7 September 2016

**JOINT COMMITTEE REPORT ON**

**RISKS AND VULNERABILITIES IN THE EU FINANCIAL SYSTEM**

AUGUST 2016



## EXECUTIVE SUMMARY

While the risks for the EU financial system in the last months have been overshadowed by the UK's vote to leave the EU, the long-term risks highlighted earlier by the Joint Committee of the ESAs remain. In some cases, these risks are further amplified by additional uncertainties that the vote generated.

Low growth and low yields affect the financial service industry through various channels. On the valuation side, lower interest rates tend to support prices of financial assets, adding to elevated market valuation and associated risks, lately further intensified by uncertainties around the future relationship between the UK and the EU and related political issues.

Low interest rates, in conjunction with profitability issues, create incentives to engage in search for yield across the financial sector. Capitalisation and profitability challenges for the banking and insurance sectors are increasing. For banks, interest income remains under pressure. The low quality of assets in several jurisdictions, conduct costs and growing competition from non-bank and non-insurance financial institutions are important factors that are negatively affecting banks' profitability. Addressing the high level of non-performing loans (NPL) has become a key challenge for the EU banking sector, and further NPL resolution requires comprehensive and proactive action among all relevant stakeholders. For life insurers and pension funds, low interest rates increase the market value of their liabilities, and make it more challenging to generate high investment returns without taking undue risk. In the context of sustained sector growth, the fund industry and some asset managers are turning to riskier investment strategies, while investment profits that accrue to clients of the funds, are increasingly subdued, raising retail investor protection concerns as well as confronting final investors with growing portfolio risks or low (or even negative) net returns. Technological innovation, supporting new business opportunities and new business entrants, has the potential to improve productivity, reduce costs in the long term and increase benefits to consumers, but may also lead to increased competition and could further impact the profitability of financial entities going forward.

Concerns with regard to potentially diminished market liquidity have lately been prominent in the public discussion. Available evidence points to broadly stable levels of market liquidity in more liquid market segments, accompanied by the possibility for temporary scarcity in less liquid segments, in particular in times

of market stress. Market liquidity resilience would therefore be a potential concern in case of renewed shocks to the financial system.

The financial system beyond banks, insurers and pension funds continued to grow, with the interconnectedness of funds, other financial entities not belonging to banking, insurance or pension fund sectors and market infrastructures with the wider financial system increasing, thereby also intensifying related risks. This triggered increased supervisory interest in the scrutinizing of opportunities for stress testing exercises for non-banking entities such as investment funds.

# 1 INTRODUCTION

The April 2016 Joint Committee Report on Risk and Vulnerabilities considered as key risks to the EU financial system *i)* the low interest rate environment, *ii)* the increased interconnectedness in the financial system and *iii)* risks from China and emerging markets. This autumn update of the report mainly focuses on recent developments concerning the low growth and low yield environment as it affects the profitability and asset quality of financial institutions. It also points to potential concerns related to the interconnectedness in the financial system.

Overall these risks have persisted over a relatively long period and can be seen as the manifestation of the longer-term consequences of the financial crisis that started in 2007. In addition, very recent events show how the EU financial system and internal market is also vulnerable to more immediate risks and changes. The results of the UK's referendum on EU membership in particular will have important consequences. While it is still too early to assess those in detail as negotiations have yet to be initiated, a few key issues can be identified.

In the short term, in the days after the results of the UK referendum, volatility in the markets increased, exchange rates fluctuated strongly (especially lowering the value of the GBP) and stock prices fell, in particular of EU banks. While some of these price movements were possibly attributed to fear of reduced future economic output due to market concerns over trade barriers, labor supply changes and reduced cross border investment, they also reflected a degree of surprise concerning the referendum outcome and the increase of stock prices in the days before the referendum. Consequently, most market segments recovered relatively fast (e.g. FTSE 100), also due to expectations of central bank stimulus. However, investors' inclination towards flight to safety, driving interest rates further into negative territory, sustained and substantive bank share price decreases, and the historically low levels of the GBP have persisted. In addition, rating downgrades for UK sovereign debt as well as for some real estate companies were triggered.

In the longer term, political and legal uncertainties may contribute to weaker long term growth prospects. Moreover, political uncertainties may lead to postponement of investments. Some legal and regulatory uncertainties concerning the treatment of the UK as a potential future non-EEA jurisdiction in the context of various key EU Directives and Regulations may also affect banks, insurers, investment firms, market infrastructures, etc. and would need to be resolved.

# 2 LOW GROWTH AND LOW YIELD ENVIRONMENT

The low growth and low yield environment, affects the financial service industry through various channels, in particular with interest rate levels and growth expectations experiencing further decreases in the first half of 2016.

On the **valuation side,** lower interest rates tend to support prices of financial assets, as long as expectations for future corporate revenues remain largely intact. While **economic growth remains currently subdued, recessionary expectations do not appear to dominate**,[1] implying neutral to mildly positive expectations of investors for corporate revenues.[2] In conjunction with asset purchases by central banks, the high attractiveness of financial assets contributes to elevated market valuation. Given structural growth concerns, including demographic change as well as reduced total factor productivity growth, however, valuation risks arise, with available evidence reconfirming the potential for price misalignments in various markets segments.

**Uncertainties around the future relationship between the UK and the EU and related political processes intensified concerns with regard to asset price misalignments**, as recently demonstrated in the aftermath of the UK referendum, by sharply decreasing asset prices, in particular of bank and insurance companies' equity, but also of real estate fund shares. Such asset price corrections were presumably driven by immediate fears that large economic shocks would materialise if the UK was not to remain part of the internal market. In addition to these political risks, risks stemming from (i) resource misallocation, (ii) increasing asset price correlations, and (iii) rising hedging costs due to expectations for, at least temporarily, higher market volatility as well as risks associated with carry trades, risks around sudden market downturns and reinforced pro-cyclicality through reductions in margins and haircuts, are among the most immediate concerns.

**Challenges for the banking sector are intensifying amid the persisting low growth and low yield environment**. Interest income remains under pressure, as low interest margins contribute significantly to constrain bank profits and impede higher levels of returns. EU banks' quarterly net interest income was in Q1 2016 about 5.7% below Q1 2015 and about 5.5% below Q4 2015. This was mainly driven by a declining net interest margin (measured as ratio of net interest income to interest bearing assets, with 1.59% per end-2015 and 1.50% per Q1 2016), whereas loan volumes have rather remained stable. Substantively decreased bank share prices since the beginning of the year appear to mainly reflect profitability concerns and may affect plans to further strengthen capital bases. Meanwhile, the EU-wide stress test results published by the EBA have demonstrated the resilience of the EU banking sector to an adverse scenario. Coupled with EBA work to provide clarification on the minimum requirement for own funds and eligible liabilities (MREL), including implications on "maximum distributable amounts" (MDA) triggers, there should now be additional scope to further build up buffers of bail-inable debt and for further issuance of contingent convertible instruments.

