euro area covered bond issuance by investor type (2009 and 2015)



Source: EBA, BAML.

4.2.2 Market barriers and challenges

The EU covered bond markets remain fragmented along jurisdictional lines and between stronger and weaker Member States, reflected in covered bond pricing particularly in stressed economic conditions. In the period up to the financial crisis of 2008, yields and spreads contracted between the various European covered bond markets indicating that investors viewed those as fundamentally homogeneous assets. The financial crisis changed this pattern abruptly, with yield dispersion between the financial instruments of various Member States rising strongly.

Furthermore, the covered bond investor base remains relatively home-biased and concentrated in a few large Member States, partly due to insufficient homogeneity in legal, regulatory and supervisory frameworks amongst Member States, forcing investors to incur in higher costs to undertake separate analysis for the covered bonds of each MS.

The lack of a truly integrated EU covered bond model also hampers investment from third countries, as investors there do not have a comprehensive basis for comparison with the covered bond framework of their home jurisdiction.

[44] Covered bonds are in general medium-term financial products, with an average maturity of around 5-7 years for the new issues, and 70% maturing within 7 years. In a search for higher yields, maturity has risen somewhat in the past few years.

Box 5. Commerzbank SME structured covered bond programme

The structured covered bond programme of Commerzbank is backed by SME loan collateral which is not based on a specific legal framework for covered bonds. In Germany, unsecured SME loans are not eligible as collateral for Pfandbriefe, the German covered bond product. Hence, the Commerzbank covered bonds are contractually based and issued directly by the bank; they are also ECB-eligible. Currently, the amount outstanding is EUR 500 million. The collateral pool consists of 1,680 loans of which 1,344 were granted to German SME borrowers.

The bonds benefit from an unconditional and irrevocable guarantee by SME Commerz, an SPV holding SME loans. The cash flows from a pool of SME loans are transferred to the SPV to back the guarantee given to covered bond investors. The SPV is consolidated on the balance sheet of Commerzbank and buys SME loans from covered bonds funded by a subordinated loan. In case Commerzbank issues new bonds, the SPV will buy further loans to fulfil over-collateralisation requirements stipulated by the covered bond documentation. The SME loans in the SPV are registered in a refinancing register. Once registered there, they are deemed insolvency remote.

As long as Commerzbank pays all its dues on the SME covered bonds and fulfils its over-collateralisation requirements, cash flows generated by the SME loans are released to Commerzbank. In case the bank stops paying, the guarantee provided by the SPV gets triggered and the cash flows generated by the SME loans in the cover pool are used to pay the interest and principal of the bonds.

4.3 European Secured Notes

The creation of European Secured Notes (ESN) has been proposed by the covered bond industry as an alternative to covered bonds. Like covered bonds, ESNs are dual recourse financial instruments, but their cover pool would focus exclusively on SME loans and infrastructure loans, including for local infrastructure (like schools, hospitals, etc) and sustainable investment.

A dual recourse ESN could be set-up as a direct on-balance instrument or as a structured product. The direct ESN would be similar in structure to a classic covered bond. The ESNs would be issued by a bank without transferring the assets to an external entity. The ESN would remain on the issuer's balance sheet together with the underlying pool of assets. The issuer would ensure that the value of the cover pool dynamically backs the financial obligations it generates. The investor has recourse to both the cover pool and the issuer in the event of default ("dual recourse"). The direct ESN is similar to covered bonds issued in Germany, Spain, Denmark, Cyprus and Belgium. Its main advantages are its simplicity (no need to transfer assets to a different entity) and dual recourse. It could however require changes to legislation in some jurisdictions (e.g., bankruptcy and security law, segregation of assets requirements).

A structured ESN would also be issued by the bank, but assets would be transferred to a separate legal entity, an SPV, that guarantees the ESNs issued. The guarantee provided by the SPV implies a dual recourse, because in the event of default, the investor has access to the cover pool and to the issuer. A structured ESN requires that the legal framework allows the transfer of assets to an SPV. The structured ESN is similar to covered bond structures in Italy, the Netherlands, the United Kingdom, Canada, New Zealand and Australia. Based on it, Italy was the first EU Member State to introduce an ESN legal framework (see Box 6) and Commerzbank made a SME structured covered bond programme (see Box 5).

One advantage of ESN is that it could help overcome moral hazard problems linked to the lack of credit data on SME loans in capital markets which is one important reason why securitisation of SME loans is not picking up. The lack of data gives rise to a substantial cost for the investor. When issuing ESNs, rather than securitising the asset, banks remain liable for their SME loans, thereby signalling to the investor that they have screened the loans in terms of credit quality. Small banks in particular rely on relationship banking and they would benefit from such a new instrument.

Box 6. The Italian ESN legal framework

Italy was the first Member State to adopt a regulation on an ESN-like instrument in April 2016. The primary legislation allows the issue of bonds by banks (called Obbligazioni Bancarie Collateralizzate

– OBC) collateralised by SME loans, leasing, factoring, ship loans and other types of commercial assets. OBCs is a dual recourse instruments. The structure is similar to the existing covered bonds (Obbligazioni Bancarie Garantite – OBG) though the law clearly differentiates between the two products as the new instrument is expected to be different in terms of underlying asset class and regulatory features. Secondary legislation will specify some features of the new instrument such as the exact definition of eligible assets and identification of licensable issuers.

OBCs will be under public supervision. This is a key element as public supervision is a pre-requisite for the ESN to be UCITS-compliant and therefore exempt from bail-in, and eligible for a number of prudential and regulatory requirements. Other characteristic features will be the bankruptcy remoteness of the segregated assets, which will be assigned to an SPV (the so-called true sale mechanism). Two major rating agencies have already expressed their support to this instrument. There has been no issuance of OBCs so far as the secondary legislation is not yet in place.

4.4 Improving the functioning of a secondary market for NPLs

The large stock of non-performing loans (NPLs) on EU banks' balance sheets continues to weigh on the EU financial sector[45]. Moreover, it hampers the proper functioning of the intermediation role banks play within the economy. Resolution of banks' NPLs is therefore key, as it will release considerable capacity for new bank lending, notably to SMEs, and spur economic growth[46].

Addressing the high volumes of NPLs has gained momentum in the last couple of years in the banking sector of most Member States and has increasingly become the focus of attention by supervisors. A whole range of options are available, going from internal workout by the bank originally holding the impaired asset, over asset protection schemes, securitisation, transfer to an Asset Management Company, to an outright sale to investors. Meanwhile, it has become clear that a comprehensive approach is needed in order to reduce the duration and the cost of NPL resolution problem. Such a comprehensive approach may *inter alia* include: (1) the need for supervisors (SSM, EBA, national regulators) to incentivise banks to restructure, write-off or provision bad loans; (2) the need for enhanced debt legal framework; and (3) a better functioning secondary market for impaired assets. This chapter focuses on this last aspect.

4.4.1 The stock of non-performing loans

At the end of the third quarter of 2016, the 130 largest EU banks held a stock of about EUR 1.1 trillion of gross NPLs (EUR 0.6 trillion in net terms).[47] Compared to the total gross loan book, the gross weighted average NPL ratio stood at 5.4% (7.4% of EU GDP), coming down from a peak of 8% in 2013. The current NPL levels are still much higher than in other major developed countries, e.g. US (1.7%) and Japan (1.6%). Whereas the US has been fairly quick in resolving NPLs stemming from the financial crisis (through swift provisioning and writing-offs by banks, as well as by state supported solutions), the EU banks continued piling up bad debts until 2013 and have been protracted in provisioning and writing off NPLs. The decline over the last years is also partly on account of the economic recovery getting traction and unemployment levels falling back.

The NPL ratios are very unevenly distributed across Member States and type of assets/counterparties, as shown in Table 4.1.

[45] NPLs weigh significantly on banks profitability as NPLs force banks to raise provisioning, lowering net income, while these NPLs at the same time usually do not generate income streams or at least less than performing assets. They further tie up more capital, due to higher risk weights on impaired assets; capital which could be used to finance new projects. NPLs thus raise the risk profile of the banks involved, translating into higher funding costs for banks, and forcing banks to propose higher lending rates and reduce lending volumes.
[46] Several studies demonstrated that NPLs hamper the economic recovery prospects for the European economy.
[47] EBA Report on NPLs.

Table 4.1 NPLs across the EU, mid 2016

Member State	NPLs, EUR billion	NPLs, % of gross loans	NPL ratio by counterparty (%)		
			SME	Large Corp.	Households
IT	276.0	16.4	30.4	20.6	12.9
FR	148.4	3.9	9.1	5.0	4.2
ES	141.2	6.0	17.4	7.8	4.5
EL	115.1	46.9	66.2	37.4	46.4
UK	90.6	2.2	5.2	4.2	2.7
DE	67.7	2.6	8.6	5.1	2.0
NL	44.6	2.7	5.4	5.1	1.5
PT	40.8	19.7	29.0	35.6	9.3
IE	32.8	14.6	30.2	13.2	14.9
AT	25.2	6.0	9.8	7.9	5.4
BE	21.4	3.6	6.8	5.1	3.9
CY	21.4	47.4	64.7	61.1	55.9
DK	19.8	3.4	12.4	4.9	5.5
SE	10.9	1.0	2.1	1.4	0.8
PL	6.7	6.8	13.5	9.7	5.2
Other MSs	33.9	5.6			
EU	1096.5	5.4	16.7	7.6	4.9

Source: EBA and own calculations.

As regards country variation, Cyprus and Greece bear relatively the highest legacy cost, with almost one-half of total loans not performing, accounting for about one-third of total bank assets. Portugal, Italy and Ireland report NPL ratios of almost 20%. On the other end of the spectrum, many countries report NPL ratios of less than 3%.

Equally strong is the dispersion at the level of type of assets/counterparties. Over 60% of NPLs are related to corporate lending, of which about one-third is related to lending backed by commercial real estate (CRE). Within the asset class of banks loans to SMEs, 16.7% is non-performing on average in the EU; the impairment is particularly pronounced in Greece and Cyprus (ratios above 60%), and Italy and Ireland (ratio around 30%). Amongst the bank loans to large non-financial corporates, 7.6% are non-performing in the EU. Besides Greece (37.4%) and Cyprus (61.1%), Portugal (35.6%) ranks high, together with Italy (20.6%). Finally, 4.9% of loans to households are non-performing in the EU, in particular in Cyprus (55.9%), Greece (46.4%), Ireland (14.9%) and Italy (12.9%).

Provisions for NPLs amount to about 46% of the book value of euro area bank's balance sheet. Including the collateral (covering 36% of total exposure), the coverage ratios are on average about 82%. Again, these coverage ratios differ significantly from one Member State to another, with differences reflecting various levels of collateralisation (depending on lending practices as well as to segments most impacted by NPLs) as well as heterogeneous accounting practices. While these levels of the coverage ratios are not threatening the capital position of the banks involved, they will eat-in on profits for many more years to come.

4.4.2 Developments in loan sales markets

The secondary market of distressed loan sales is quite opaque. Analysis of non-performing loan sales is complicated because published transactions data most often aggregate data of NPLs with that of non-core loan sales. In this regard, the stock of performing non-core assets, i.e. loans banks are willing

to shed off their balance sheet[48], amounts to EUR 1.2 trillion[49]. Together with the stock of NPLs, EUR 2.3 trillion loan assets are available for sale in the EU.

The secondary market of distressed loan sales is quite opaque. Analysis of non-performing loan sales is complicated because published transactions data most often aggregate data of NPLs with that of non-core loan sales. In this regard, the stock of performing non-core assets, i.e. loans banks are willing to shed off their balance sheet[50], amounts to EUR 1.2 trillion[51]. Together with the stock of NPLs, EUR 2.3 trillion loan assets are available for sale in the EU.

Although the NPL stock has been building up gradually in the aftermath of the financial crisis, it is only since the second half of 2013 that the sale of distressed and non-core loans has been picking-up, with transaction volumes rising to EUR 71 billion in 2014, EUR 118 billion in 2015 and about EUR 200 billion in 2016 (compared to a size of USD 469 billion in the US at end-2013). At the current pace of loan sales, and not taking account of new incoming NPLs, it would still take 10 more years to solve the NPL issue. Last year, the improving investor sentiment towards the banking sector, still very favourable financing conditions (amid exceptional accommodative monetary policy) and a general improvement in the EU real estate markets (implying an increase in collateral value, and downward revision of collateral value haircuts), presented attractive opportunities for banks to sell NPLs and non-core assets. For the current year, the trend is expected to hold, with transaction volumes further boosted by regulatory pressure and modest insolvency regime reforms.

Transactions were initially concentrated in a few Member States (mostly Ireland, Spain, United Kingdom). In 2016 there was an increasing trend towards sales of performing non-core portfolios in Member States where NPLs have been significantly unloaded (e.g. United Kingdom). Meanwhile, more investors have been actively looking at the Italian market, as competition for distressed assets is intensifying across EU, and initiatives like the shortening of legislative proceedings, and the establishment of the Atlante fund. The market in Italy is further moving towards more complex deal structures, including more SME loans. Also in Spain have the sales transactions become more complex with secured SME and corporate exposures taking a larger part of the sales, even if the bulk of sales are still related to residential mortgages,.

