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July 2018

TECHNICAL NOTE—INSURANCE, INVESTMENT FIRM, AND MACROPRUDENTIAL OVERSIGHT

This Technical Note on Insurance, Investment Firm, and Macroprudential Oversight for the euro area was prepared by a staff team of the International Monetary Fund. It is based on the information available at the time it was completed in June 2018.

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INSURANCE, INVESTMENT FIRM, AND MACROPRUDENTIAL OVERSIGHT

Prepared By
Monetary and Capital Markets Department

This Technical Note was prepared by IMF staff in the context of the Financial Sector Assessment Program in the euro area. It contains technical analysis and detailed information underpinning the FSAP's findings and recommendations. Further information on the FSAP can be found at http://www.imf.org/external/np/fsap/fssa.aspx

CONTENTS

BOX

FIGURES

TABLES

APPENDICES

Glossary

ASA	Assets safeguarded and administered
AUM	Assets under management
AML/CFT	Anti-money laundering/combatting the financing of terrorism
BoS	Board of Supervisors
CA	Competent Authority
CCoB	Capital Conservation Buffer
CCP	Central counterparty
CCyB	Countercyclical Capital Buffer
CET1	Comment Equity Tier 1
CMG	Clearing member guarantee
CMH	Client money held
CMU	Capital Markets Union
COH	Customer orders handled
CON	Concentration risk
CRD	Capital Requirements Directive
CRR	Capital Requirements Regulation
DA	Designated Authority
DIS	Deposit Insurance Scheme
DTF	Daily trading flow
EA	Euro Area
EBA	European Banking Authority
EC	European Commission
ECB	European Central Bank
EFC	Economic and Financial Committee
EIOPA	European Insurance and Occupational Pensions Authority
ELA	Emergency Liquidity Assistance
ESCB	European System of Central Banks
ESFS	European System of Financial Supervision
ESM	European Stability Mechanism
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
FPS	Freedom to Provide Services
FSAP	Financial Sector Assessment Program
GDP	Gross Domestic Product
GG	General government
G-SIB	Global Systemically Important Bank
G-SII	Global Systemically Important Institution

ICPF	Insurance corporations and pensions funds
IGS	Insurance Guarantee Scheme
IPU	Intermediate Parent Undertaking
LAC DT	Loss-Absorbing Capacity of Deferred Taxes
LAC TP	Loss-Absorbing Capacity of Technical Provisions
LTG	Long-Term Guarantees
MA	Matching Adjustment
MCR	Minimum Capital Requirement
MFI	Monetary financial institution
MiFID	Markets in Financial Instruments Directive
MiFIR	Markets in Financial Instruments Regulation
MTF	Multilateral Trading Facility
NCA	National Competent Authority
NCB	National Central Bank
NDA	National Designated Authority
NDC	Non-financial corporation
NPR	Net position risk
NRA	National Resolution Authority
NSFR	Net Stable Funding Ratio
OFI	Other financial institution
ORSA	Own Risk and Solvency Assessment
O-SII	Other Systemically Important Institution
RM	Regulated Market
RWA	Risk-weighted assets
SCR	Solvency Capital Requirement
SFCR	Solvency and Financial Condition Report
SRB	Single Resolution Board
SRF	Single Resolution Fund
SRM	Single Resolution Mechanism
SRMR	Single Resolution Mechanism Regulation
SSM	Single Supervisory Mechanism
TCD	Trading counterparty default
TRFR	Transitional on the Risk-Free Rate
TTP	Transitional on Technical Provisions
UFR	Ultimate Forward Rate
VA	Volatility Adjustment

EXECUTIVE SUMMARY

While national authorities are still largely responsible for supervising the nonbank sector and applying the macroprudential framework, European Union (EU)-level organizations' supervisory role is growing. Further convergence and strengthening of supervision of insurers and investment firms is consistent with the goals of an EU single market and financial stability. The macroprudential framework functions well but could be simplified and expanded to cover aspects of the nonbank sector.