**Box A: 2016 EU-wide bank stress test**

The EBA published the results of the 2016 EU-wide stress test, carried out on a sample of 51 banks from 15 EU and EEA countries. The exercise is based on a common methodology and scenarios, and provides banks and market participants with a common analytical framework to consistently compare and assess the resilience of large EU banks and the EU banking system to adverse economic shocks. The adverse scenario implies EU real GDP growth rates over the three years of the exercise of -1.2%, -1.3% and 0.7% respectively.

The exercise does not contain a pass fail threshold and is designed to be used as an important input into the Supervisory Review and Evaluation Process (SREP) in 2016, with the primary aim of setting Pillar 2 capital guidance although no supervisory actions are precluded. It is also a key element of transparency designed to foster market discipline. Following a concerted effort to strengthen the capital base of the EU banking system since 2011, the starting point for the 2016 stress test was a weighted average common equity tier 1 (CET1) capital ratio of 13.2% as of end-2015 – more than 200bps above the starting point for the 2014 and more than 400bps over average capital level in 2011.

[1] Current forecasts by the EU Commission for the years 2016 to 2017 indicate nominal growth rates in the range of 1.8 to 1.9% on EU average and inflation expectations between 0.0 and 2.0%. European Economic Forecast, Spring 2016.
[2] See ESMA Report on Trends, Risks and Vulnerabilities (TRV) 2 2016 (forthcoming), graph A.138.

**The outcome of the exercise demonstrates resilience in the EU banking sector as a whole** thanks to significant capital raising in the past years. The impact of the adverse scenario on the CET1 capital ratio is -380bps, bringing the CET1 ratio across the sample from 13.2% to 9.4% at the end of 2018. The fall in the capital ratio is mostly driven by a capital depletion of EUR 269bn although risk exposure amounts also increase by 10%. Since a part of the decrease is driven by the transitional provisions of CRR/CRD requirements during the projection period, the impact on a fully loaded basis is lower at 340bps (from 12.6% in 2015 to 9.2% in 2018).

**Figure A: Summary of key results**

| Metric | Starting 2015 | Adverse 2018 | Delta adverse 2018 |
|---|---|---|---|
| **Transitional CET1 capital ratio** | 13.2% | 9.4% | -380bps |
| **Fully loaded CET1 capital ratio** | 12.6% | 9.2% | -340bps |
| **Transitional leverage ratio** | 5.2% | 4.2% | -100bps |
| **Transitional CET1 capital** | EUR 1,238bn | EUR 970bn | EUR -269bn |
| **Cumulative credit risk losses (impairment or reversal of impairment on financial assets not measured at fair value through profit or loss)** | N/A | EUR -349bn (-370bps) | N/A |
| **Cumulative gains or losses arising from operational risk** | N/A | EUR -105bn (-110bps) | N/A |
| **Cumulative market risk losses including CCR** | N/A | EUR -98bn (-100bps) | N/A |
| **Cumulative profit or loss for the year** | N/A | EUR -90bn (-100bps) | N/A |

Source: EBA.

The impact varies significantly across banks with 14 institutions projecting an impact of more than -500bps on a transitional basis. The impact is mostly driven by credit risk losses of EUR -349bn contributing -370bps to the impact on the CET1 capital ratio. The remaining losses are due to operational risk including conduct of business losses (EUR -105bn or -110bps) and market risk across all portfolios including counterparty credit risk (EUR -98bn or -100bps).

The stress scenario further impairs banks' profitability, having the largest impact in 2016, when the banks report a net loss and therefore a negative return on regulatory capital (RoRC). Profitability recovers slightly during 2017 and 2018, leading to levels that in any case remain severely subdued as of end of 2018, when the banks report a weighted average RoRC close to zero. The main drivers of the stress test impact on profitability in 2018 are the reduction of the NII, the rise by 270bps of impairments on financial assets and the decline by almost 180bps of the income linked to market risk activities.

**The lasting low yield environment generates increasing challenges to the European insurance and occupational pension fund sectors.**[3] Some **life insurers in particular are struggling to cope with the persistent low yield environment.** Low yields affect both sides of the balance sheet and net valuation effects and, other things being equal, often imply lower capital ratios for long- term insurance business unless assets and liabilities are perfectly matched. Moreover, low yields are lowering investment returns and profit. Some non-life insurers may also be affected by the low growth in the EU with gross written premium growth mainly sustained by mandatory coverage (e.g. motor insurances) and cross border activities.

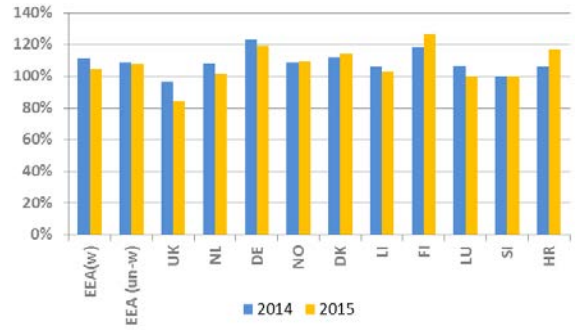
**Pension fund liabilities are also more expensive to fund due to the low interest rates**. Traditional defined benefit plans (DB), 75% of the sector in 2014 in terms of assets, with guaranteed pensions usually based on a predefined formula, are directly adversely affected by such developments. DB funds are long term investors, with liabilities' duration often exceeding the one of available assets in the market, leading to an asset-liability duration mismatch that could potentially be even greater than in the insurance sector. Consequently, the low

[3] Challenges in the insurance sector were discussed extensively in the Spring 2016 Risk Report: Low yields affect the liability side (increasing liabilities) and lowering investment returns and profit. Low economic growth generally leads to lower insurance sales, i.e. lower growth in gross written premiums.

interest rate environment increases reinvestment risks and lowers current financial coverage ratios (Figure 1). While the absorption of coverage ratio deficits will depend upon the time element for realising liabilities and mitigation and protection mechanisms (e.g. recovery periods, pension protection schemes, increased sponsor support and/or benefit adjustment mechanisms), such deficits would still require supervisory attention.