Market data on the pricing of NPLs is very much anecdotal. Market intelligence suggests that bid-ask spreads are very significant, with strong differences amongst asset classes. The weighted average price for concluded sales of NPLs is 34%, while average net book value is 56% (all EU banks). The average price is highest (60%) for secured retail loans (including mortgages), followed by commercial real estate loans (45%), SME/corporate loans (35%) and merely 10% on average for unsecured retail loans (mostly consumer credit, credit card loans). However, trading in this last category is quite active. Also sales of residential real estate NPLs have been buoyant (EUR 58.5 billion in 2015). Commercial real estate loans are expected to have been plateauing in 2016 (EUR 49.5 billion in 2015).

The top 10 investors active on the secondary market of NPL take more than half of the volume of NPL sale transactions on their account. Amongst the most active buyers are private investment firms (e.g. Cerberus, Lone Star, Blackstone), hedge funds (e.g. Fortress Investment Group, Oak Tree) and investment banks (e.g. Deutsche Bank, Goldman Sachs). The purpose of most of these large buyers is cash-flow driven. A minority of portfolios is repackaged and resold. The scale of the big players enable them to build up a data advantage of how loan portfolios perform which helps them in their subsequent biding, build up a reputational advantage, and a track record with the main vendors. These element give the big players a vital edge and explain why the current market for NPLs is assessed a buyers' market with a small number of large buyers. The lack of an efficient third party loan-servicing

re businesses (in terms of asset class or geography) and to shed performing assets which consume too much risk-weighted regulatory capital.

[50] Increased banks regulation (SSM) and capital requirements (Basel III, IFRS9) continue to stimulate divesture. Besides, also financial markets spur banks to place stricter focus on core businesses (in terms of asset class or geography) and to shed performing assets which consume too much risk-weighted regulatory capital.

[51] According to PWC, 7th annual European Bank Restructuring Conference, March 2016.

company across the EU forces investors to having to create their own servicing capacity and creates an extra barrier to entry to buy NPLs.

The functioning of secondary markets for NPLs is also hampered by a number of structural impediments. For example, there are legal requirements in some Member States on rules for the transfer of credit contracts or restrictions on purchasers of NPLs. Investors are also deterred by high uncertainty around debt recoveries and their timing, and collateral enforcement success. These impediments explain the wide gap between net book value of NPLs and the proposed bid-price by buyers. Data on the size of that gap is scant but it is thought to be very large. For instance, estimates suggest that, for a fully collateralised non-performing loan, the discount required by a private investor may exceed 40% solely due to the cost, time and uncertainty of the recoveries. The impediments also explain why the direct sales of NPLs are more successful in relation to one type of assets than to other types, and why the NPL market is presently a buyers' market, with a sub-optimal level of competition at buyers' side.

4.5 General policy implications

Banks are important financial institutions in capital markets. Efficient capital markets solutions can help banks to manage their balance sheets better and strengthen their lending capacity through risk transfer and wholesale funding in particular.

The following considerations are relevant in informing future work:

1. A rapid agreement on the Commission's proposal of September 2015 to create Simple, Transparent and Standardised (STS) **securitisation** would provide the necessary impetus to the revival of asset securitisation markets in the EU. Regulatory reform needs to be accompanied by incentives for insurers' to invest in the STS securitisation market through a specific prudential treatment in Solvency II and standardisation of market practices.

2. **Covered bonds** have proven to be a reliable source of wholesale funding for banks, including during periods of financial market stress. Tackling market inefficiencies and fragmentation to achieve a more integrated EU covered bond markets could help improve funding conditions for mortgage loans and public sector loans.

3. The development of a new dual recourse **ESN** could potentially be an additional channel for funding bank loans to SME, thereby complementing covered bonds and STS securitisation. ESNs might contribute to overcoming moral hazard problems linked to the scarcity of information about SME credit quality. Nonetheless, ESNs warrant further investigation about its added value as a new type of bank financing instrument. Further work may be undertaken to explore how ESNs complement covered bonds and securitisation and what are the conditions for this market solution to develop.

4. Despite some increased momentum in recent years, the market of direct sales of **NPL** remains less developed in the EU compared to some major advanced economies. The functioning of secondary market for NPLs should be supported with various types of measures targeting the removal of impediments on both the buy and sell-sides. Measures could encompass a wide range of policy options aimed at, for example, improving the transparency and quality of data on NPLs. The management of NPLs would also benefit from more efficient and more predictable loan enforcement and insolvency frameworks designed to enable swift value recovery by secured creditors. In this context, it should be assessed how to strengthen the ability of secured creditors to recover value from secured loans to corporates and entrepreneurs, while remaining consistent with the Commission's proposal of November 2016 on the effective functioning of the pre-insolvency/insolvency systems.

4.6 Key indicators[52]

Indicator	Last 5-year average	Latest observation	Value
Securitisation, outstanding volume, EUR billion	EUR 1 459 billion	2016	EUR 1 274 billion
Securitisation, gross annual issuance, EUR billion	EUR 222 billion	2016	EUR 238 billion
Covered bonds, outstanding volume, EUR billion	EUR 2 617 billion	2015	EUR 2 498 billion
Covered bonds (euro area only), outstanding volume, EUR billion	EUR 1 222 billion	2017 Q1	EUR 1 224 billion
Non-performing loans, in % of outstanding gross volume of loans	5.77%	2016	5.4%

[52] EU, unless indicated otherwise.

5 Institutional investment: Investing for Long-term, Infrastructure and Sustainable Investment

Institutional investors that have long-term liabilities are an important source of finance for long-term sustainable investments, such as those in infrastructure and green bonds. Given their long-term liability structure, the focus is primarily on insurance companies and pension funds' contribution to more long-term sustainable investments.

5.1 Long-term institutional investments at the forefront

The strategic asset allocation of institutional investors with long-term liabilities relies on the ability to act with limited constraints about liquidity of investments to implement such strategies. They can act as shock absorbers in the economy by providing liquidity and not being forced to sell assets when asset prices drop. Therefore, they express a counter-cyclical view. Their importance in national economies can be gauged by the size of their asset holdings relative to GDP. Pension funds and insurers are major investors in a large number of developed economies, with assets representing over 60% of GDP in Europe and other countries, such as Canada and the US (OECD 2015). In 2015, the European insurance market was the largest in the world having combined total assets of EUR 9.89 trillion. France, the United Kingdom and Germany represent each about a fifth of the total amount, with Italy representing 7%. The European pension market was the second largest in the world in 2015. Combined assets under management totalled EUR 6.16 trillion for the top 1000 pension funds. It should be noted that the United Kingdom and the Netherlands account for some 39% of those assets (PwC 2016). In 2014, the combined GDP of the EU Member States was EUR 13.96 trillion.

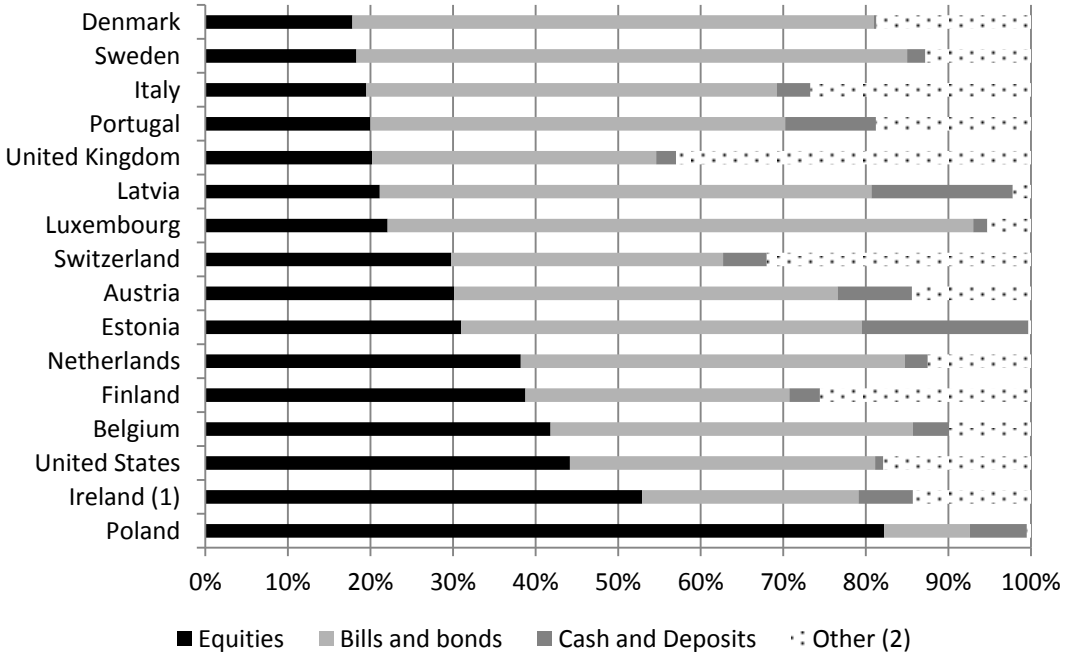
5.1.1 Trends

Pension funds

In 2015, pension funds invested around 30% of the total portfolio in equity (Pensions Europe 2016). Irish pension funds hold more than 50% of their investments in equity. Data from the Dutch Central Bank indicate that the share of equity holdings by Dutch pension funds has decreased over the past years to 13% at the end of Q3 2016. This reflects however a shift towards indirect holdings of equity via mutual funds (50% in Q3 2016). As much as 80% of direct equity holdings are invested outside the euro area.

There is quite some heterogeneity in the asset allocation between EU Member States. In 2015, pension funds in continental Europe had a more conservative asset allocation than their counterparts in the US with the exception of Poland (see Figure 5.1). A large share of investment has gone into government bonds and less than 30% of assets were in (listed and unlisted) equity.

Figure 5.1 Asset allocation of autonomous pension funds (% of total investment, 2015)



Source: OECD (1)Figures for Ireland are from 2013 (2) The "Other" category includes loans, land and buildings, unallocated insurance contracts, hedge funds, private equity funds, structured products, other mutual funds (i.e. not invested in cash, bills and bonds, or equities) and other investments.

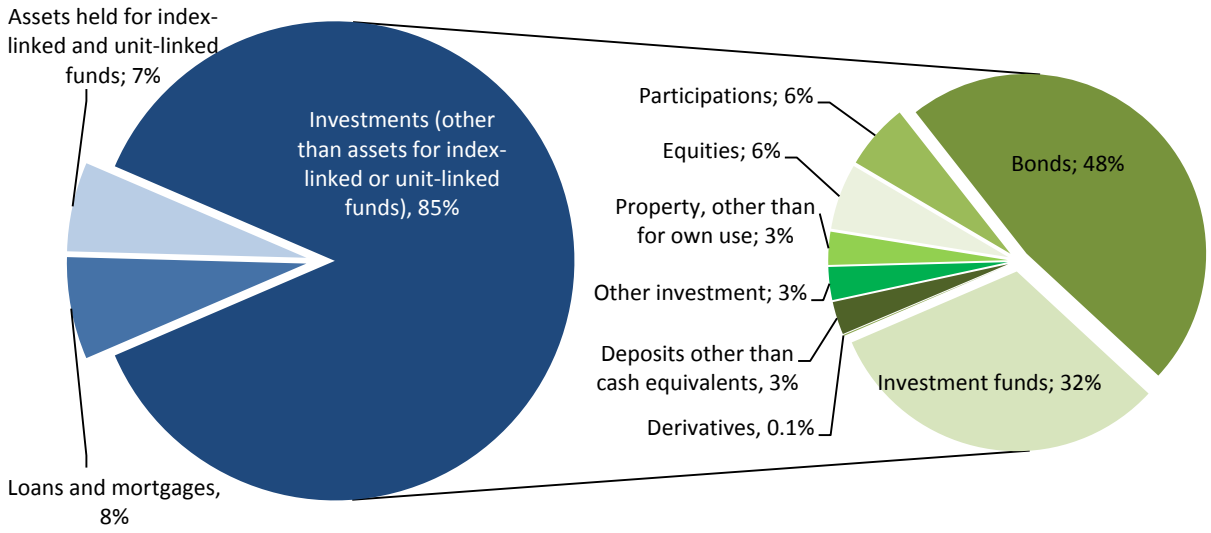
Insurance companies

Compared to pension funds, equity investment by insurance undertakings are rather lower. Direct equity investment represents only around 6% of insurers' total investment portfolio, which is mainly invested in bonds (60%) and in other non-equity products (loans, deposits, structured notes, etc) for around 10%. Data from the industry suggest that the share of equity decreased compared to 10 years ago.[53] Drivers behind this change are multiple, including accounting and prudential treatment of equity exposure.

Insurance companies have been rebalancing some of their direct investments in listed shares (currently at 6%) to indirect investment in equity shares via investment funds. in aggregate insurers' allocations to debt-like products are generally significantly higher than to equity. A key shift in asset allocation can nevertheless be noted in the area of infrastructure, where insurers have significantly increased their exposures over recent years. This came against the background of low interest rates and low returns on traditional assets, but also as a consequence of a strong political push in this area, focused on both the creation of infrastructure pipelines throughout the EU and the review of excessive prudential barriers about which the insurance industry had expressed concerns. While the average EU allocation remains in the area of 1% of insurers' total portfolios, a range of European companies have publicly expressed their intention to increase the average weight to as much as 5-10% (Insurance Europe 2016).