Insurance

The adoption of the Solvency II Directive has contributed to improved risk management practices and governance in the insurance sector but differences in national accounting rules, taxation and social security laws contribute to a continued fragmentation. More importantly, even within the harmonized Solvency II framework, various mechanisms like the so-called long-term guarantee measures as well as transitional rules complicate the comparison of solvency ratios across countries. Furthermore, as insurance supervision remains a national competence, supervisory practices still differ, calling for a further strengthening of the European Insurance and Occupational Pensions Authority (EIOPA) in achieving supervisory convergence, in particular with regard to internal models, quality of capital, the loss-absorbing capacity of deferred taxes, and the supervision of cross-border risks. To facilitate risk analysis and the evaluation of policy options also by other stakeholders, EIOPA should improve transparency by disclosing more market data publicly and by making more data and analysis accessible to national and EU authorities.

Many euro area insurers are still vulnerable to a prolonged period of low interest rates. In particular, most life insurers face a structural duration mismatch which in combination with high interest rate guarantees outstanding makes them vulnerable to falling interest rates. While the insurance sector has been adapting to the low-yield environment, managing the legacy business remains challenging. In addition, a global repricing of risk premia could also hurt the sector. In some EA countries, insurers hold very concentrated exposures towards the domestic sovereign or the domestic banking sector, exposing them to contagion risks. Also, a sharp upward trend in interest rate can be a disruptive event. Uncertainties resulting from the United Kingdom leaving the European Union combined with challenges stemming from technological as well as climate change, call for supervisors' vigilance, in particular the work on cyber risks should be intensified.

Investment Firms

Ensuring more harmonized supervision of investment firms, particularly by subjecting systemic euro area investment firms to prudential supervision by the Single Supervisory Mechanism (SSM), is important to ensure level playing field. The European Central Bank (ECB) should start preparations to ensure that it is appropriately organized and has sufficient, relevant expertise to supervise these complex firms. Pending the application of the new legislation, the national competent authorities (NCAs)' authorization decisions for the relocating firms need to be sufficiently coordinated. In general, strengthening the European Securities and Markets Authority's (ESMA) and European Banking Authority's (EBA) supervisory convergence powers is important to help them tackle the increasing coordination challenges. For medium sized and small investment firms, completing the review of the prudential regime is a priority.

The current approach to wholesale conduct supervision and to third country firms' provision of services in the EU could be enhanced. Bilateral cooperation between the ECB and the various NCAs responsible for conduct supervision may not be sufficient to ensure efficient supervision of significant institutions' wholesale market activities. There may be benefits in allocating the supervisory responsibility for these activities (within the EU) to ESMA or in granting ESMA a stronger role in facilitating enhanced cooperation between the ECB and the relevant NCAs. The European Commission (EC) should consider proposing the removal or reduction of member states' ability to permit third country firms to provide investment services under the national regimes.

Macroprudential Framework

The institutional framework for macroprudential policies appears functional, although assessments could be made more transparent. The European Systemic Risk Board's authority to issue warnings and the ECB's role in applying stricter measures counter inaction bias at the national level. The ECB interacts with national authorities to advise on the appropriate choice and calibration of policy tools to address emerging risks, before formal notification of the EBA and the ESRB. Additional transparency could enhance ECB's accountability in its macroprudential role.

The activation process for the group of temporary measures against risks could be simplified and be independent from the political process. Making country-reciprocity mandatory for a broader set of tools, with some exceptions, would simplify the decision-making process. The process for activating CRR Article 458—temporary capital or liquidity measures, last in the "pecking order"—could be streamlined to enable swifter responses. A practical approach would be to activate the policy after relying on the opinion of the ESRB on the appropriateness of the proposed measure for the identified risk, the early ECB assessment of the measure, and the opinion of the EBA regarding any adverse impact of the measure on the single market.