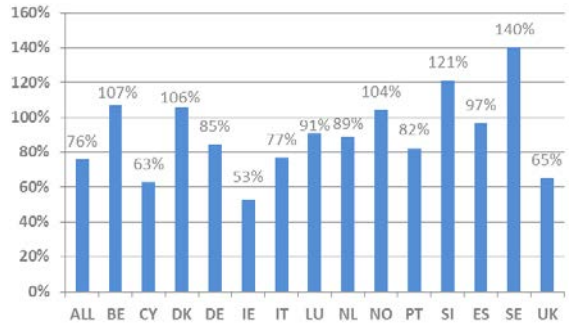
In the absence of a harmonised market-based valuation reporting regime for pension fund liabilities, it is, however, difficult to assess on a consistent basis the impact on schemes across countries. In 2015, EIOPA's first stress test exercise on the occupational pensions sector (for Institutions for Occupational Retirement Provisions (IORPs)) developed and applied a common methodology to tackle the issue of heterogeneity in reporting regimes of different member states. The results (Figure 2) showed that **asset-liability ratios in many cases were lower when evaluated on a market consistent basis** and when **excluding sponsor support, pension protection schemes and benefit reductions**, resulting in an aggregate deficit of assets over liabilities of EUR 428bn in the baseline scenario. Under the stressed scenarios, the aggregate deficits were seen to increase to more than 750bn when calculated this way. By contrast, in Defined Contribution plans (DC), where risks are transferred to the individual members instead of remaining with the institution running the occupational pension funds or sponsors, **a potential material drop in plan members' future benefits driven by lower long-term expected returns was highlighted in the stress test**. Thus, it could have future systemic implications to the real economy in Member States where DC schemes are prevalent, since it might imply significantly lower pension benefits than expected for a significant part of the population. [4]

**Figure 1: Pension fund cover ratios (in per cent) compared to national funding requirement**




Source: EIOPA
Notes: Both the weighted and un-weighted averages for the cover ratio are calculated on the basis of the 10 countries that provided data and are depicted in the chart. The weighting is based on total assets. Cover ratios refer only to DB schemes. Due to different calculation methods and legislation, the reported cover ratios are not fully comparable across jurisdictions. Data for 2015 is preliminary and subject to revisions.

**Figure 2: Assets over liabilities excluding protection mechanisms (in per cent)**




Source: EIOPA (IORP Stress Test 2015). End 2014-data. DB schemes only.

**Mitigation possibilities may include enhanced monitoring of financial industries, consideration of holistic valuation stress testing**, and resolution arrangements for the various affected sectors. In addition, a European framework for risk assessment and transparency for IORPs based on common valuation rules and a standardised risk assessment should be introduced. Finally, in insurance, the ongoing reviews of the long-term guarantee (LTG) measures, the solvency coverage ratio (SCR) Standard formula and the methodology to derive the ultimate forward rates (UFR), should take the current low yield environment into account.

[4] With *member* we define a person whose occupational activities entitle or will entitle him/her to retirement benefits in accordance with the provisions of a *pension scheme* managed by an Institution for *Occupational Retirement Provision* (IORP), or institution. IORPs operate on a funded basis to provide members retirement benefits upon to contribution paid by a *sponsoring undertaking* (or *sponsor*). Detailed definitions of the cited entities are provided in the Article 6 of the 20013 IORP Directive available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:235:0010:0021:EN:PDF

***Search for yield***

**The low interest rates environment, in conjunction with the profitability issues discussed in the next section, creates incentives to engage in search for yield in order to enhance returns on assets.** In general, higher returns on assets are sought through reorientation of investments towards assets earning some risk premia, either generated by longer maturities, less liquidity or higher credit risk, thus potentially further intensifying overvaluation tendencies and their consequences discussed earlier. The **effects of such behaviour are already widely observable in financial markets**, where yields continue to remain subdued, spreads, even if temporarily widening on the margin, remain compressed, portfolio maturities are lengthening and the credit quality of outstanding debt volumes decreases.[5]

**Search for yield**, combined with structural shifts in the financial system due to regulatory changes, **is likely to promote the further growth of the fund industry, the asset management sector in general and the trend towards unit-linked and market-based products**. With investors turning more and more to market-based financial products, thereby maintaining the growth momentum of the sector, the allocation of inflows to the fund industry followed search for yield incentives, as in particular riskier segments attracted additional funds, while relative performance considerations lately favoured fixed income and commodity market segments. Hence the relevance of adequate liquidity management of fund managers increased.

**Some specific investment strategies appear to be particularly popular, including, among others, investments into private equity,[6] absolute-return fixed income instruments, private credit, synthetic structures, volatility trading and leveraged ETFs or ETFs tracking alternative indices (e.g. smart beta).** The outgrowth of the EU UCITS sector by the AIF industry, as observed since 2013,[7] reflects this trend. The high appeal of such strategies, however, exposes investors to additional complexity and, e.g. for the case of strategies built on benchmarks, increases exposure concentration. Similarly, incentives for more extensive use of derivatives in order to enhance returns imply risks related to leverage, potential amplification of market movements and rising interconnectedness (discussed in more detail in section 3).

The **investment portfolios of insurers remain focused on fixed-income instruments** although some minor shifts towards other asset classes can be seen.[8] **In the banking sector, recent bank lending surveys[9] indicate a further easing of lending standards in particular for corporate- and consumer lending**. Some relaxation of credit standards after a long period of tightening can be expected and is conducive to promote lending. Easing credit standards should nevertheless be monitored and reflect risks. To start with, the persistence of a low interest rate environment increases the likelihood of financing borrowers with lower ability to pay, by increasing the present value of projects which would become unviable should interest rates spike/normalise. This tends to undermine appropriate credit allocation, which should be strongly based on the returns of projects across their life-cycle, leading to an efficient risk-return relationship.

[5] See ESMA TRV 2 2016, Appendix graphs A.27, A.31, A.32, A.45, A.62 and R.22.
[6] EVCA (2014) reported for 2013 an annual rate of return on invested funds of 9.24% for the average private equity funds with the mean fund featuring a rate of return of 0.55%.
[7] See ESMA TRV 2 2016, graph A 110.
[8] Government bonds concur 25% of the investment portfolio. In 2014 and 2015, within the corporate bond portfolio a moderate shift from financial to non-financial issuers was observed: they moved respectively from 17 per cent to 14 per cent and from 13 per cent to 15 per cent of the total investments. Equities report a positive growth rate from 2013 onwards (Source EIOPA, estimation based on a sample of 32 large insurers).
[9] See e.g. the ECB Q2 2016 lending survey (July 2016) and the CESEE Bank Lending Survey H1 2016.