[53] Solvency II harmonised reporting will soon provide clarity on actual investments, e.g. through funds and taking into account unit-linked products.

Figure 5.2 Breakdown of insurers' investment portfolio – 2014 (%)



Source: Insurance Europe

5.1.2 Drivers

The investment strategies of institutional investors differ significantly across countries. Asset allocation is influenced by a variety of factors, such as market trends, investment beliefs, regulation, risk appetite, liability considerations, cultural factors, governance structures, tax issues and ultimately domestically available assets (OECD 2015).

Traditionally, institutional investors have been a source of long-term investments via two main asset classes (bonds and equities) and an investment horizon tied to the often long-term nature of their liabilities. However, over the last decade there have been major shifts in investment strategies. Very low rates have created a demand for a kind of "barbell" portfolio in institutional investment: large asset allocations to both i) private equity and low cost exchange-traded funds (ETF) at one end; and ii) capital market risk assets, based on leverage, that pay higher short-term cash yields (e.g. hedge and absolute return funds, etc.) at the other end. In between is an allocation to equities, cash and bonds within which further herding of investors into concentrated positions is found: into high-yield non-investment grade bonds; and into equities that focus on providing strong dividends and buybacks (OECD 2016). Significant adjustments to strategic asset allocation have been rare, with the exception of a long-term trend among many institutions to shift more of their portfolios to illiquid assets.

Until recently, strategic asset allocation has been rather nonstrategic. Most institutions used historical estimates of returns, correlation, and volatility, plugged in relevant constraints, and generated a frontier of portfolio options that theoretically matched their risk and return objectives. Instead of working on strategic asset allocation, many institutions have focused the bulk of their time on searching for alpha through a number of means, including active management (both internal and external) and direct investing in illiquid asset classes. The work on beta has been mainly to reduce costs, often through internalizing management, with some exploration of enhanced-beta portfolios. Institutions generally spent 20 percent of their time on beta, including strategic asset allocation, and 80 percent on the search for alpha. By far the most important change, however, is coming to the 80/20 alpha/beta management approach. Institutions plan to change those proportions by focusing on building portfolio-construction capabilities, given that these drive the vast majority of long-term returns (McKinsey 2015).

The financial crisis showed big investors that they didn't fully know their own portfolios. Moreover, they felt they were overpaying middlemen – fees of 2% of the sum invested and 20% of profits were

once common – and were working to different time horizons (pension funds invest for generations; private-equity funds for five years). A long investment horizon is the institutional investor's greatest competitive advantage, yet asset-managers' cycles have become ever shorter.

Pension funds and insurers are significantly increasing their direct investments —a response in part to high fees and disappointing returns of many asset managers. The trend is a logical extension of the practice of co-investing platforms, in which institutions put money directly into specific deals alongside funds in which they have also invested. Institutions have demanded such opportunities both to cut the overall cost of investing via private-equity funds and to gain experience that might help them initiate deals of their own in future (Monk and Sharma 2015).

5.2 Infrastructure

Infrastructure is usually divided into economic and social sectors. Using a broad definition economic infrastructure typically includes transport; utilities[54]; communication; and renewable energy. Social infrastructure - also called public real estate – includes schools, hospitals and stadiums. An investor classifies infrastructure along its risk/return profile. The investor perspective is important when defining infrastructure, as these differences will ultimately attract or deter different sources of private finance (Della Croce 2011).

Ageing infrastructure facilities are deteriorating. This combined with urbanisation trends and albeit slower but continuing growth of the population and shifting demographics makes for massive and growing infrastructure needs (European Commission 2017). The European Investment Bank (EIB) estimated that the total cumulative infrastructure investment needs in the EU could reach up to EUR 2 trillion for the period up to 2020.

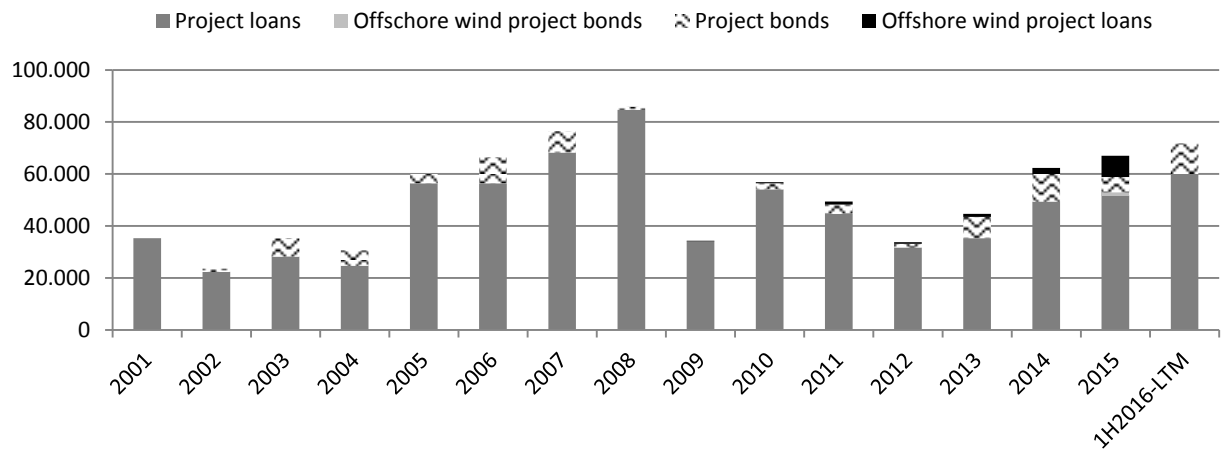
Over the last decades, public capital investment in infrastructure has on average declined in OECD countries. The OECD average ratio of capital spent in fixed investment (mainly infrastructure) to GDP fell from above 4% in 1980 to approximately 3% in 2005. This reflected a decline in public investment in countries with both traditionally high and low public investment rates between the early 1980s and late 1990s, though it has subsequently stabilized (Della Croce and Yermo 2013).

Portfolio allocations of pension funds to infrastructure debt and equity are small, at around 0.5% (Della Croce 2012). A major reason for the apparent mismatch between infrastructure investment demand and the supply of infrastructure finance is the lack of a pipeline of properly structured projects. Infrastructure investments entail complex legal and financial arrangements, requiring a lot of expertise. Building up the necessary expertise is costly, and investors will only be willing to incur these fixed costs if there is a sufficient and predictable pipeline of infrastructure investment opportunities. Otherwise, the costs can easily outweigh the potential benefits of investing into infrastructure over other, less complex, asset classes.

The lion's share of the growth in infrastructure financing is shouldered by banks (Ehlers 2014). Banks will remain important financiers, in particular in the early stages of new projects (see Box 7). But banks, which have mostly short-term liabilities, are not well-placed to hold long-term assets on their balance sheets for an extended period of time. Bonds would be suitable instruments for large pension funds and insurance companies with their long-term liabilities. In addition, other new forms of finance, such as infrastructure investment funds, can help to tap some of the vast resources of international capital markets. The project bond and loan market has been gradually increasing over the last four years; reaching EUR 70 billion at end-2015 (see Figure 5.3).

[54] energy distribution networks, storage, power generation, water, sewage, waste

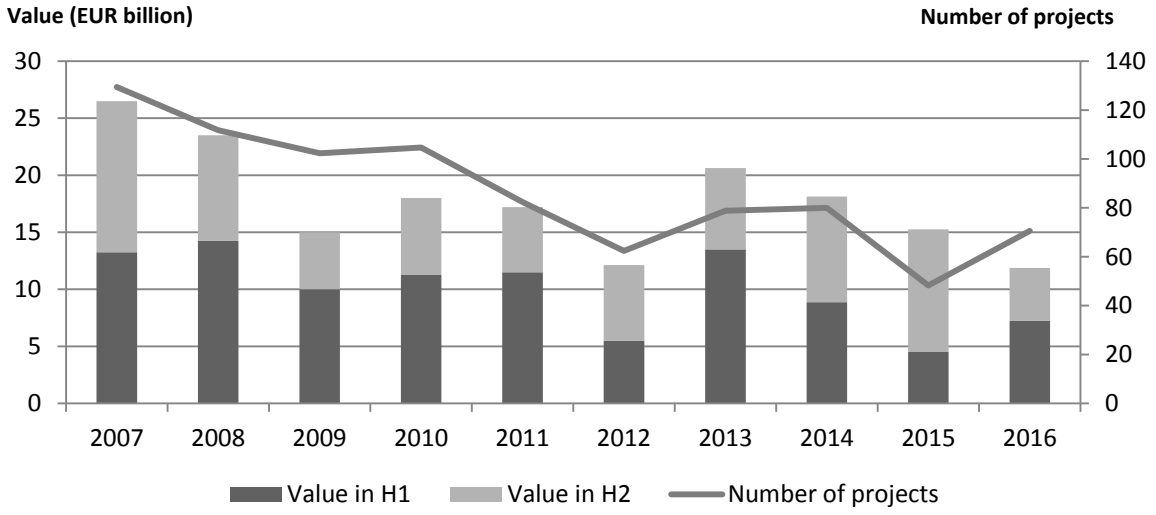
Figure 5.3 Historical European project financing issuance (EUR million)



Source: Thomson Reuters Project Finance International and Scope.

Facing constraints on public resources and fiscal space, while recognizing the importance of investment in infrastructure to help their economies grow, governments are increasingly turning to the private sector as an alternative additional source of funding to meet the funding gap (World Bank 2016). PPPs enable cooperation between a government and one or more private sector companies to finance and operate long term infrastructure projects in sectors such as transport, healthcare and environment. In 2016, the aggregate value of PPP transactions that reached financial close in the European market totalled EUR 12 billion, a considerable decrease from 2007. Education was the most active sector in terms of number of deals with 27 projects closed and an aggregate value of EUR 1.6 billion, thus achieving its best performance since 2010. In the healthcare sector, whilst the number of projects that reached financial close increased to 15, the aggregate value contracted significantly to EUR 2.3 billion. Four projects in France closed in the telecommunications sector for an aggregate value of EUR 1.2 billion.

Figure 5.4 The European PPP Market by Value and Number of Projects since 2007



Source: European PPP Expertise Centre (EPEC)

Box 7. Different financing instruments for different phases

A typical project has several distinct phases (planning, construction and operational). Each phase exhibits different risk and return characteristics, and each faces different incentive problems and calls for a different role for governments, banks and capital markets. Bank loans usually supply the largest share of financing in the two initial phases of an infrastructure project (planning and construction).

Bank loans have some key advantages over bonds or other structured financing solutions: (i) debt holders serve an important monitoring role in the project and banks tend to have the necessary expertise. The risks banks take ensure they perform a crucial monitoring role in the process of setting up an infrastructure project that is valued by other potential debt investors; (ii) infrastructure projects need a gradual disbursement of funds and bank loans are sufficiently flexible; and (iii) infrastructure projects are relatively more likely to require debt restructurings in unforeseen events and banks can quickly negotiate restructurings among each other, whereas the restructuring of bonds, for instance, is complex and time consuming. Bank loans for infrastructure projects are in many cases extended by a syndicate of banks rather than a single bank.

The operational phase is distinctively different from the initial phases. As the infrastructure project is starting to generate positive cash flows, default risks subside rapidly over time, on average even below those of other highly rated debt securities. With stable underlying cash flows in the operational phase, infrastructure projects are akin to fixed income securities and therefore bond financing is a natural and economically appropriate financing instrument. Bonds often come into play when initial bank loans are being refinanced, as they represent a low-cost financing alternative. Nevertheless, the volume of issued infrastructure project bonds is surprisingly small; though it is increasing rapidly. Still, compared to syndicated loans, bonds constitute only 10–20% of infrastructure debt financing.

5.3 Sustainable finance

Hard data on sustainable investments are scarce. This is because definitions of green investments or ESG investment processes can vary from one fund to another. Renewable energy and social infrastructure are relatively new sectors in the portfolio of certain investors although increasing. Some funds reported sector allocations for unlisted infrastructure, listed shares, and debt, or in a combination of these three categories. Further work is needed to make use of the data on investments available under the European System of Accounts framework (Gross Fixed Capital Formation), its satellite system the European Environmental Economic Accounts and in the Structural Business Statistics to monitor the shift towards sustainability in investment patterns in the economy.

Pension funds and insurance companies have a long-term investment horizon. Issues related to climate change and its impact on portfolio values is inherently important for risk management. Long-range forecasts of climate change scenarios shed light on the potential risk to portfolio investments, particularly those that are carbon intensive. Holistic risk management processes capture such scenarios and begin to quantify potential risks, and search for ways to hedge such risks at low cost. Investments in green technologies and businesses or infrastructures that are less sensitive to climate change scenarios are one way that funds are taking action.

Green bonds are in the vanguard. The market for green bonds has been expanding rapidly over recent years, with the amount of green bonds outstanding more than doubling between end-2014 and end-2015. However, this market still remains marginal, representing less than 0.1% of the global outstanding debt securities market.