The toolkit available to national authorities should be harmonized and expanded to monitor and address risks across the financial system; coordination with other domestic authorities would address spillovers from other policies. Borrower-based tools should be legislated at the EU-level, with harmonized definitions, and should be available for use by national macroprudential authorities. Data gaps related to real estate prices and nonbank finance activities should be addressed. Analysis of market based finance risks should be intensified. To avoid overreliance on prudential tools, NDAs should coordinate with other authorities in their jurisdictions. Tax policies and zoning restrictions, for example, could fuel real estate prices.

Main Recommendations

Table 1. Main Recommendations on Financial Oversight		
Insurance	**Timing***	**Priority****
Strengthen EIOPA's powers and resources to achieve supervisory convergence (EU*)	I	H
Intensify work on supervisory convergence, esp. on internal models, quality of capital, the loss-absorbing capacity of deferred taxes, and the supervision of cross-border risks (EIOPA)	ST	H
Support the insurance sector's preparation for Brexit by providing guidance and further clarifying supervisory expectations, esp. on service continuity (EIOPA)	I	H
Improve transparency by disclosing more market data publicly and by making more EU-wide data accessible to NCAs and other authorities such as the ESRB and the ECB (EIOPA)	ST	M
Intensify work on cyber risks (including good practices for supervising cyber risk underwriting) (EIOPA)	ST	M
Investment firms		
Make the decision to transfer the supervision of systemic investment firms to the SSM (EU)	I	H
Further enhance the coordination of NCAs' authorization decisions ahead of Brexit (ESMA, EBA)	I	H
Enhance ESMA's and the EBA's supervisory convergence powers (EU)	I	H
Enhance supervision of significant institutions' wholesale market conduct by providing a direct supervision or coordination role to ESMA (EU, ESMA)	ST	M
Consider proposing the removal or reduction of member states' ability to permit third country firms' provision of investment services under the Markets in Financial Instruments Directive (MiFID) national regimes (EC)	ST	M
Macroprudential framework		
Clarify the scope to use sectoral risk weights in Article 124/164 CRR for macroprudential purposes (EC, EBA)	I	H
Legislate borrower-based tools, with harmonized definitions, at the EU level, make it available to macroprudential authorities, covering all credit institutions, applicable to households and corporate sectors (EC)	I	H
Systemic risk arising from market based activities should continue to be analyzed and new tools may need to be developed to address these risks (ESRB, ESMA)	MT	M
Data gaps related to credit-granting Other Financial Institutions and commercial real estate prices should be addressed (EC)	I	H

*In this table EU refers to the Council of the EU, the European Parliament, and the EC.

INSURANCE OVERSIGHT[1]

A. Background

1. The euro area insurance sector has grown since the global financial crisis. Total assets amount to 70 percent of GDP. Cross-border business plays an important role.

2. This section analyzes the key aspects of the regulatory and supervisory regime for insurance companies in the euro area. The analysis is part of the 2018 Financial Sector Assessment Program (FSAP) and based on the regulatory framework in place and the supervisory practices employed as of March 2018. Specifically, the analysis is based on a review of regulations, market analyses, and meetings with European and national authorities. The FSAP team also met with representatives from insurers, industry associations, and other private bodies, as well as academics.

3. The note does not include a detailed assessment of observance of the Insurance Core Principles. Insurance supervision remains a national competence while the role of EU bodies is more limited to rule-setting and facilitating convergence in supervisory practices across member states. Against this background, the focus of the note is on overarching EU-wide topics, foremost the implementation of the Solvency II requirements and potential needs for further reform, also in the context of the Capital Markets Union (CMU). Additional room is given to a discussion of macroprudential tools and crisis management in the insurance sector.