The concerns raised above trigger calls for closer supervisory oversight of associated risks, motivating **supervisors to consider the possibility of stress testing exercises for investment funds,** including shocks to market liquidity and leveraged exposures, as well as **further harmonisation in the implementation of existing requirements for reporting and risk management.** In the **insurance** sector, national **supervisors need to closely monitor life insurers with long-term liabilities towards policyholders** that are particularly affected by low yields such as those with high levels of guaranteed return products. **Bank supervisors should discuss with institutions their risk appetite in the context of their risk bearing capacity and monitor asset valuations as well as trends in NPLs and appropriate levels of provisioning.** Supervisory efforts to **use** the **full data available** under current legal requirements are being further intensified in order **to ensure an adequate monitoring and mitigation of the risks mentioned.**

***Market liquidity***

**Concerns with regard to diminished market liquidity have lately been prominent in the public discussion.** Available evidence points to broadly stable levels of market liquidity in more liquid market segments, accompanied by the possibility for temporary scarcity in immediacy services in less liquid segments, in particular in times of adverse market shocks.[10] For example, in an environment potentially exposed to market reactions following sudden interest rate reversals, incidents of reduced availability of liquidity could occur, which may influence prices of individual securities and the market values of investment portfolios, and which may in adverse scenarios constrain the ability of investors to sell off large positions in a timely manner. Market liquidity concerns have also been highlighted by recent price developments in UK property markets and related redemption suspensions or withdrawal discounts of several real estate funds observed in July 2016, even if so far in wider asset markets no evidence for an abrupt decrease of market liquidity could be detected.

**The risks of such incidents motivated recent calls for macroprudential policies adequate to address related vulnerabilities.** With appropriate microprudential standards such as requirements on asset eligibility, leverage limitations, liquidity management tools and more general risk management as well as disclosure requirements already in place, **EU supervisors and regulators should consider whether complementary micro- and macro-prudential policy tools could further benefit consumers and financial stability.**

## 3 PROFITABILITY OF FINANCIAL INSTITUTIONS

***Banking sector***

**The low quality of assets in many jurisdictions, conduct costs and growing competition from non-bank financial institutions are important factors that add to the low growth and low yield environment in negatively affecting banks' profitability.** An aggregate return on equity (ROE) of 5.8% as of Q1 2016 appears not to cover banks' cost of equity (COE).[11] It represents a further deterioration compared to an average ROE of 6.9% as of Q1 2015, but an increase compared to end-2015 (4.7%). **Following the UK referendum,** the outlook for profitability has deteriorated further, as **decreases in interest rates and revenues as well as weaker macroeconomic conditions are expected in the short and mid-term**. These concerns are amplified by growing political risks within the EU and globally.

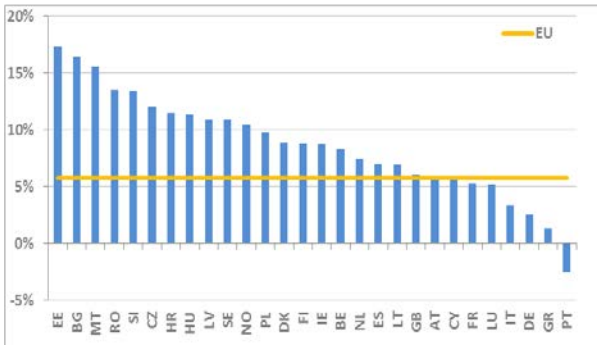
[10] ESMA TRV 2 2016 (forthcoming), box T.13, AMF (2015), "Study of liquidity in French bond markets". BIS (2016) "Fixed income market liquidity", CGFS Paper No. 55, and Aquilina, M. and F. Suntheim (2016), "Liquidity in the UK corporate bond market: evidence from trade data", FCA Occasional Paper No. 14.

[11] The majority of banks participating in the June 2016 EBA risk assessment questionnaire estimates COE of above 8%. http://www.eba.europa.eu/documents/10180/1515215/2016+June+RAQ-consolidated.pdf/f3843807-2130-4f90-83af-f71fe2a7453e

**Though gradually and slowly decreasing, the average NPL ratio remains high in the EU banking sector**, and is at 5.7% in Q1 2016. Compared with other global jurisdictions, the NPL ratio is highest in the EU, while it is at 1.7% in the US and 1.6% in Japan in 2015 (based on Worldbank/IMF data[12]). Besides being a capital constraint and their negative impact on profitability, legacy NPLs on bank balance sheets are also a major constraint to extend new lending. **Banks and supervisors should be more proactive in addressing high levels of NPLs, and broader structural policy action will be needed to resolve NPLs (Box A).**

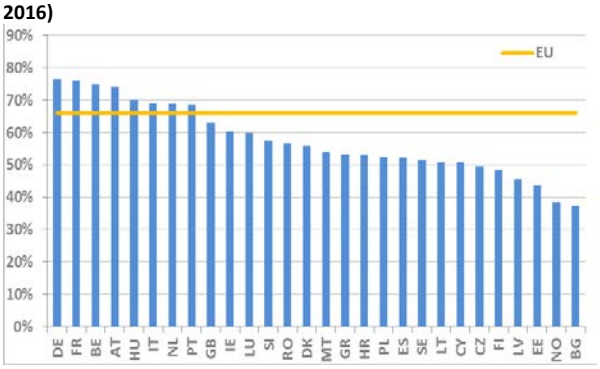
Moreover, main targets identified by banks to improve profitability appear difficult to attain, for example by increasing fee and commission income or cost reductions. Not least driven by increased competition within the banking sector and from non-bank intermediaries, including from financial technology providers (Fintechs), banks have so far not managed to offset falling interest income with higher fees and commissions - the latter even decreased stronger than interest income in Q1 2016 with -9.0% vs. Q1 2015 and -7.1% vs. Q4 2015. Similar to banks' average ROE, also the dispersion of the average cost-to-income ratio has remained wide and has on average even further deteriorated (Figures 3 and 4); EU weighted average was 60.9% in Q1 2015, 62.8% per end-2015 and 66.0% in Q1 2016. This indicates that banks' weak profitability is not only revenue, but also cost-driven. Going forward, further cost reductions may be difficult to realise as investments needs into information technology, e.g. to replace legacy systems, may be substantive while control functions should not be compromised and risk of business disruption be minimised.