According to estimates by EUROSIF, "systematic integration" of ESG issues, including, on the one hand, investment strategies where investors systematically consider or include ESG analysis when rating or valuing investment and, on the other hand, investment strategies involving mandatory constraints based on findings from ESG research stood at around EUR 1.9 trillion at end 2013, a 65% increase since end-2011, covering 11% of all European professionally managed assets. This trend shows growing awareness and interest among investors. In terms of asset allocation, equities represented about half of European Sustainable and Responsible Investment (SRI) assets at end-2013, up from 33% at end-2011. Bonds represented 40% of SRI assets – 21% in corporate bonds, 17% in sovereign bonds.

A strategy has emerged to recycle capital from the balance sheets of traditional funding institutions. By buying into projects and/or refinancing existing projects, institutional investors free up debt and equity capital in construction and operating-stage renewable electricity projects. Banks, private equity funds, project developers and utilities can then redeploy the proceeds into the development and

construction of new projects. Closed-end funds and real-estate investment trusts (REIT) have played an important role in this respect for some time.

As of April 2017, 3% of the total investment of EUR 183.5 billion expected to be mobilised by the EFSI supports projects in the environment and resource efficiency sector. In addition, 24% of the total investment expected to be mobilised by the EFSI supports projects in the energy sector, a number of which cover the renewable energy and energy efficiency sectors.

The review of the EFSI framework is putting greater focus on meeting the EU's social objectives. Private capital can support the EFSI objectives when financial returns are associated with positive social externalities. Investments into social housing could for example provide accommodation to low-income households. Investments into vocational training can widen the supply of a skilled workforce, with positive effects on the competitiveness of EU businesses. Investment into long-term care increases labour market participation rates, benefitting labour productivity. Social impact bonds are also proving to become successful in several Member States.

The positive development of the markets for sustainable investment can be supported, for example, by improving confidence in disclosures and labels, and providing appropriate regulatory recognition of any observed improvement of risk-return performance of these assets. Environmentally harmful subsidies, such as those for fossil fuels, are also potential distortion of pricing on energy markets and potentially inhibit investments in the clean energy transition and innovation.[55]

Moreover, while funding abounds and technology costs for renewable electricity are falling fast, there is a shortage of bankable projects. Both policy and market factors have an impact on the risk-return profile of renewable electricity projects. Investor uncertainty as to what extent revenues can be recuperated through energy markets, together with the uncertainty related to the support schemes for Renewable Energy Sources (RES) and past retroactive changes is an impediment to capital markets investments. At the European level, the EU ETS puts a price on emissions reduction on the industry which in principle can help companies to profit from low carbon investments, including in RES. However, while overall emissions from the power sector have been reduced in line with EU climate objectives, there is currently a significant oversupply of allowances driven by uncertainty. A revision of the EU ETS, with a functioning Market Stability Reserve (as proposed by the European Commission)[56], will help to reduce this uncertainty. Where support for RES investments is still needed, support schemes should be cost effective and market-based without retroactive changes.

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5.4 General policy implications

Institutional investors are important financial institutions in capital markets. They have a capacity to channel private capital to investments that support the long-term growth potential of the economy and the necessary infrastructure, as well as to contribute to a sustainable allocation of resources that takes into account the environmental and social needs of people living in the EU.

The following considerations are relevant in informing future work:

1. As regards long-term investment, there is a need to identify the economic drivers of **equity investments** by insurance companies and pension funds, including intra-EU investments and the potential impact of regulatory constraints at the EU and national level and other factors. As part of this, it would be appropriate to assess whether the accounting treatment of equity instruments in international accounting standards, in particular IFRS 9, endorsed by the EU in November 2016, is sufficiently conducive to long term financing. Moreover, the implementation of the

[55] The Commission put forward next steps to this end in the Communication on "Clean Energy for All" (November 2016).

[56] The Market Stability Reserve implemented as of 2019 will reduce the auction automatically and in a gradual manner. As part of the ongoing co-decision on the ETS, proposals such as those included in the position adopted recently by the European Parliament and the […] Council to temporarily double the feeding rate of this reserve would further strengthen the ETS and the ability of the Market Stability Reserve to reduce the oversupply on the market and make it more robust against future changes in demand, regardless of whether these reflect economic factors or policy developments.

Shareholding Rights Directive will seek to facilitate the cross-border exercise of shareholder rights, including on-line voting.

2. To support **infrastructure investments** by insurance undertakings, the reduced risk calibrations in Solvency 2 for qualifying infrastructure projects have been extended to investments into infrastructure corporates.

3. EU single market freedoms provide a comprehensive set of rules for **investment protection**. National courts and authorities might, however, not always be fully aware of such rules or may find them difficult to apply. Greater clarity on substantive EU standards for the treatment of cross-border EU investments is particularly important for EU investors, national administrations, stakeholders, as well as for national court judges, and should ensure more transparency with regards to the effective protection of EU investor rights in the single market. Moreover, options should be assessed to establish a framework for the amicable resolution of investment disputes.

4. Regulation should include the appropriate signals, incentives and obligations that lead actors on financial markets to internalise the wider risks and returns on their investments, including those linked to environmental issues as well as other social and ethical considerations. The forthcoming analysis and recommendations of the Commission's High Level Expert Group (HLEG) on **Sustainable Finance** will represent an important input in developing a comprehensive EU approach to rewiring financial regulation to better integrate sustainable finance. Moreover, best practices in the Member States that associate financial returns with positive environmental and social externalities could be investigated.

5.5 Key indicators[57]

Long-term investment

Indicator	Last 5-year average	Latest observation	Value
Asset allocation of autonomous pension funds – equity, percentage of portfolio	NA	2015	30%
Asset allocation of insurance companies – equity, percentage of portfolio	NA	2014	6%
ELTIFs, number	NA	2016	7

Infrastructure investments

Indicator	Last 5-year average	Latest observation	Value
Infrastructure deals completed, value, Europe		2016	EUR 232 billion
European project bond issuance, value	EUR 8.5 billion[58]	2016	EUR 15.0 billion
European project loan issuance, value	EUR 43.6 billion[62]	2016	EUR 55.6 billion
PPP transactions, Europe	EUR 15.8 billion[62]	2015	EUR 12 billion
Number of projects supported by EFSI	NA	Q1 2017	477
EIB financing for EFSI-supported projects	NA	Q1 2017	EUR 33.9 billion
Expected total investment in EFSI-supported	NA	Q1 2017	EUR 183.5

[57] EU, unless indicated otherwise.
[58] Last 6-year average

projects			billion

Sustainable investments

Green bonds issuance, global, value	EUR 19 billion	2016	EUR 100 billion

6 Fostering retail investments

Retail investors are the main providers of funding for the economy, with total holdings of financial assets close to EUR 34 trillion in 2016 (Eurostat). Understanding how they invest retained savings and allocate funds to different financial assets is hence crucial for devising policies to foster investments into capital markets, as well as to enhance investor protection. While significant progress towards establishing a more competitive internal market for retail financial services has been made, there still remain a number of problems, which hinder a more efficient flow of financial investments into the economy. These are related to both market structure and the regulatory framework, especially in cross-border transactions and provision of services. Behavioural biases and free-riding problems (from information asymmetry) on the side of retail customers reinforce supply side issues.

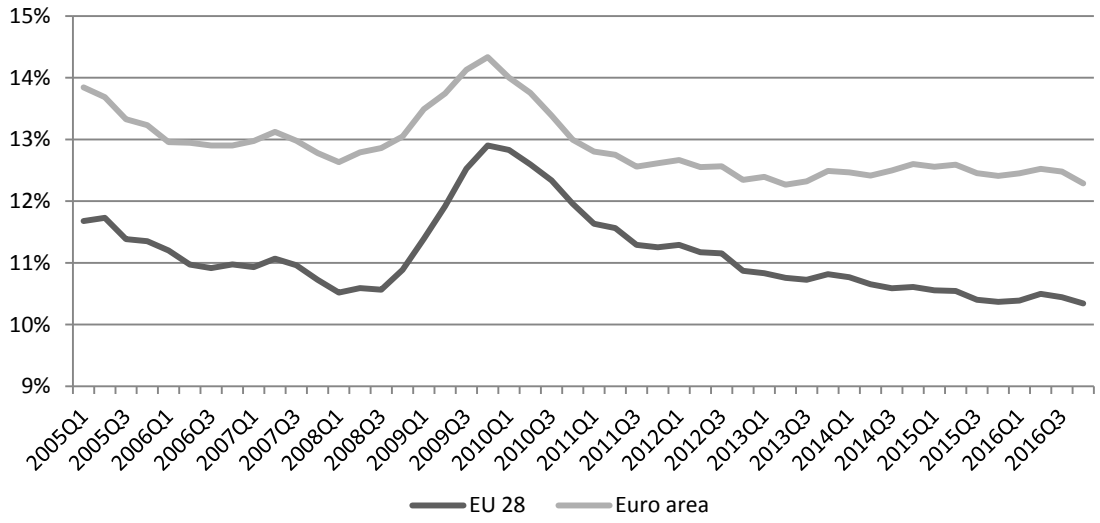
6.1 Key trends in retail investments

6.1.1 Saving Rates

The financial situation of European households has significantly improved since the financial crisis. Real adjusted gross disposable income of households per capita has been increasing since 2009, both in the Eurozone as well as in the EU, leaving consumers with more money to spend on consumption or to provision for future consumption in the form of savings.

Savings represent a crucial factor in the analysis of the retail investment market as it reflects the amount of money that households have freely at their disposal for investments. It forms the main domestic source of funds for capital investment and high saving rates can translate into funds being available for economic growth. The propensity to save has been relatively stable since 2012 for the Euro area and slightly declining below pre-crisis level. The saving rate stood at 10.2% of total disposable income in the third quarter of 2016 for the EU (Figure 6.1). While there has been a historical close alignment in saving rate trends of the EU and the Euro area, there is an initial divergence over the period from 2012 to 2016. This indicates a higher inclination to spend income on consumption and an increase in household borrowing outside of the Euro area, where risk aversion remains high.

Figure 6.1 Household saving rate (2005-2016)



Source: Eurostat.

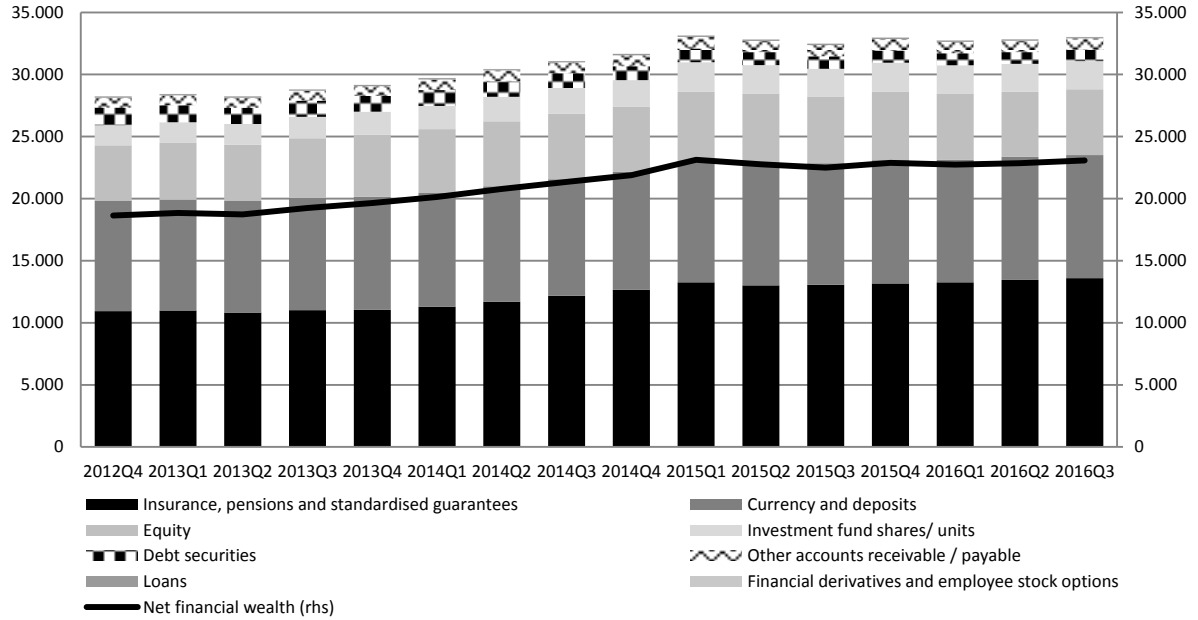
A considerable proportion of retail savings are invested in financial assets, which form an important part of overall wealth. The contribution of households to overall financial assets is especially strong in certain peripheral countries such as Greece (66.3%) and the Slovak Republic (62.3%). Beyond representing potential funding sources for companies, households' financial assets are also an

important source of revenue, either through capital gains or interests and dividends. Enhancing the efficiency of retail financial markets and optimising the returns on retail products thus holds a dual advantage: increased financing for the economy and higher income for households, both of which would add to economic growth. Active retail investor participation in financial markets also improves the information flow and ultimately price discovery.

6.1.2 Household Financial Assets: a balance sheet analysis

Retail investments can only provide direct sources of alternative funding for the real economy when channelled through capital markets in the form of financial investments. Figure 6.2 provides an overview of households' financial assets in the EU over time. Households' financial wealth has grown consistently since 2012, mainly driven by deposits and investments in insurance and pension products. Equity holdings have marginally increased on the long-term, but gone down in 2016. The other three components, including investments in units of funds, are flat and of limited size. Currently, most of the investment of households in investment funds goes through insurance and pension products, compared to the US, where there are more direct holdings of equity and investment funds units (e.g. ETFs, etc).