4. The note further updates on current risks and vulnerabilities to the euro area insurance sector. Risks affect insurance companies rather differently, depending mainly on product design and investment exposures. In addition, variations in national accounting rules, taxation, social security laws and national supervisory practices complicate conclusions at an aggregated level, therefore more focused discussions can be found in the respective FSSAs on national jurisdictions.[2] As a little complication, analytical shortcomings exist since the implementation of Solvency II in 2016 poses a break in various time series, so that the comparability of data before and after that date is limited.

REGULATORY AND MARKET STRUCTURE

A. Regulatory Structure

5. Insurance regulation in Europe has evolved fundamentally with the adoption of the Solvency II Directive, which lays down the prudential regulatory framework for European insurers and reinsurers.[3] It was adopted after nearly a decade of preparations in 2009; amended in

[1] The main author of this section is Timo Broszeit, independent expert on insurance regulation.

[2] See, e.g., the 2016 Germany FSAP, the 2017 Netherlands FSAP, and the 2018 Belgium FSAP.

[3] 2009/138/EC

2014 by the Omnibus II Directive;[4] and entered fully into force in January 2016. Solvency II establishes a risk-based solvency regime, built on a market-consistent valuation of assets and a broadly market-consistent valuation of liabilities. The quantitative requirements of the framework's first pillar are complemented by qualitative requirements and a supervisory review process (Pillar II) and rules for supervisory reporting and public disclosure (Pillar III).

6. **Various other legislative measures are applicable to the insurance sector in the area of consumer protection.** In 2002, the Insurance Mediation Directive imposed minimum requirements on insurance brokers and intermediaries.[5] It was amended by the Insurance Distribution Directive, which had to be fully incorporated into national legislation by February 2018.[6] This new directive increases transparency and broadens the scope of the previous directive's requirements to cover all sellers of insurance products, including the insurers themselves. In addition, the Regulation on Packaged Retail and Insurance-based Investment Products (PRIIPs) sets out key information on such products with which investors must be provided, contributing to a better understanding and comparability of products, including their risks and costs.[7]

7. **The insurance sector is also shaped by various other regulations which are not harmonized at an EU level.** Differences in national accounting rules, taxation and social security laws contribute to a continued fragmentation of the insurance sector which can, to some degree, explain the wide range of different product designs, in particular for long-term savings products.

8. **Insurance supervision remains a national competence, but EU bodies were endowed with more powers after the global financial crisis.** The European Insurance and Occupational Pensions Authority (EIOPA), based in Frankfurt, is part of the European System of Financial Supervision (ESFS) which comprises three European Supervisory Authorities (ESAs), namely the European Banking Authority, the European Securities and Markets Authority and EIOPA, as well as the European Systemic Risk Board (ESRB). EIOPA began operating in 2011, having replaced the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS). It was established as part of the reforms to the supervisory structure of the EU's financial sector in the wake of the financial crisis. EIOPA is an independent advisory body to the European Commission, the European Parliament and the Council. EIOPA carries out specific legal, technical and scientific tasks and gives evidence-based advice to help shape informed policies and laws at EU level. It acts with regard to insurance undertakings, reinsurance undertakings, financial conglomerates, institutions for occupational-retirement provision, and insurance intermediaries. EIOPA has legal personality, administrative and financial autonomy and is accountable to the European Parliament and the Council of the EU. To achieve its mission, EIOPA cooperates closely with the National Competent Authorities (NCAs). While the NCAs remain in charge of supervising individual financial institutions

[4] 2014/51/EU

[5] 2002/92/EC

[6] 2016/97/EU

[7] EU 1286/2014

in their respective Member State, the objective of EIOPA and the other two ESAs is to improve the functioning of the internal market.

9. EIOPA's tasks fall into four broad areas:

- **Regulation:** EIOPA submits draft technical standards to the EC for endorsement. The EC cannot make changes to the drafts without consulting EIOPA. Furthermore, the EC seeks EIOPA's advice when it puts forward proposals for delegated acts. Furthermore, EIOPA can issue guidelines, recommendations and opinions.