**Figure 3: ROE per country and EU average (Q1 2016)**




Source: EBA

**Figure 4: Cost-to-income ratio per country and EU average (Q1 2016)**




Source: EBA

**Low profitability may also suggest excess capacity in parts of the EU banking sector.** Recent research often reflected the fact that the EU banking system is larger than in other developed economies like the US and Japan[13]. While there is scope for consolidation in parts of the EU banking sector and to address overcapacities, such structural adjustments have not yet fully commenced across Europe.

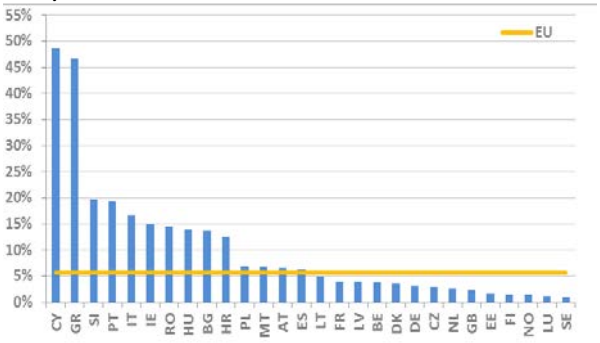
**Therefore, challenges to attain long-term sustainable profitability under prevailing business models underline the need for more decisive and speedy steps for adjustments in search for sustainable sources of income. Adjustments with a view to prospective strategic income drivers are not least needed to ensure that banks remain structurally resilient and viable in the longer term.**

[12] Worldbank/IMF financial sector database (http://data.worldbank.org/topic/financial-sector?view=chart)
[13] E.g. ECB report on financial structures and the EU Commissions working document of the economic analysis accompanying the Capital Markets Union project. Different jurisdictions may not be fully comparable in terms of financing of the economy.

**Box B: NPL in the EU banking sector**

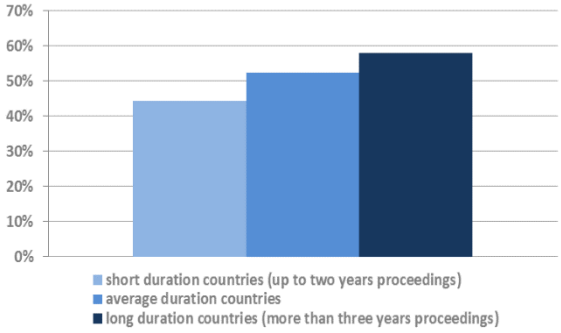
Insufficiently addressed asset quality concerns and persistent high level of NPLs are a significant driver of uncertainty in the EU banking sector. NPL ratios significantly disperse among Member States, and range from 1% to nearly 50% (Figure B.1) [14]. They have mostly followed developments of economic conditions in respective Member States. NPL ratios are also significantly higher for small banks than for large banks and for exposures vis-à-vis small and medium-sized enterprises (SME). While the coverage ratio of NPLs and advances for EU banks has increased to 43.8% in Q1 2016 from 42.9% in Q1 2015, its dispersion remained wide among countries (between ca. 30% and 65%), reflecting, among other factors different collateral policies and portfolios with different risk profiles. Furthermore, levels of loan provisions are expected to undergo changes, as from January 2018, due to the implementation of IFRS 9, with a move from an incurred to an expected loss model.

**Figure B.1: Weighted average NPL ratio per country (Q1 2016)**




Source: EBA.

**Figure B.2: Duration of insolvency court procedures vs coverage ratio for total loans and advances**




Source: EBA.

Addressing the still high stock of NPLs has become a key challenge for the EU banking system, and NPL resolution requires comprehensive action among all relevant stakeholders. The EBA has carried out a study on NPLs, based on supervisory data encompassing a sample of 160 EU banks from all EU countries and Norway and an additional stocktake among supervisors. Findings of the study indicate a range of impediments to thoroughly address NPL, and that structural policies should complement necessary responses of banks and supervisors. There are significant differences to the legal systems and insolvency frameworks, duration of in and out-of-court proceedings, and to tax regimes, which may impede addressing NPLs. Moreover, a work-overload of the judicial system appears to be another major impediment to a reliable and fast insolvency procedure, especially in countries with high NPL ratios. The EBA stocktake indicates a concurrence between lengthier durations of insolvency procedures and higher coverage ratios for loans and advances (Figure B.2).

Banks should further improve their organisational setup to deal with bad debt restructuring and resolution and to further strengthen internal workout capabilities. The EBA stocktake also indicates that banks are faced with limited options to transfer debt into "bad banks", not only due to legal impediments, as only 14 out of 28 countries allow for bad bank structures, but also due to capital constraints, as these transfers usually imply greater losses. Also, collateral markets across the EU appear mainly non-transparent, in particular regarding commercial real estate. EU-wide approaches to promote secondary market formation for, e.g., securitisation markets of distressed loans should also be explored.

**On the supervisory side, further efforts should be developed in order to encourage banks to measure and manage NPLs in a more proactive and bold fashion, notwithstanding some reduction of NPL ratios in recent quarters. This could include improved management arrangements for restructuring and resolving NPLs, adopting a conservative provisioning policy, a prudent valuation of loans and collateral once they became non-performing (or based on market criteria once they are flagged as available for sale) and committing to a NPL resolution plan with time bound targets. These efforts should be supported by national and European authorities by addressing structural factors which impede NPLs' resolution. Efforts could include enhancements in the legal, judicial and fiscal frameworks along the lines mentioned. Given the widespread, and thus systemic, nature of the significant challenges related to NPL, European supervisors, regulators and legislators should consider pursuing a coordinated, articulated and more decisive approach to this matter.**

[14] Figures are based on the EBA definition of non-performing exposures, which provides an EU-wide harmonised definition of the concept of NPL and forbearance. Notwithstanding the definition, recent EBA analysis has demonstrated that local factors may have an incidence on the implementation of this harmonised definition.