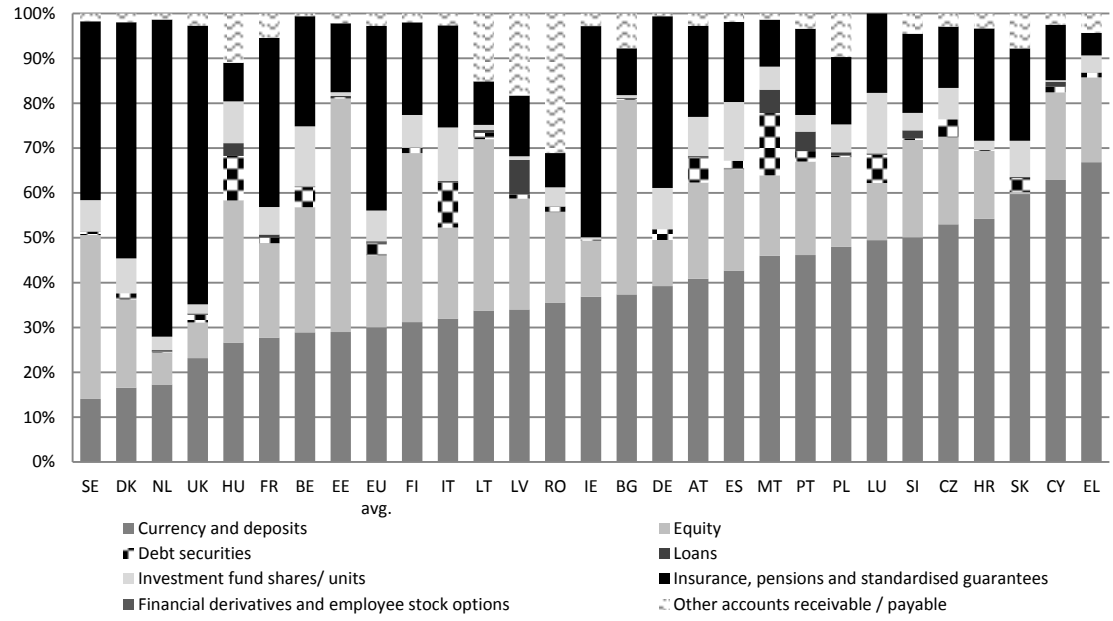
Figure 6.2 Household financial assets in the EU (EUR billion)



Source: Eurostat. Note: For UK and Ireland, non-profit institutions serving households are included as well.

The composition of households' financial assets however varies considerably across EU Member States (see Figure 6.3). Some countries, such as Greece, Cyprus and Slovakia, exhibit a considerably larger proportion of financial assets held in the form of currency and deposits than the EU average (over 60% of financial assets).A total of 20 out of 28 countries are above average. Other countries, in particular the United Kingdom and the Netherlands, have much higher proportions invested in insurance and pension funds. Estonia, Bulgaria and Lithuania exhibit the largest proportional holdings of equity instruments while Luxembourg, Belgium and Spain show the highest percentage values of financial assets held in investment funds. These differences occur due to different reasons. Countries with a higher GDP per capita, for example, tend to show smaller holdings of cash deposits as higher earnings will allow households to save and invest more long-term. National regulatory and tax regimes which favour may also introduce additional bias.

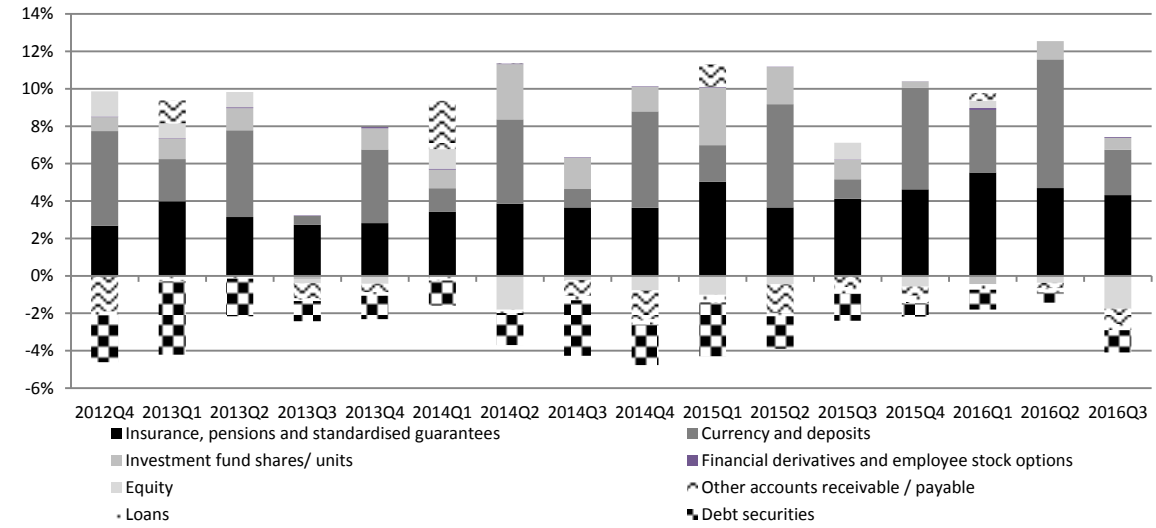
Figure 6.3 Composition of households' investments in financial assets across Member States (% of total financial assets)



As suggested by Figure 6 (as a percentage of gross disposable income), there has been a considerable outflow of retail investments from debt securities starting in Q4 2012. While the pace is relatively slow, households were still selling EUR 300 per capita of debt securities in Q3 2016. This may be due to loosen monetary policies, such as the ECB's asset purchase programme, which has significantly reduced yields on debt securities.

Allocations to investment funds and equity have developed more positively over the same period, growing considerably between 2013 and 2015. Inflows have, however, slowed for three consecutive quarters with figures for Q2 2016 showing an inflow of EUR 370 per capita, compared to an average of EUR 590 in 2015. Monetary easing is not necessarily a driver, as a low interest rate environment should facilitate increased equity investments. Equity underweight in retail investors' portfolio is a structural issue in Europe. In recent years, moreover, there has been a rather marked shift from equity to investment in life insurance and more importantly currency and deposits because of uncertainty and instability.

Figure 6.4 Household investments in financial assets and contributions by component (% of gross disposable income)



Source: ECB Household Sector Report Q2 2016

The recent growth in households' financial assets is currently driven by cash and deposits. In the third quarter of 2016, household holdings of these assets reached a six-year high with net inflows of EUR 730 per capita. In normal circumstances, these increased deposits may in theory facilitate banks' ability to lend more and thus provide increased financing to the economy. Banks today, however, face negative interest rates in holding cash and are trying to reduce overreliance on deposits. Given the current situation of the lending market, increased deposits are extremely unlikely to provide increased funding to the economy.[59] A lack of demand for loans, combined with a high proportion of bad loans or low capital levels of banks in some countries, results in a limited increase in bank lending. Uncertainty about global trade and economic growth add more to the picture. Finally, heightened risks for bank profitability, led by negative interest rates, and refinancing, as bank bond issuance continues to drop, is another element of uncertainty. As a result, many companies have resorted to bond issuance, while investors are increasingly looking outside the EU while slowly decreasing holdings of government bonds.

Some of the retail financial investments flowing into currency and deposits could be put to alternative uses through capital markets instruments. While deposits are a stable and prudent way to store value, the current level of interest rates paid on them is not sufficient in real terms. In effect, households are forgoing future consumption and hindering economic growth by holding a large proportion of financial wealth in cash or deposits. Allocating an increasing amount to equity and debt securities would benefit the European economy by freeing additional sources of financing, against the background of a European banking sector undergoing restructuring.

6.1.3 Europe's retail market structure

In spite of considerable progress toward European capital market integration and the introduction of the euro, national borders still constitute a barrier for retail financial markets. The level of direct cross-border transactions in retail financial services remains low compared to fully integrated national markets, like the US. Consumers still largely purchase retail financial products from suppliers based in their own domestic market and firms generally only serve markets in which they are physically established.

A 2015 study of the European Consumers Association showed that there are still substantial price and nominal interest differentials among Member States (BEUC 2015), suggesting insufficient cross-border competition. This is corroborated by a study carried out by the Dutch central bank (DNB 2015), which found that the willingness to switch banking product differs but is the strongest for main savings accounts. Retail clients should therefore normally be expected to change their savings account to providers across borders if better offers are available. The same study, however, also concluded that it is especially difficult to stimulate consumers to switch to foreign banks (DNB 2015). For basic products, like current accounts, this is often linked to factors such as language or physical proximity of branches.[60] Even though information technologies, such as the internet, and innovation in the sector could erode those barriers (e.g. multi-lingual offerings by banks), national regulatory fragmentation and consumer trust issues are still hampering the cross-border provision of services.

The European insurance sector displays a very similar picture, since also there cross-border sales without physical presence in the target market play only a marginal role. A 2014 study (EVZ 2014) showed that 47% of a select group of insurance companies provided the possibility to conclude a contract via the internet. However, when trying to conclude insurance contracts from an address in a country that deviated from the country of origin of the insurance company, only 14 out of 144 tested companies actually offer such contracts. This means that only 9.7% of the selected group of insurers offered cross-border insurance contracts via the Internet. A related written survey (EVZ 2014) showed

[59] At the end of October 2016, excess reserves and deposit facilities subject to negative interest rates in the Eurozone amounted to 1047 billion euros, representing an annual gross cost of 4.2 billion euros for commercial banks. This cost may, however, be offset to some extent by the capital gains realised by selling securities to the ECB.

[60] See for example: BCG customer centricity study 2011 showing that proximity still drives about 30% of new customer acquisition in retail banking (France - 28%, Germany – 39%, United Kingdom – 26%)

similar results. Only 3 out of 32 companies (9.4%) that replied to the survey offered cross-border insurance contracts that could be concluded by consumers with a primary residence abroad. Insufficient cross-border competition is also evident when one compares the price of products. Premia for a comparable non-investment 25-year term life insurance product, for example, can range from EUR 10 per month in Slovakia and EUR 12.40 per month in Spain to GBP 65 per month in the United Kingdom (FSUG 2015). A similar situation exists in the motor insurance market where quotes vary significantly across countries, even for the same car model (Insurance Europe 2015). Likewise annual fees charged for a credit card can vary from EUR 9.10 in Romania to almost EUR 114 in Slovakia and offline credit transfers, while free in some Member States, can cost an average of EUR 3.58 in France (FSUG 2015).

A market that is characterised by a particularly high degree of fragmentation across national borders and low cross-border sales is that for personal pension products. There is already a low level of investment and participation by households in pension products at national level[61], which endangers Europe's future prosperity in view of demographic change. Strongly fragmented national markets add to this issue as it prevents efficiency gains via economies of scale, risk diversification and innovation on the side of providers while the lower levels of competition implies higher costs for consumers. Given that personal pension products operate on a long-term basis, trust and understanding are particularly important in this market. Nonetheless, personal pension products exhibit some of the lowest consumer trust rankings across retail financial products in the EU. In many Member States third pillar savings products remain strongly underdeveloped while they are not offered at all in Greece and Cyprus. Given the long-term liabilities of pension providers, they are ideally suited to invest in higher yielding illiquid long-term assets and even infrastructure or real-estate projects. Creating a more integrated European market would thus reduce deadweight loss while at the same time increasing the funding available to the economy

The European market for investment funds is likely to be the most integrated market tapped by retail investors. The passport regimes established under UCITS and AIFMD have facilitated significant improvements to cross-border activity and competition. Together, UCITS funds and AIFs have EUR 13.38 trillion Assets under Management (AuM), with 57% of the funds having the right to passport. This initially indicates a significant level of integration of markets. However, much of the market actually remains along national lines. While 57% of funds have the right to passport, the funds marketed cross-border represent only 40% of total AuM. It should also be noted that many of these funds are only sold in one additional Member State to their home country ('round-trip funds'). They are generally sold back to the Member State where the asset management company is domiciled (indicating that these funds are domiciled in a different Member State to take advantage of beneficial tax treatment or other factors). For UCITS funds it is estimated that this applies to one third of funds captured as being marketed cross-border, while another third is not sold in more than four other Member States. Data collected at the end of 2015 indicates that only 30% of funds are sold by distributors outside their home market (EFAMA 2016). This marks a significant increase from 18% recorded at end of 2005 but still lags behind figures that would be expected in a fully integrated market. The total number of European funds is a further indication of a lack of cross border competition and integration. While the United States only counts around 7 000 mutual funds there are more than 30 000 UCITS funds available for sale in Europe. Likewise, the United States' mutual funds are close to seven times as big on average as European funds, thus reaping larger benefits of economies of scale and facilitating lower costs. Larger sized funds would also be expected to compete more readily across borders as they are able to stem costs of expanding distribution channels and overcoming regulatory barriers more easily.