- **Oversight and supervisory convergence:** EIOPA facilitates and coordinates NCAs in their supervisory activities in order both to establish consistent, efficient and effective supervisory practices within the EU, and to ensure a common, uniform and consistent application of Union law. EIOPA also engages bilaterally with NCAs to address divergent approaches in national supervisory practices. Thereby it supports the creation of a common supervisory culture within the EU.

- **Financial stability and crisis management:** EIOPA monitors the stability of the insurance sector and contributes to the macroprudential supervision together with the ESRB. It conducts regular stress tests, and has to ensure coordinated crisis prevention and management.

- **Consumer protection and financial innovation:** EIOPA aims to prevent consumers from being exposed to excessive risks when buying financial products. To this end, EIOPA analyzes and reports on consumer trends, coordinates financial education initiatives, develops common disclosure rules. It can issue warnings in case a financial activity poses a serious threat, and temporarily even prohibit or restrict certain types of financial activities. A specific focus of EIOPA's analyses in monitoring market trends is on innovative financial products.

10. The Board of Supervisors (BoS) has the ultimate decision-making responsibility in a broad range of policy matters. The BoS is composed of 28 representatives with voting rights, i.e. one from the NCAs of each Member State. EIOPA's chairperson and the observers (representatives from NCAs in the Member States of the European Free Trade Association (EFTA), the EC, the ESRB, the other two ESAs, and the EFTA Surveillance Authority) do not have a right to vote. The chairperson is elected for a five-years term, which can be extended once by the BoS, following a pre-selection by the EC and confirmation by the European Parliament in a public hearing. The Executive Director is responsible for the day-to-day running of EIOPA, in particular the budget and the annual work program implementation.

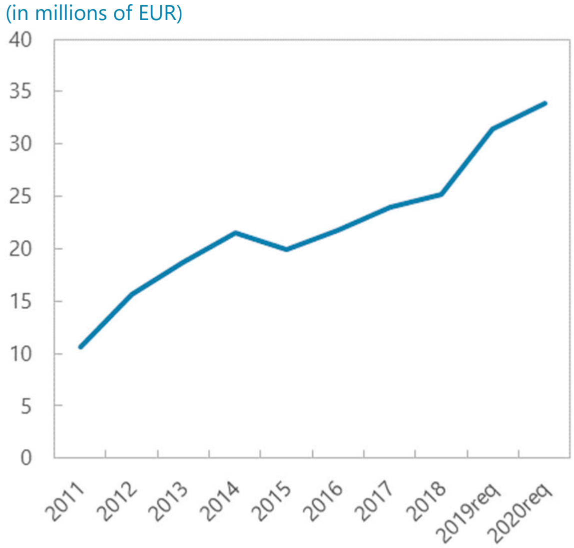
11. An increasing number of tasks put a strain on EIOPA's budget. EIOPA applies an annual zero-based budgeting approach, embedded in a three-year budget planning. EIOPA's total budget in 2017 was 24 million euros (Figure 1), of which approximately 40 percent came from the EU budget, and the remainder from contributions by NCAs in Member States and EFTA countries. As legislation and regulation have evolved, further responsibilities and duties have been imposed on EIOPA in recent years resulting in new tasks and an expanded work program. However, the allocation of additional budget and staff to EIOPA has not fully matched these new tasks. In particular some highly technical tasks stemming from the Omnibus II Directive related to the risk-free interest rate or the long-term guarantee (LTG) measures. Further increases are planned for 2018-2020 to cope with the increasing number of tasks related to new legislation (including the expected outcome of the review of the functioning of the ESAs), and to improve the technical infrastructure for data handling as well as the oversight work.