***Insurance sector***

In the insurance sector t**he trend for higher premium growth for unit-linked or hybrid products continues**.[15] In times of low interest rates, companies have been moving from guaranteed returns to unit-linked models illustrating the fact that more and more insurance companies are withdrawing from providing guarantees on returns. **This development shifts interest rate risks and other market risks to policyholders, and requires a different approach from supervisors than in the past.** As life insurance is a long term liability based business, the portfolio reallocation's effect is not yet captured by profitability indicators with return on assets (ROA) almost stable at 0.4%. However, investment return declined to 3.2% by the end of 2015 and ROE dropped from 9.8% in Q2 2015 to 8.3% in Q4 2015.[16]

Going forward, **the insurance sector is likely to face increased competition due to innovations (such as peer to peer insurance) made possible by the substantial improvements in information technology witnessed in the last years.** While this increased competition might lead to increased consumer choice, it could also affect the profitability of insurers in the longer run. However, such technological progress also represents a strategic opportunity for insurers as it offers to help automate processes and could lead to improved products, more competitive pricing and better ways to engage with customers.

**However, supervisors need to ensure that risks are managed and that undertakings have sufficient tools and resources in place to ensure that the IT systems, which support this digitalisation, are not vulnerable to operational risks including cyber-attacks.** Supervisors also need to monitor the implications for customers stemming from advanced data-collection and data-mining by insurers.

***Asset Managers***

As the low yield environment and political uncertainties persisted, e.g. due to the outcome of the UK referendum and its political and economic consequences, **investment returns by the fund industry remained continuously subdued**. Drivers included volatile asset price developments observed throughout the first half of 2016, but potentially also, as pointed out below, structural features of the industry. Rate of returns for most fund categories entered negative territory, ranging in June 2016 between -0.87% for commodity funds and 0.09% for both bond and real estate funds with positive returns only continued to be achieved in real estate funds and part of the hedge fund industry (Figure 5). The average ROA for EA financial vehicle corporations (FVC) followed this pattern as well, turning negative in Q4 2015. Similarly, the returns of the representative retail investor portfolio turned negative in the first months of 2016, standing in June 2016 at an annually averaged monthly return of -0.28%. If continuing for an extended time period, **such profitability trends confront final investors with non-performing portfolios and reduce the attractiveness of the industry**, as incentives for fund withdrawals and the search for alternative investment opportunities, including innovative products, will intensify. In an adverse scenario, existing liquidity concerns could get further reinforced by redemption sales, adding to the risk of potentially large scale redemptions in case of price collapses within asset market segments.

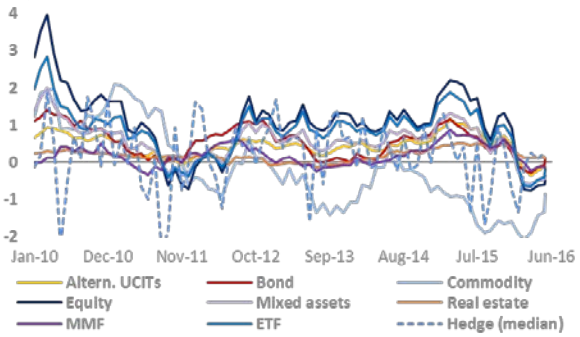
**Discrepancies between ROA and net return on fund shares** reflect that total expense fees and other charges reduce investor returns for some fund types substantively, especially when gross returns are already low (charges can represent up to 50% of gross returns, e.g. for alternative mutual funds the average monthly rate

[15] The share of linked products in terms of gross written premiums increased from 27% in Q2 2014 to 31% in Q4 2015 (Source: EIOPA. Sample based on 15 large insurance groups from AT, FR, DE, IT, NL and UK)
[16] Data collected from 32 large insurers in EU and Switzerland.

of return between 2014 and 2016 of 0.5% before compared to 0.25% after deduction of total expense fees and charges) (Figure 6). This may raise the question whether existing extensive disclosure requirements for funds could be improved further and whether investors make proper use of the information available.

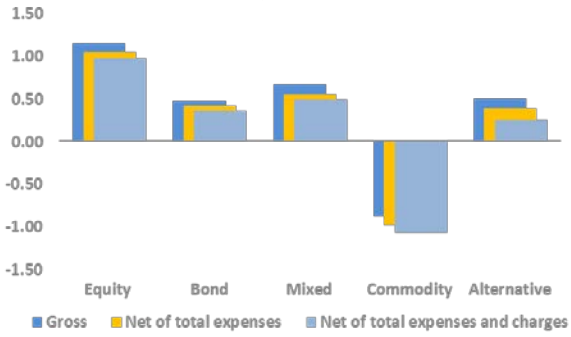
The investor protection concerns raised above are further corroborated by data on the profitability of a sample drawn from larger asset management companies, demonstrating the robustness of their ROE (Figure 8), predominantly in excess of 8% per year and well above their respective ROA, which on average fluctuated close to 3%, as well as above average returns on fund shares, for both EU funds in general and funds associated with the sampled large asset managers, which reported an annual average return of 6.6% in between 2013 and 2016. Such differences are driven by leverage of asset management companies and fees and charges levied on fund clients. Net fund flows, positively correlated with the performance of respective EU funds managed by the specified sample of large asset managers, potentially further corroborate this explanation. Similarly, the ROE of the average EA FVC appeared to be disconnected from the respective ROA (Figure 7), potentially also explained by large buy-back programs during periods of asset price stress, thereby amplifying the amplitudes in the volatile environment after May 2013. Such discrepancy in returns offered to different groups of fund providers, including debtors, equity holders and proprietors of fund shares, may, among other features, also indicate a lack of transparency and raises concerns about competition imperfections within the asset management industry. Indeed, as pointed out in the next section, market concentration appears to be substantive in the industry.

**Figure 5: Subdued EU fund returns**



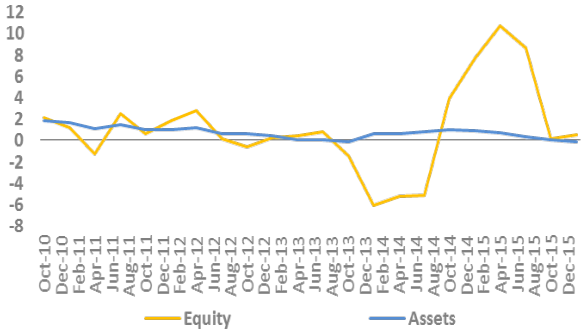

Source: Thomson Reuters Lipper Eurekahedge, Barclayhedge, Tasss, HFR, ESMA.
Notes: Annual average monthly returns of EU domiciled funs, asset weighted, %. For hedge funds median monthly returns are reported. Last data June 2016.