To sum up, regulatory barriers affect distribution and market entry and include fragmented registration procedures, costly and diverse marketing requirements, inconsistent administrative arrangements and tax obstacles. This affects how both large and specialised niche funds compete and manage the quality of product supply. The elimination of regulatory barriers would be also an important aspect for the insurance and banking markets. Here, equally, administrative burdens arising due to non-

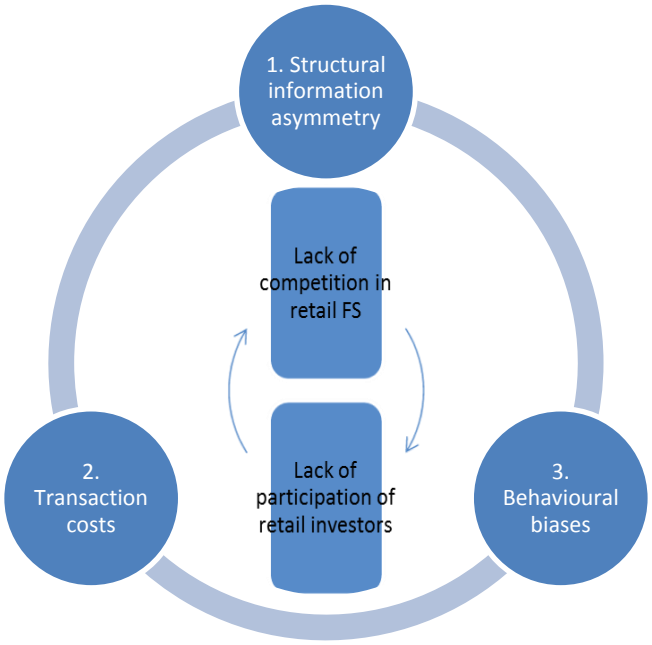
[61] Current market size estimated at around EUR 0.7 trillion based on Commission figures

harmonisation, differences in supervisory treatment and lack of standardisation create costs that prevent more efficient cross-border competition. While behavioural biases may still lead to a certain favouritism of domestic products, this effect tends to dissipate as the number and visibility of cross-border offers increases. Other barriers such as language or culture can be overcome with relative ease today, given technological innovation and increased labour mobility across borders.

6.2 Characteristics of retail investment services markets

There are several market structure issues in retail financial markets, both on the supply and on the demand side of capital. While regulatory actions have already been undertaken to address these issues they still form important drivers of markets and costs. The market for retail financial services in Europe, like other segments of the financial services industry, has suffered considerably during the financial crisis and continues to be impacted by its aftershocks still today. At the same time, revenues in this sector have been more stable than many other segments and it has thus increased in importance for the global financial services industry. In addition to the market distortions experienced during the crisis, the sector has been undergoing rapid change in recent years. Technological innovation, often driven by "maverick" market entrants, has forced market players to adapt to a new competitive situation. The sector has also faced a range of regulatory actions, both at the European and national level, which have required providers to adjust their behaviour and to disclose an increasing amount of information. This has in turn led to increased overall compliance costs. Both of these developments have resulted in a decrease in overall margins and triggered national consolidation in many markets as well as cross-border M&As.

Figure 6.5 Retail investment market failures



Source: Commission services

While this indicates that there is an increasing competitive pressure in this market segment, many indicators and studies still point to a lack of competition overall, especially in a cross-border context. Whereas the sector appears to be highly competitive at first sight, given a vast choice of products, a multitude of providers and relatively low barriers to entry, there are significant discrepancies in terms of costs both within national markets and even more so across the EU. The reasons for this lie in the structure of the market and regulatory fragmentation across national markets as well as the behaviour of consumers. Together, they create an environment that hampers efficient competition.

6.2.1 Structural information asymmetry

The market for retail financial services displays several differences with other segments of the financial services industry. Most notably, customers purchasing retail financial services often possess little or no knowledge of the market itself. This leaves the demand side at a considerable disadvantage. The inability to measure quality for a lack of knowledge (on top of the asymmetry generated by the nature of the service provided) means that consumers can have structural difficulties to price products. While sophisticated customers may be more able to determine which products are of high quality and offered at a reasonable price, as they professional knowledge, a large majority of retail clients will be unable to do so.

Other markets exhibit similar information asymmetries, as the ones in retail financial services. Common examples include the provision of healthcare or legal services or the market for second hand cars[62]. The commonalities shared by each of these markets is that the supply side holds a significant informational advantage, either in terms of technical knowledge necessary to provide the service or good and/or knowledge of the market itself. At the same time, the incentives of the supply side are naturally not aligned with those on the demand side. A second-hand car retailer, for example, will not necessarily aim to sell the best-priced car to a customer but rather to sell a car at the highest price irrespective of its quality. This behaviour is particularly prevalent in markets where switching costs are high and where the quality of products is difficult to evaluate.[63]

Markets characterised by asymmetric information generally face efficiency problems, as the usual laws of competition only apply to a lesser extent. In more transparent markets, the demand side may have higher chances to purchase the product or service that offers the highest quality at the lowest price.[64] This forces less competitive market participants to either improve their price and/or quality or leave the market altogether. In opaque markets, however, these actors can often remain in the market by successfully masking the actual cost of the service. The information asymmetry gives rise to problems that go beyond price-based competition alone. As retail consumers cannot readily discern the quality of financial products, it makes them vulnerable to conflicts of interest and misconduct on the part of the provider and creates risks of adverse selection. Increased complexity of products further aggravates this issue. Providers can deliberately exacerbate the information asymmetry by obscuring key product characteristics through marketing strategies or product differentiation.

Although the supply side can aggravate information asymmetries, they are not the initial source of this asymmetry. Providers and distributors today are increasingly transparent, given new regulatory disclosure and reporting requirements imposed in the aftermath of the financial crisis. Examples include the UCITS KIID or the upcoming changes under MiFID II and the Prospectus Regulation. While these requirements should be further enhanced and harmonised, both across products and national European markets, the consumer also carries significant responsibility to alleviate information asymmetries. There is a general tendency of retail customers to under invest in information. A common misconception is that other consumers will have already investigated the safety and integrity of suppliers of financial services, so there is little need to do it themselves. Consumers feel that they can 'free-ride' on previous customers' research, which clearly leads to “under-information” problems, if this is the approach taken by a majority of them (Benink, Llewellyn 1995). Conversely, there are high search costs involved in comparing the multitude of products and providers in the market which render a complete market comparison uneconomical[65]. While increased market research may improve

[62] See for example Akerlof 1970.

[63] Many financial products and services (if not all of them) are typically called 'credence goods', because their quality cannot be fully assessed even after using them. This is the case of products that have a strong idiosyncratic nature. For instance, the quality of financial advice is difficult to evaluate, as there is no benchmark to compare with (only with proxies). Advice is individual and relies on current and expected circumstances, which can in the future evolve in an infinite set of scenarios. As future scenarios are infinite, then, it is difficult to build a benchmark, but only provide general indications.

[64] There will be other factors affecting the decision of consumers (e.g. taste and preference, customer loyalty) but price and quality usually remain the most important factors, especially in the long-run

[65] As demonstrated in the following sub-section, even a full analysis of all offers may not improve the quality of services received given market opacity and conflicts of interest on the side of suppliers.

the quality of products or services and/or reduce the fees paid, this benefit can be offset by the search costs. In some cases the increased search efforts could potentially even lead to an overall decrease in value.

The likely outcome of information asymmetries coupled with high search costs is a pooling equilibrium in which the commissions that suppliers receive reflect the reputation of the industry for quality and long-term value for money (Spencer 2000). This point links to the conflicts of interests and principal-agent problems assessed in the following section.

Conflicts of interest and principal-agent problems

Misaligned incentives and information asymmetry give rise to principal-agent problems in retail financial services markets. Agency problems occur in situations where one person (in this case the provider or distributor referred to as the 'agent') is able to make decisions on behalf or that have an impact on another person (the consumer, referred to as the 'principal'). This gives rise to issues of moral hazard, i.e. the agent is incentivised to act in their own best interests, which stand contrary to those of their principal and the principal cannot monitor effectively (as monitoring costs are too high).

Retail financial services are particularly prone to this issue given the structure of the market, including the distribution channels through which products are offered to retail customers. Currently, it is still common practice that distributors of retail financial products (e.g. banks) receive inducements from product providers, while still promoting themselves as 'independent'. The commissions paid by the providers can give rise to a degree of bias in the advice provided and products recommended by the distributor. Similarly, in-house products may be favoured over third-party products, especially if the third party does not pay any inducements. As the retail investor generally lacks the information necessary to make an informed decision they may be unable to spot ill-advice.

The problems arising from the principal-agent relationship between customers and providers or intermediaries is already being addressed by a range of new regulatory measures that aim to align the incentives of customers with the supply side. A problem is that regulation of various segments of the retail financial services market still varies, meaning that customers cannot rely on the same level of customer protection. For example, while MiFID II prohibits portfolio managers and independent advisers from accepting payments or benefits from a third party in relation to the services provided, unless they can prove that acceptance of these inducements improves the quality of the service provided, insurance distributors will only need to demonstrate that such inducements do not lower the quality of their services. Retail customers will generally not be aware or be unable to prove these differences, which may considerably impact the quality of the services that they pay for. Increased harmonisation of consumer protection measures across all retail financial services may alleviate this issue. National regimes still exhibit considerable differences as well, thus lowering the trust of customers when dealing with providers offering services on a cross-border basis.

6.2.2 Transaction costs in cross-border provision of retail financial services

The market structure of retail financial services is not the only factor that impedes a higher efficiency and lower costs for end consumers. While certain national markets may already exhibit reasonable levels of competition, there is a clear lack of cross-border competition throughout the EU. Since increasing amounts of retail services and products are offered and marketed online, the physical location of providers and distributors should play an ever deceasing role. Nevertheless, the European retail financial services market remains clearly fragmented by national borders. This fragmentation arises from a variety of different factors ranging from concentration of national distribution channels and cultural preferences to regulatory costs arising from less harmonised supervisory approaches and taxation constraints. While there are some indications that providers are gradually engaging in cross-border operations, operations are generally limited to the largest market participants, who are able to invest considerable amounts in setting up new distribution channels in other Member States and shoulder the legal and economic costs of market entry.

There is also a lack of demand for the provision of services on a cross-border basis. Reasons for this include barriers that are difficult to overcome by regulatory change, such as language. There are, however, also trust issues that stem from the consumers' belief that they are less protected when engaging with foreign providers. While this is at times purely due to cognitive and behavioural biases there are also aspects where there are in fact differences in consumer protection rules and related legal fields such as contract law.

Distribution Channels and Market Structure

Analyses of retail distribution channels traditionally distinguish between direct and indirect channels. Direct distribution channels are channels where the provider engages with its customers without intermediaries. The provider owns the channel, acquires the customers and initiates a direct sales relationship with them. Indirect distribution channels, on the other hand, involve intermediaries or agents (sometimes referred to as distributors) who establish the sales relationship with the customer. Third party distributors are categorised into independent and tied intermediaries the former being able to sell products from a number of providers while tied the latter are restricted to selling products from one particular company.

Each of these channels holds certain advantages and disadvantages and different segments of the retail financial services market display greater use of one as compared to the other. Retail banking, for instance still shows a big reliance on direct distribution while the insurance and investment sectors extensively use third parties such as insurance brokers and financial advisers in their distribution strategy (Gough 2005). While indirect channels allow providers to extend their market coverage without increasing fixed costs, it will often require investments in control mechanisms and training. Conversely, direct channels hold the advantage that they allow for a greater and better control of client interactions but these benefits are offset by potentially large set-up, channel management costs and more limited coverage. Direct and indirect distribution channels are obviously not exclusive and many market participants today employ multi-channel strategies where a product is made available through two or more channels of distribution (Webb, Hogan 2002). While potentially increasing costs, a multi-channel approach can be very effective as different channels may be more appealing to specific customers groups or hold other advantages such as decreased costs or geographical scope.

Furthermore, the retail financial services market has seen a significant blurring of lines between different institutional types (Chakrabarty, Ennew 2007). Retail banks, for example, now frequently offer insurance products (bancassurance) and insurance companies may offer bank accounts. Intermediaries today can also include other non-financial institutions such supermarkets and post-offices which launch their own credit cards or act as insurance distributors.

In addition, new technologies are increasingly changing the structure of retail financial services markets and the way that users are accessing financial services. Innovative market entrants, such as FinTech companies, are gradually contesting incumbents' market shares and traditional distribution channels by offering more specifically tailored products and services, thus providing direct channel access and a richer customer experience. New data storage abilities such as cloud computing and distributed ledger technologies in conjunction with artificial intelligence, machine learning and big data analytics are enabling these providers to increasingly automate highly time-consuming functions, thus lowering costs, while still providing highly bespoke services. Through the use of internet and mobile communications technologies they are able to directly engage with consumer where previously they would have been dependent on accessing them via traditional retail service providers.

How these new technologies will ultimately impact the market will depend on various factors such as customer preferences, reactive innovation and M&A activities on the side of incumbents as well as potential regulatory measures aiming to address new risks arising from these technologies. While there is certainly a trend towards an increasing use of online distribution channels, especially for transaction activities, branches and other forms of face-to-face and voice-to-voice channels are likely to maintain a crucial role for sales-and-advice interactions (Boston Consulting Group 2013). Customer surveys have also shown that factors such as branch proximity still play a key role in customers' decision of bank providers (Boston Consulting Group 2011).