12. EIOPA faces budget constraints and stiff competition in attracting qualified professionals. In December 2017, EIOPA employed 151 staff (compared to 161 provided for in the budget). However, for the previous three years EIOPA has not received the requested allocation of staff. This shortfall has been exacerbated by the need to recruit staff from a limited and highly contested pool of technical expertise while the conditions EIOPA can offer, as stipulated by European regulation, are not always comparable with other potential employers. According to EIOPA, key processes and systems have been placed at risk as a result of resource constraints, particularly in specific technical areas such as information technology. Multiple 'key man' situations exist with only one member of staff having the experience or skills to undertake certain tasks, which are put at risk if they leave EIOPA. While improved resource planning and management of additional tasks provides some mitigation, there remain substantial challenges.

Figure 1. EIOPA Budget and Staffing

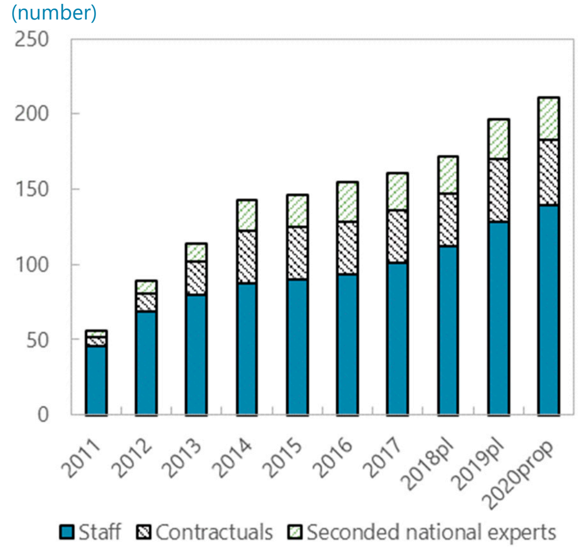
EIOPA's budget has increased steadily since its setup in 2011, interrupted by a budget cut in 2015.

EIOPA budget
(in millions of EUR)



After a strong build-up in staff numbers until 2014, growth rates remained subdued, but are projected to increase over the next years.

EIOPA staff
(number)



Source: IMF staff calculations based on EIOPA data
Notes: Budget numbers for 2019 and 2020 are shown as requested. Staff numbers for 2018 and 2019 are according to the 3-year planning; for 2020, the proposal by EIOPA is shown.

13. EIOPA is committed to a close dialogue with representatives of the industry, consumers and academics. Having set up the Insurance and Reinsurance Stakeholder Group and the Occupational Pensions Stakeholder Group, each including 30 members, EIOPA can directly consult with stakeholders on issues such as regulatory and implementing technical standards as well as guidelines and recommendations. The groups meet at least four times per year.

14. EIOPA has established a close cooperation with competent authorities in third countries and international organizations to promote mutual understanding and supervisory convergence. EIOPA has entered into a dialogue with supervisors outside the EU, both at higher and technical level. Furthermore, EIOPA coordinates the European position at international level and particularly vis-à-vis the International Association of Insurance Supervisors (IAIS). In this respect EIOPA contributes to the development of the Insurance Capital Standards (ICS) and the convergence of international supervisory standards.

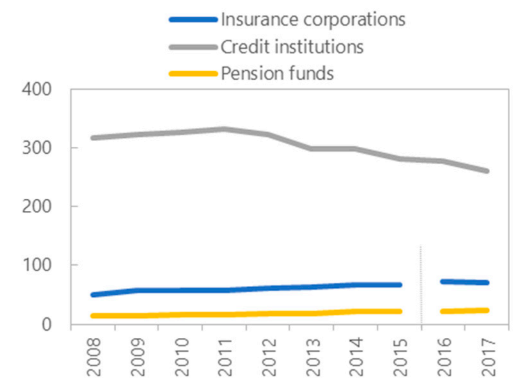
B. Market Structure

15. Euro area insurance undertakings have grown since the global financial crisis and their total assets amount to 70 percent of GDP (Figure 2). While the size of the banking sector has been shrinking, the balance sheet size of the insurance sector grew to EUR 7.9 trillion. France, Germany, Italy, and the Netherlands are the largest insurance markets, accounting for 80 percent of the euro area total. Among the more than 1,900 EA insurance and reinsurance undertakings subject to Solvency II, three groups (out of nine globally) are currently designated by the Financial Stability Board as systemically important insurers: AXA (France), Allianz (Germany), and Aegon (The Netherlands). The global reinsurance market is dominated even more by EA companies, with three out of the largest five reinsurers being located there: Munich Re (Germany), Hannover Re (Germany), and Scor (France).