**Figure 6: Total expense charges reduce returns**



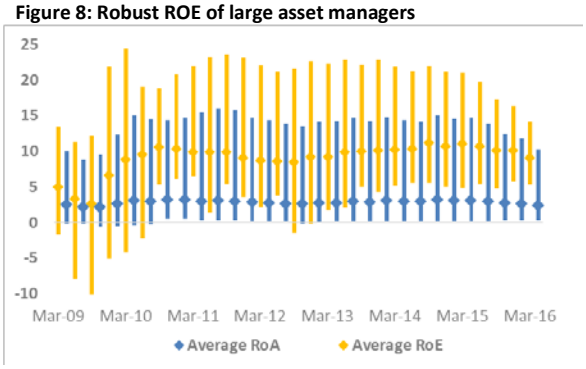

Source: Thomson Reuters Lipper, ESMA.
Notes: 3-year averages of monthlty returns of different types of EU domiciled funds, %. Returns are reported in gross values, net of total expense fees and net of total expense fees and load/redemption charges. 3-year averages computed from Q1 13 to Q1 16.

**Figure 7: ROA and ROE of FVCs disconnected**




Source: ECB, ESMA.
Notes: Annual rate of returns on equity and assets of EA FVC, quarterly frequency, %.

**Figure 8: Robust ROE of large asset managers**




Source: Thomson Reuters, Lipper, Bloomberg, ESMA.
Notes: Maximal, minimal and average annual rates of returns on assets (blue) and equity (orange) for a sample of 8 large asset managers out of the 20 biggest asset managers.

**Similarly, as in banking and insurance, newly arising competition from Fintech providers** such as automated financial advice, crowdfunding/investment platforms and distributed ledger technologies, to name just a few, **is likely to further challenge the sustainability of current business models of asset managers and other financial service providers**. The main economic advantages of such innovations often include better customer

service, increased competition and economies of scale, which may translate into lower costs or higher product and service quality. Those **innovations may however also imply risks, including cyber security risk and privacy issues**. EU supervisors and regulators are monitoring the emergence of new innovative technologies and market practices and analyse their potential market impact.

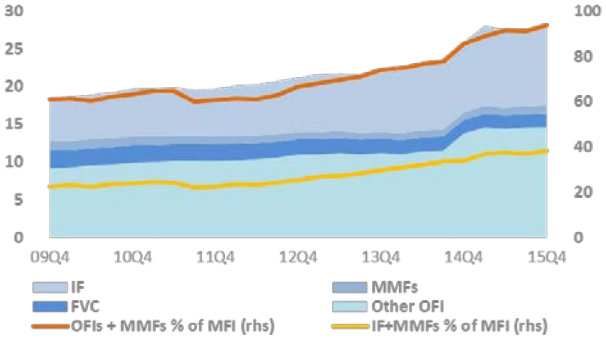
The ESAs, together with their international and national counterparts, are currently considering whether, and if so which, **new regulation may be needed to warrant adequate levels of investor protection, financial stability and market integrity in the context of these technological innovations**.[17] Beyond individual risk features, however, technological innovations' impact on market structure needs to be monitored as well, in order to ensure that competitive forces create a continuous and smooth diffusion processes avoiding abrupt and disruptive industrial reorganisation.

## 4 INTERCONNECTEDNESS WITHIN THE FINANCIAL SYSTEM

Interconnectedness in the financial system is related to factors such as major structural trends, cross-sectoral exposures (both on and off balance sheets), use of certain market infrastructures, diffusion of bail-inable debt, commonality of sectoral exposures and vertical as well as horizontal integration of financial companies.

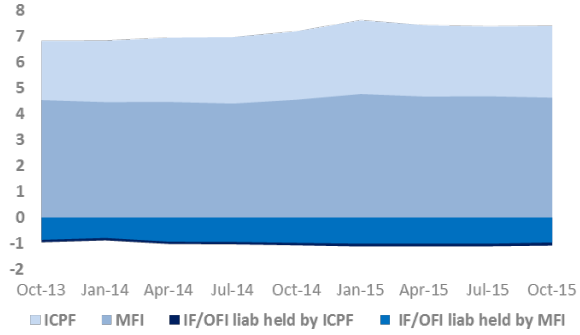
**The financial system beyond banks, insurers and pension funds continued to grow**, with the combined assets of investment funds (IFs), money market funds (MMFs), financial vehicle corporations (FCVs) and other financial institutions (OFIs) reaching almost EUR 28tn in December 2015, some 7.5% higher than at the end of 2014 and exceeding the size of the EA banking system. This growth was mainly driven by the assets of IFs and OFIs. **Increases in cross-sectoral exposures accompanied this trend**, as IF/OFIs held in October 2015 assets issued by the two other sectors worth EUR 7.4tn (up from EUR 7.2tn one year before), while on the funding side they were exposed with a virtually unchanged EUR 1.1tn (0.62tn for IF) to banks and insurers/pension funds respectively. For a more limited range of shadow banking activities, the ESRB has started a regular monitoring of market trends and risks[18].

**Figure 10: Size of financial system beyond banks**




Sources: ECB, ESMA.
Note: Total assets for EA Money Market Funds (MMFs) and other financial institutions (OFI): investment funds (IF), financial vehicle corporations (FVC), other OFI estimated with ECB Quarterly Sector Accounts MFUA, in EUR tn. In % of bank's assets on rhs.

**Figure 11: Exposures of EA IFs and OFIs**




Sources: ECB, ESMA.
Note: IF and OFIs balance sheet exposures vs MFI and ICPF. Assest are reported in positive numbers, liabilities in negative numbers. EUR tn.

[17] This work is mainly coordinated by the ESAs' Joint Committee Sub-Committee on Consumer Protection and Financial Innovation.
[18] ESRB, EU Shadow Banking Monitor, No. 1, 2016. The Shadow Banking Monitor presents an overview of shadow banking activities in the EU to assess potential risks to financial stability. The report was drafted by the ESRB's Joint Expert Group on Shadow Banking, co-chaired by ESMA, and draws on analysis and indicators ESMA developed for the ESMA Report on Trends, Risks and Vulnerabilities and the Risk Dashboard. Issues identified in the first report include: Financial leverage, in particular in hedge funds, but also in real estate funds; systemic interconnectedness, which is especially pronounced between money market funds and the banking system; and maturity and liquidity transformation, which are a concern, especially for some bond funds.