Ultimately, new innovations are expected to increase interactions across multiple channels and facilitate increased specialisation of providers and intermediaries, as they maximise each channels' value depending on product and customer group. Direct and indirect channels may also cooperate more closely, although this will depend on the respective market participants. The increased competitive pressures will work to the benefit of the consumer but there are also risks of information and choice overload, especially for less informed retail customers.

National fragmentation of rules and gold-plating

While the large majority of consumer protection requirements are set at the European level, there is still a significant degree of fragmentation arising from Member States' practice to 'gold-plate' existing rules. Often implemented under the pretext of needing enhanced consumer protection this practice significantly undermines the internal market and cross-border competition. Providers of retail financial services and products will need to invest significant amounts in legal advice and analysis when entering a new Member State, if they cannot rely on the same rules that apply in their home Member State. Respondents to the consultation on the cross-border provision of funds, for example, highlighted a lack of transparency of national standards and deviating definitions and provisions in key areas. This includes notification, marketing and distribution, which often vary across Member States, all well as differing requirements for administrative arrangements such as paying agents. Similar comments were received under the Call for Evidence whereby the definition of an activity as marketing was noted particularly frequently in this context as being inconsistent.

Stakeholders also stressed potential dangers of gold plating and additional national requirements in offering documentation, the pre-approval of marketing material or the repurchase or redemption of investment fund units. Discretion on non-implementation of provisions related to National Private Placement Regimes is an additional example. The fragmentation of provisions and deviating supervisory practices will work to the detriment of legal certainty. These increased business risks may significantly obstruct cross-border business activities.

Fragmentation of distribution channels

While direct channel distribution is likely to increase in importance given online sales opportunities, mobile technologies and other forms of innovation, traditional distribution channels via banks and other intermediaries remain important, especially for sales-and-advice interactions. Distribution networks, while technically open to cross border access, often remain concentrated along national borders.

In the context of the distribution of investment funds, requirements to have a local agent in certain host Member States were pinpointed as creating unnecessary barriers to entry. These mandatory agents will increase the time efforts of achieving market entry while posing an additional cost factor, which affect smaller funds in particular. Their respective roles and costs furthermore vary considerably across Member States thereby leading to additional transparency and fragmentation issues.

Other factors limiting cross-border competition

Non-harmonised legal frameworks in other areas, such as tax law, securities law, contract law and insolvency law, add to the costs and legal uncertainty of passporting providers. The tax treatment of products forms a significant driver of demand for retail investment products. Considerably different taxation regimes therefore not only lead to a concentration of providers in certain Member States but also to strong divergences in demand for products. Products may thus need to be adapted to the respective taxation regime in order to be competitive, creating administrative burdens for providers.

Similarly, access to data and information on consumers and national trends, alongside standards for property valuation and procedures for collecting debts can vary greatly thus undermining cross-border lending and provision of insurance products.

6.2.3 Behavioural Aspects: biases in retail investment decision-making

Risk and return are the two most important attributes of any investment. Any risk-averse investor will, as a general rule,[66] try to maximise his returns while minimising the exposure to risk. The risk is the uncertainty of an expected return actually being realised. It follows from this that there is a trade-off between risk and returns.[67] Modern portfolio theory can help to develop insights into investing. It is a normative theory, describing how people could make optimal investment decisions. In practice, retail investors often (if not always) deviate from the optimal choice. To broaden our insights regarding actual investment behaviour, we need to account for behavioural biases, non-rational behaviour and other influences. Retail investment decisions are often biased, leading to suboptimal investment behaviour such as under diversification, excessive trading, herding, and the tendency to sell winners and hold on to losing stocks (so-called disposition effect). This suboptimal behaviour has been associated with behavioural biases. The following section shortly discusses the main biases related to belief and preference formation, and also looks at the effect of cognitive limitations with respect to information processing.

Limited information processing capabilities

In making investment decisions, retail investors are confronted with complex information and a wide range of investment alternatives. Investors are not able to evaluate all relevant information because of cognitive limitations to process information (information overload). As a result Benartzi and Thaler (1999) argue that they are inclined to rely on *heuristics* that are cognitive shortcuts or rules of thumb that simplify the original decision but can also lead to cognitive biases (systematic errors). Besides limited capacities to process financial information, decisions are also influenced by framing effects. *Framing* refers to the fact that the manner in which choices are presented changes their relative attractiveness. Hence, the framing itself influences the decision. Overall, the evidence on heuristics and framing underlines the importance of providing high quality and easily understandable financial information to investors.

1) Biases in beliefs

Biases in beliefs are largely related to the fact that investors rely heavily on readily available or familiar information. In essence, investors are not optimally weighing all pieces of information -as assumed in standard portfolio theory- because they rely too heavily on historical information relative to new information (*conservatism bias*), a single piece of information (*anchoring bias*), readily available information (*availability bias*), familiar information (*familiarity bias*), or because they believe that stereotypes and recent information are representative for the whole sample (*representativeness bias and extrapolation bias*). These biases explain why investors react sub-optimally to financial news, leading to patterns of over- and under-reaction. In addition, they also provide an explanation for the fact that investors react stronger to more salient information and, for instance, rely too much on past performance as an investment selection criterion.

In addition, investment beliefs are also to a large extent influenced by *overconfidence*, indicating that investors overestimate their own knowledge or ability. Overconfidence explains why retail investors are under-diversified, trade excessively (compared to the benefits generated by their trades) or have biased risk perceptions.

[66] There may be situations where the investor is pursing goals other than maximising returns. Examples include investments in social or ecological projects, which may carry higher risks and/or lower expected returns than other available investments.
[67] Some researchers doubt the existence of this trade-off, pointing out that the statistical evidence in support of the hypothesis is weak. Most studies supporting this motion stem from tests applying the Fama-McBeth methodology, or variations thereof. There is little evidence, however, for the statistical power of this methodology, especially in the analysis of short time periods – See Bradfield 1993

Box 8. Passive long-term investments and ETFs

The Efficient Market Hypothesis (EMH) developed by Eugene Fama (Fama 1970) states that modern financial markets are 'efficient', i.e. markets will quickly react to new information and the price of an asset reflects all available information. While the EMH faces a number of deficiencies, especially as concerns some of its underlying assumptions[68], it nonetheless holds a range of valuable insights. This is particularly true for retail investors as they do not generally follow markets in real-time, nor have access to inside information which markets have yet to process.

One of the major consequences of the EMH is that an investor can never exploit the market to make abnormal profits by using information that the market already knows. While abnormal profits are certainly possible, this is down to plain luck and these profits can never be maintained in a systematic fashion in the long-run. What follows from this is that assets cannot be categorised as "over/undervalued" in the absence of private information. A further implication is that the total market is always perfectly diversified and that any portfolio which deviates from the total-market cannot achieve a higher degree of diversification. In effect, no other portfolio can have both a higher expected return and lower risk than the total-market portfolio. This investment approach of retail investors may be partially misguided in cases where they attempt to outperform markets via actively managed funds. Although a limited number of professional investors manage to outperform their respective benchmarks, this is a rare occurrence when assessing investment periods of longer than 5 years. Moreover, any positive alpha that fund managers may generate is usually eroded by fees imposed on the investors. The S&P Spiva Scoreboard (S&P Dow Jones Indices 2016), as an example of numerous analyses in this area, shows that less than 50% of EU equity funds outperformed their respective benchmark over a 5-year time horizon when taking fees into account. This figure drops to less than 30% over a 10 year period and reaches as low as 1.1% for certain other markets.

Even more worrying in terms of retail investor protection is that a significant proportion of funds that are marketed as active are actually passively managed to a large extent. These so-called closet indexers nonetheless charge fees comparable to true actively managed funds without explicitly disclosing their passive investment strategy to investors. The Danish FSA, for example, found that 3 in 10 actively managed funds are charging active fees even though they are effectively behaving as passively managed funds (Finanstilsynet 2014). This compares to research carried out by Morningstar, which revealed that the average active share for European large-cap funds was only 69.6% and that 20.2% of European funds had a three-year average active share of below 60% (classified as closet indexing) (Morningstar 2016). ESMA, taking a slightly more cautious approach, still found that 15% of funds had an active share below 60% (European Securities Markets Authority 2016). In view of these figures, it appears that total-market investing via passively managed funds, such as ETFs[69], can be a better option for retail investors than actively managed funds in many circumstances. While professional investors may have reasons to divert from total market investing and are in a position to evaluate the strategies of respective active funds, this does not normally apply to retail investors. Not only are ETFs cheaper in terms of management fees, given the absence of entry and exit fees, but they also allow for greater diversification across markets and geographical regions when investing small sums. There is even the possibility to match investors' risk preference and adjust the stock/bond ratio via ETFs[70].

Moreover, passive investments, whether through ETFs or otherwise, have shown to outperform active strategies in the long-run. The key behavioural aspect that undermines the realisation of these superior returns is usually that retail investors nervously sell investments in market downturns and believe that they can time market entry and exit. Experience has shown that even professional investors are unable to carry this out effectively, at least over a longer period of time. Passive wait

[68] Examples include (i) complete information (ii) perfect ability to process information (iii) aligned incentives

[69] Note that certain new ETFs are not truly passive anymore and do not necessarily reflect a respective benchmark (e.g. 'smart beta' ETFs)

[70] It should be noted that there are potential regulatory concerns regarding ETFs with illiquid underlying assets, such as bond ETFs, given issues such as a liquidity mismatch which go beyond the scope of this document

and hold strategies are thus the logical answer to maximise returns.

Table 6.1 Percentage of European Equity Funds Outperformed by Benchmarks

Fund Category	Comparison Index	One-Year	Three-Year	Five-Year	Ten-Year
Data in Euros (EUR)					
Europe Equity	S&P Europe 350	31.94	63.77	80.63	86.25
Eurozone Equity	S&P Eurozone BMI	57.88	84.75	88.35	91.35
Nordic Equity	S&P Nordic BMI	38.64	56.41	71.43	86.96
Global Equity	S&P Global 1200	73.60	89.44	96.36	97.83
Emerging Markets Equity	S&P/IFCI	74.92	82.33	89.11	97.01
U.S. Equity	S&P 500	83.91	93.38	97.23	98.87
France Equity	S&P France BMI	44.69	67.77	83.27	84.54
Germany Equity	S&P Germany BMI	46.24	63.74	71.91	79.09
Italy Equity	S&P Italy BMI	31.91	40.00	51.61	72.53
Spain Equity	S&P Spain BMI	24.05	67.07	69.07	82.35
Netherlands Equity	S&P Netherlands BMI	36.36	93.33	100.00	96.77

Source: S&P Dow Jones Indices (see S&P Dow Jones Indices 2016).

2) Behavioural preferences

A central feature is the attitude of investors towards losses and regret.[71] The prospect theory stipulates that investors are loss averse. Investors appear to weight losses twice as much as gains of similar magnitude. Loss aversion and prospect theory could explain the disposition effect. Investors hold on to 'paper' losses, hoping that the stock will recover so they can avoid the realization of the loss, while they are quick to lock in gains by selling winners. Besides loss aversion, investors also deviate from standard portfolio theory because they are subject to *mental accounting*. This is used to describe the fact that people treat money differently depending on the money's origin and intended use. Consequently, investors hold different risk perception for different 'accounts' (low risk for retirement investments, medium to high risk for general investments), without proper risk aggregation at the portfolio level.

Financial decisions will also be influenced by other factors such as personal traits and emotions. Self-control, for instance, is an important personal trait that influences one's ability to control his/her impulses and delay gratification. Impulse control will lead investors to be less prone to trade excessively or follow the herd, while delaying gratification stimulates long term investments in the stock market. Hence, in reality individual and aggregate investment behaviour will also be influenced - often through unconscious patterns - by emotions (Taffler 2014).

Box 9. FinTech and behavioural biases

The financial services sector has been continuously transformed and improved by an increasing use of technology over time. Big legacy banks and brokers however focused predominantly on enhancing wholesale services, given strong competitive pressure, while paying little attention to retail markets. Innovation in retail markets traditionally aimed at increasing the rents extracted rather than improving the quality of services provided to clients. This has been changing considerably over the past few years given the advent of new 'FinTech' companies, which take advantage of new technological advancements and greater market accessibility.

FinTech can work as an important driver to expand access to financial services for consumers and investors, bringing greater choice and more user-friendly services, including at lower prices. Current limitations in traditional financial service markets (e.g. opacity, lack of use of big data, insufficient competition), such as financial advice, consumer credit or insurance, may foreclose access to some categories of individuals. New financial technologies can thus help individuals to access alternative funding sources and other specialised services that support their saving and consumption behaviours. FinTech has the potential of bringing benefits, including cost reductions as well as faster and seamless

[71] Investors exhibit regret avoidance if they fear that their decision will be wrong in hindsight and try to avoid such negative consequences.

provision of different financial services.

Several recent consultations and actions launched in the context of the CMU or the Green Paper on retail financial services have covered questions how to best accompany the digital transformation of finance. In parallel, the Call for Evidence has highlighted elements of EU regulation that may not yet be conducive to technological development. This has led to a new consultation and workstream specifically focused on FinTech which aims to address potential barriers for new technologies while addressing risks that may potentially arise in their adoption.