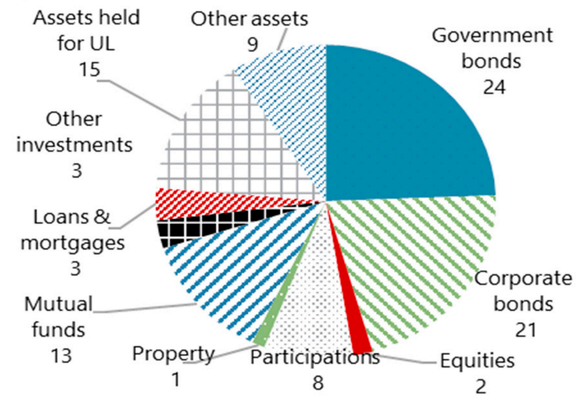
16. Life insurance, accounting for 53 percent of gross written premia, is an important element of households' long-term savings, but differences across EA member states are striking. Total life insurance liabilities amount to about EUR 4.9 trillion. The density, measured as premiums per capita, is highest in Finland with more than US$4,000 per year and capita—this is due to structural features as Finnish insurers are very active in the pension insurance business, a substitute for dedicated pension funds. Life insurance in the Netherlands, on the other hand, is of lesser importance, with a density being below US$1,000, given the existence of a much larger pension fund sector. In many countries, the traditional participating life insurance product with interest rate guarantees is still the dominating product, although many insurers have by now stopped selling this product to new customers. Instead products with no or very limited guarantees are now being promoted. EA-wide, 28 percent of life premiums are paid into unit- and index-linked life insurance contracts where policyholder bear all or most of the investment risk.

Figure 2. Structure and Profitability of the Euro Area Insurance Sector

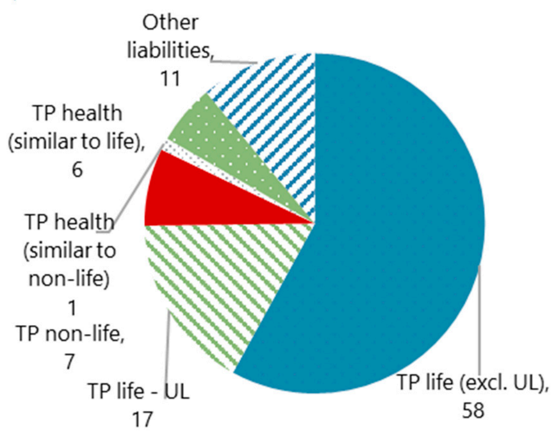
Total assets of EA insurers are large…
Financial Sector Assets / GDP
(in percent)



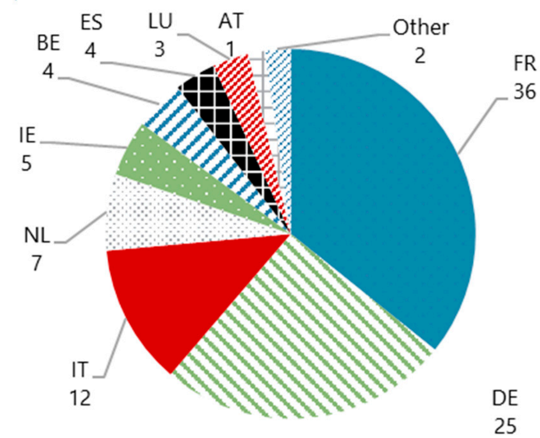
… consisting mainly of bonds and mutual funds.
Breakdown of Assets
(in percent)