**Inter-sectoral balance sheet related exposures are complemented by notional off-balance sheet exposures stemming from derivatives, securities lending activities and similar contracts**. Stagnant volumes of secured debt, securities lending and repos of combined EUR 8.5tn indicated in the second half of 2015 roughly unchanged off-balance sheet exposures of the financial sectors to the shadow banking system. Stable securities utilisation rates and marginal increases in collateral availability corroborate a neutral impact of secured funding and securities financing on the financial system's interconnectedness. Decreases observed in the second half of 2015 for the net notional value of outstanding OTC derivatives for all types of underlying assets classes were only partially balanced by increasing volumes of open interest in exchange-traded derivatives, suggesting no further increase in exposures related to derivative markets.

**The use of market infrastructures continued to intensify,** with the values of assets held by EU central securities depositories (CSDs) further increasing in 2015 to EUR 50tn (+4.4%) and the transaction volume settled remaining at EUR 1,100tn,[19] the annual volume of transactions cleared by EU central clearing parties (CCPs) growing in 2015 by 5% to EUR 476tn and the transaction volumes reported in trading venues in 2016 only slightly decreasing to monthly average volumes of EUR 1.7tn for equities, EUR 0.75tn for bonds, 37bn for ETFs and 5bn for UCITS respectively.[20] While market infrastructures undoubtedly serve to connect financial markets as well as market participants, their role in contributing to financial stability requires sound management of their risk profiles. In this context, recent stress tests conducted by ESMA for the system of EU CCPs indicated its resilience to the scenarios used to model extreme and plausible market developments. Residual uncovered losses remained even in the most severe stress scenarios below EUR 4bn.[21] Additional reassurance resulted from the resilience demonstrated by market infrastructures, including trading venues, CCPs and other infrastructures, facing market reactions to the UK referendum: despite trading halts frequently triggered in the days following the referendum, no negative systemic impacts materialised.

The characteristics of cross-sectoral exposures are also affected by EU bail-in regulations, with losses potentially spilling from one sector to another. In light of high NPL ratios in some jurisdictions, further analysis of such interlinkages would be beneficial, potentially also covering spill-over to retail investors through unit-linked products.

**Commonality observed in returns of different asset classes is an alternative form of interconnectedness in financial markets**. While in 2016 so far correlations between the debt of different sovereigns and between an economy's sovereign and corporate debt receded from their previously high levels, correlations observed in wider securities markets still remained elevated, thereby indicating potential for contagion between asset classes.[22] Potential drivers could include search for yield incentives increasing the sensitivity of asset prices and yields across asset classes and hence contributing to similarity in their return patterns. Hence investors are increasingly exposed to similar risk profiles, reducing their potential for risk diversification. A high and possibly

[19] Acknowledging the heterogeneity of risk associated with the settlement of different types of financial instruments, e.g. the lower risks associated with transactions in spot markets, a positive relation of risk exposures and transaction volumes and/or the volumes of assets held in custody would still serve as an intuitive assumption for the assessment of interconnectedness risks. Additionally, since 2014 we observe a 25% increase in the share of the transaction value settled free-of-payment (from 4.4% to 5.6% of the total transaction value) implying a potential higher risk for participants due to the possibility of settlement of the cash leg in commercial bank money, even if, potentially, the risks for CSDs would tend to be lower (where applicable, i.e. in the case of CSDs with a banking licence).
[20] For the exact data please refer to ESMA TRV 2 2016 (forthcoming), graphs A.149, A.153, A.155, A1.163, A.164.
[21] For more details, please refer to ESMA TRV 2 2016 (forthcoming), box T.36.
[22] The ESMA CISS indicator evidences this phenomenon, among others, for EU securities markets. ESMA TRV 2 2016 (mimeo), p.26, R.2.

further rising relevance of benchmarked financial products could add to such commonality.[23] The recently adopted "Regulation on indices used as benchmarks in financial instruments and financial contracts" aims at enhancing the reliability and resilience of financial benchmarks and imposes conduct rules on their administrators, and thereby provides a regulatory framework for a market with strong features of interconnectedness. Another source of commonality of returns could emerge from potential "closet indexing" practices of EU funds, announcing active management of the entrusted funds but instead de facto tracking benchmarks. Partial risk mitigation has been already provided by raising public awareness.[24] Nonetheless, EU supervisors intend to assess the need for additional steps to ensure that all market participants comply with disclosure obligations to the full extent.

**Finally, patterns of industrial organisation are likely to contribute to interconnectedness as well. Vertical and horizontal integration of financial companies as well as market concentration are omnipresent features in the financial industry**, with conglomerates spanning across two or more sectors and being economically relevant. The majority of asset managers is dominated in most EU markets by parent companies belonging to the banking or insurance industry, while in several member states the biggest five incumbents of the asset management sectors control more than 50% of respective national markets.[25] Integration and portfolio consolidation may offer diversification opportunities, but are also associated with risks including the possibility of contagion through sponsorship or other forms of inter-family cross subsidisation, reputational knock-on effects in case of IT, legal or public relationship incidents and technological risks implied by potential inadequacies of conglomerate-wide IT infrastructures, as highlighted by recent IT incidents in the banking industry. Supervisory approaches to tackle related risks include the ESAs' identification of financial conglomerates throughout the EU and the ESAs' joint efforts on consistency of supervisory practices for financial conglomerates.

An additional potential source of interconnectedness that might require supervisory attention **is related to pension liabilities coverage and to the increased cost of pension promises towards employees of European financial institutions themselves, which may put further pressure on profitability and capital levels**. For those institutions with separate IORPs managing their pension liabilities, EIOPA's IORP stress test in 2015 revealed that by making the expected sponsor support explicit, future expected sponsor support could in some cases be significant, and should be further assessed by national supervisory authorities. **Supervisors should explore those pension liabilities in a holistic manner to assess any potential risks for affected firms.**

The growing relevance of financial institutions managing funds beyond banks, insurers and pension funds has led to increased interest in related financial stability issues. Currently, **various forms of stress test exercises for e.g. funds are scrutinized by supervisors** concerning their potential benefits and adequacy for the mitigation of risks associated with increasing risk exposures outside of the traditional financial system.

[23] According to EU Commission's Impact Assessment for the Benchmark Regulation (Annex 7), financial contracts in a notional volume of well beyond 3200 trillions of EUR refer to financial benchmarks. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013SC0336&qid=1430899439816&from=FR
[24] ESMA Statement "Supervisory work on potential closet index tracking" and ESMA TRV 2 2016 (mimeo), box T.24.
[25] Cf. EFAMA (2015), Asset Management in Europe, p.36-37, exhibits 5.1 and 5.2.