Lack of financial literacy

Financial literacy has a positive effect on many aspects of an individual's economic life, including the way he/she participates in financial markets, deals with financial information and relates to financial intermediaries. For instance, financial literacy results in higher levels of wealth accumulation (Van Rooij, Lusardi, & Alessie, 2012), greater preparedness for retirement (Lusardi & Mitchell, 2009, 2011; Van Rooij et al., 2012), better debt management (i.e. lower levels of debt and better loan conditions) (Campbell, 2006; Huston, 2012; Lusardi & Scheresberg, 2013; Lusardi & Tufano, 2009; Stango & Zinman, 2009), and more appropriate risk diversification in case of investment (Abreu & Mendes, 2010). More financially literate consumers are also beneficial for the society at large, but drivers of financial literacy are still largely unexplored.[72]

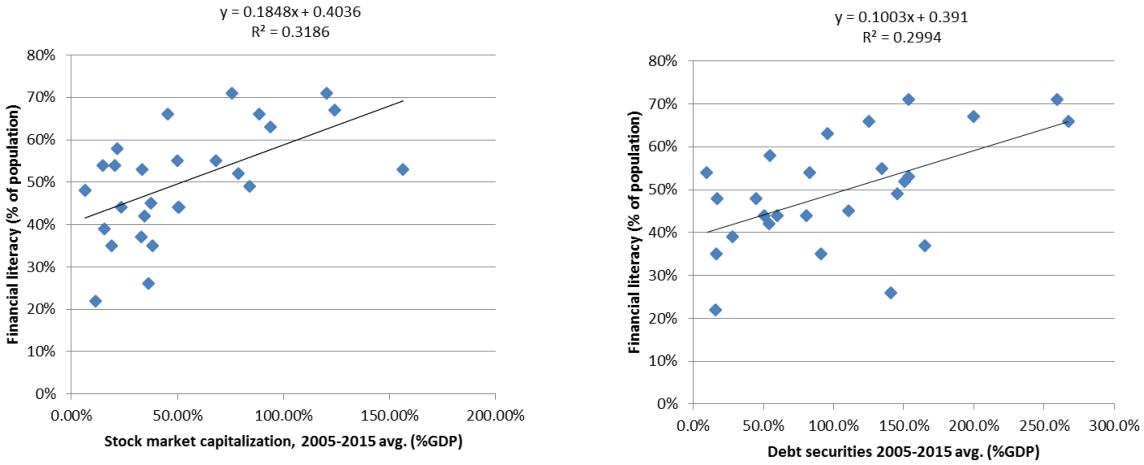
Competition and innovation in markets stimulates and is stimulated by the presence of financially literate consumers that can take well-informed decisions. In addition, the more rational and predictable financial behavior of financially literate people may lead to a more efficient financial sector and less costly financial regulation (OECD 2012). Faced with a financial crisis, financially literate people are also better equipped to deal with income shocks thereby contributing to financial stability (Klapper, Lusardi & Panos 2013; OECD 2012).

In spite of these benefits, there is overwhelming evidence that financial illiteracy is widespread (Bernheim 1998; Lusardi & Mitchell 2011; OECD 2013). A recent global survey taken in 144 countries indicates that only 33 percent of the population above the age of 15 can be considered to be financially literate. In Europe, 48 percent of adults are financially illiterate.[73] This lack of financial literacy directly impacts investor participation in the stock market (Van Rooij, Lusardi & Alessie 2011; Abreu & Mendes 2010) via reducing risk aversion to capital market investments, increasing savings rate and portfolio selection. Financially literate people are disproportionately more likely to participate in the stock market and to be better prepared for retirement. For instance, they hold more diversified investment portfolios (Gaudecker 2015). In addition, financial literacy may help investors to process financial information. The latter is often complex and investors are often confronted with a significant amount of investment alternatives. As a result, their choice might be subject to framing and to problems related to information overload. Financial literacy reduces these effects. Figure 6.6 shows the relationship between financial literacy and stock/debt market capitalisation across EU Member States.

[72] For Europe, a recent OECD report on Financial Education in Europe identifies the following key elements that provide a rationale for financial education in Europe (OECD): population ageing and accompanying pension reforms; high leverage of households; growing complexity of financial marketplace; financial exclusion in a number of European countries and generally low level of financial literacy.

[73] The survey measures the following four concepts of financial decision-making: basic numeracy, interest compounding, inflation, and risk diversification. A person is defined as financially literate when he or she correctly answers at least three out of the four financial concepts.

Figure 6.6 Financial literacy vs. stock and debt market capitalisation across Member States (excl. LU & IE)



Source – 2016 ECMI Statistical Package, S&P Global Financial Literacy Survey

The graphs broadly confirm the positive relationship between market capitalisation and financial literacy. A more sophisticated (and perhaps competitive) financial system tends to have a higher share of financially literate investors. Great care should be taken though when analysing the impact of financial literacy to avoid any direction in the causal relationship. Causality probably goes in both directions, as more developed and competitive capital markets foster transparency and so interest in improving financial literacy. In addition, market capitalisation does not take into account the participations rates of domestic versus foreign investors. It is thus uncertain to what extent the financial literacy in a country is responsible for a higher market capitalisation, as a certain share of investment inflows will be due to cross-border investments. For this reason, Luxembourg and Ireland are not included in the analysis, as their market capitalisation is strongly driven by cross-border investments and listings. Furthermore, measurement of financial literacy are very sensitive to the wording of survey questions (Van Rooij, Lusardi, Alessie 2007) and will be also impacted by the population of the survey.

In sum, financial literacy may positively affect the long term participation rate of investors in financial markets, while, for individual investors, financial literacy will contribute to more sound investment decisions and adequate processing of financial information.

Trust and financial advice

As mentioned above, retail investors are faced with complex investment decisions and they often lack the financial knowledge or do not possess all relevant information to make sensible decisions. Investors could try to improve their financial decision-making by increasing their financial literacy or by seeking financial advice. Regulation and the provision of default options could simplify the decision framework as well. Most empirical studies support the notion that financial literacy and financial advice complement each other. In any case, the participation of retail investors in financial markets will also depends on their trust in the financial system and on their personalised trust in financial advisers[74]. Regarding aggregate trust, empirical evidence suggests that trust in the financial system has a positive effect on stock market participation (Guiso, Sapienza & Zingales 2008; Pasini & Georgiakis 2009). Global trust in banks and the financial system, however, declined significantly in the aftermath of the financial crisis, although it has been slowly recovering in the recent past (Edelman Trust Barometer 2016).

[74] Note that most empirical studies support the notion that financial literacy and financial advice are complementary.

In contrast with the low levels of global trust, most investors trust their financial adviser, although the extent to which financial advice improves retail investment decisions has been vigorously questioned (Calcagno, Monticone 2015; Hoechle et al. 2014; Bhattacharya et al. 2012). On the one hand, investment advice and the delegation of portfolio decisions is economically sensible given that it may lead to economies of scale in information acquisition and portfolio management. Given the low levels of financial literacy, financial advisers are also likely to be more knowledgeable about investments. On the other hand, investment advice is costly and financial advice is sometimes perceived as being too expensive (Burke & Hung 2015). Retail investors are also confronted with information asymmetries: the quality of the advice cannot be ascertained in advance and the relation between adviser and advisee may be troubled by possible conflicts of interest. Advice might, for instance, be biased where financial advisers also act as sellers of financial products or where remuneration policies provide an incentive for selling high commission products, independently of the quality of the investment product.

Overall, the market of financial advice seems to be imperfect. Most empirical evidence confirms that financial advice might be skewed, does not attenuate investors' biases and hurts retail investors' investment performance. In addition, there are also demand side factors that contribute to the inefficiency of the market for retail advice. Investors with low levels of financial literacy are less likely to consult a financial adviser (Calcagno and Monticone 2015). Hence, those who could profit the most from financial advice rarely rely on it. This phenomenon is reinforced by the fact that advisers give more information to knowledgeable investors, providing an incentive for financially literate investors to consult them. Furthermore, investors are reluctant to take free and unbiased advice, which seems to indicate that measures taken to increase the good functioning of the market for financial advice should not only look at market failures on the supply side but should also analyse demand side factors.

Box 10. Options to foster a more 'equity-oriented' investment culture

Investment Savings Account

An Investment Savings Account is a new form of account offered to retail investors in an increasing number of Member States which aims to facilitate trading in financial instruments. Unlike an ordinary securities account, you pay no capital gains tax on your transactions. Capital gains tax has been replaced by an annual standardised tax and, as with an endowment, you do not report your purchases or sales in your tax return.

Unlike an endowment, you own the assets in an Investment Savings Account, which means that you have the right to attend and vote at shareholder meetings. Furthermore, you can offset capital losses in your tax return against standardised income in the account.

Assets that are stored and/or deposited in an investment savings account are subject to the provisions of the corresponding deposit guarantee scheme. The guarantee takes effect if an institution goes bankrupt or when the Financial Supervisory Authority so decides. The deposit guarantee reimburses capital and accrued interest up to a maximum amount equivalent to EUR 100 000 per person and per institution.

There are normally limitations as to the securities that can be purchased via an Investment Savings Account. These accounts usually limit investment to financial instruments that are admitted to trading on a regulated market (or an equivalent market outside the EEA), instruments traded on a trading platform and units in investment funds.

Nonetheless, these accounts appear to be an attractive new option for retail investors seeking to gain greater exposure to capital markets. An annual standardised tax and deposit guarantees facilitate both increased investor convenience as well as consumer trust. These accounts may thus prove to be an effective means to encourage households to shift financial assets away from deposits towards capital market investments which should ultimately generate higher returns for them while providing increased funding to the economy.

Employee share Ownership

Research shows that companies partly or entirely owned by their employees are more profitable, create more jobs and pay more taxes than their competitors without employee ownership. At the macroeconomic level, employee financial participation (EFP) leads to higher productivity and, therefore, higher competitiveness and growth as well as strategic stabilisation of ownership. At the company level, it can contribute to solving problems such as absenteeism, labour turnover and the retention of key employees, as well as business succession and funding, especially in SMEs and micro-enterprises.

Currently, about 65% of firms in the EU do not provide any form of financial participation to their employees. At the same time, the latest analysis of the ECS estimates that around 300 000 firms across the entire EU8 could be potential candidates for the introduction of EFP. Employee share ownership schemes are much less frequently used in Europe than, in the U.S for example. The underdeveloped use of such schemes is partly due to cultural differences and company mentality but also arises from other factors. In particular, there are barriers for cross-border plans, which arise from (i) differences in regulatory density, application and legislative requirements of national legal frameworks and (ii) differences in the fiscal treatment of existing schemes.

6.3 General policy implications

Households' participation in capital markets has been increasing in recent years, but participation is far from optimal. While the EU has one of the highest savings rates in the world, which generally facilitates availability of funding for the economy, these savings are excessively held in cash or deposits. Retail capital markets services are also barely developed on a cross-border basis, reducing opportunities and incentives to hold assets cross-border (with beneficial effects for private risk sharing, discussed in Chapter 1).

The following considerations may be relevant in order to facilitate retail investors' engagement in capital markets:

1) Addressing **transparency** issues via actions, such as improved reporting of market-wide cost and performance indicators for the principal categories and subcategories of packaged long-term retail and pension products. This transparency may need to be underpinned by market infrastructure or systems to ensure that mandated disclosures can be used by intermediaries and investors to inform product selection and direct investment flows to lowest-cost/highest net return solutions.
2) Tackling the need for **increased competition** across EU Member States by reducing, and where possible eliminating, the remaining barriers to cross border provision of retail financial services and products. This will require increased harmonisation to avoid competition impeding gold-plating as well as improved coordination of national supervisory approaches. Together with measures to enhance transparency, including on national regulatory requirements, this will lower market entry costs and increase competitive pressures in the market.
3) Addressing **behavioural biases and financial illiteracy** amongst retail investors. Taking into account the complexity of financial education, some policies can stimulate investors to increase their financial literacy. For example, the experience in some Member States has shown that investment savings accounts (ISA) can contribute to a high level of retail investor engagement with capital market products, via easier access to investment products such as equities, corporate bonds and investment funds. Employee share ownership (ESO) schemes provide an opportunity for beneficiaries to get familiar with capital markets, giving a first insight into equity investment. National retail investment schemes foster investments into SME growth markets and contribute to increase financial literacy in a pragmatic manner. Moreover, a more competitive financial industry can promote best practices that may attract investors' curiosity to learn more about capital markets and financial investments more broadly.

6.4 Key indicators[75]

Retail investors' financial structure and propensity to save

Indicator	Last 5-year average	Latest observation	Value
Saving rates (% of GDP)	10.69%	2016	10.3%
Households financial assets (EUR billion and % of GDP)	EUR 30 990 billion (217%)	2016	EUR 33 344 billion (225%)
Equity (% of total financial assets)	16.6% (2013-2016)	Q3 2016	16.1%
Investment fund shares/ units (% of total financial assets)	6.6% (2013-2016)	Q3 2016	6.8%
Debt securities (% of total financial assets)	3.7% (2013-2016)	Q3 2016	2.8%
Share of financial assets other than currency and deposits (EUR billion and % total financial assets)	EUR 21 539 billion (69.5%) (2013-2016)	Q3 2016	EUR 23 106 billion (69.2%)

[75] EU, unless otherwise indicated.

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