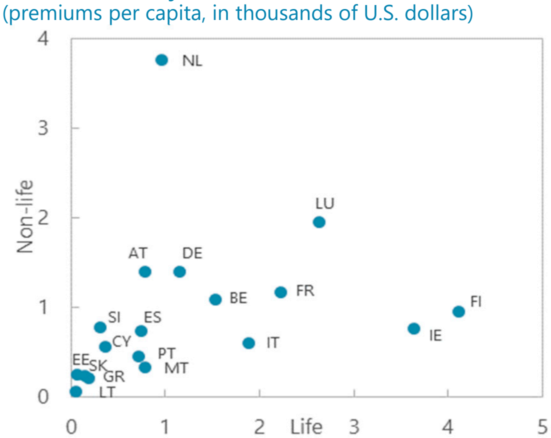
Technical provisions for life insurance dominate.
Breakdown of Assets
(in percent)



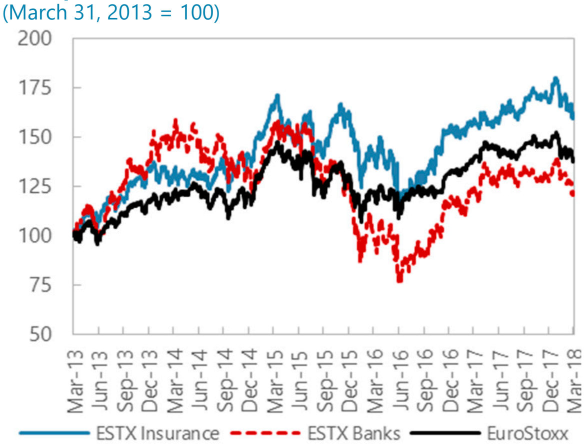
France and Germany are the largest markets in the EA.
Technical Provisions by Country
(in percent)



Insurance density varies strongly; the importance of life insurance depends on that of pension funds.
Insurance Density
(premiums per capita, in thousands of U.S. dollars)



Over the last five years, insurers' stock prices have outperformed the general market and bank stocks.
Stock prices of Euro Area insurers
(March 31, 2013 = 100)



Source: IMF staff calculations based on ECB and EIOPA data; Bloomberg.
Notes: Structural break in the time series for insurance corporations' and pension funds' assets between 2015 and 2016.

17. Non-life insurance, covering property, casualty and liability risks, accumulate lower insurance liabilities than life business due to shorter contract durations—total liabilities amount to EUR 560 billion. Insurance densities are less dispersed than in the life sector and range between US$500 and US$1,500 for most EA markets. The Netherlands, however, are an exception with a density of nearly US$4,000 per year and capita, mostly driven by a very prominent role of private health insurance. EA-wide, the main types of non-life insurance as of end-2015 were accident and health insurance (39 percent), motor insurance (26 percent) and fire and other property insurance (14 percent).

18. Insurance companies are significantly more exposed to risks arising from their holdings in marketable securities than banks. A large part of their balance sheet consists of marketable securities which they hold to back their insurance liabilities. Government and corporate bonds account for 24 and 21 percent of total assets, respectively, and also investments in mutual funds are sizable (13 percent). Stocks and participations account for 11 percent combined, while loans and mortgages (3 percent) and property investments (1 percent) have a minor role at the EA level. As a separate item, assets held for backing unit- and index-linked insurance account for 15 percent of total assets.

19. While investment income has been decreasing in recent years, improved underwriting results and cost savings have contributed to a broadly stable profitability. The median return on equity for a sample of large EA insurance groups in the first half of 2017 was close to 10 percent and has been fairly stable over the last five years. Profitability is mainly composed of investment income and technical (underwriting) results. After the occurrence of several major natural catastrophes in 2017, like hurricanes Harvey, Irma, and Maria, which hit the Caribbean and the United States, the large EA reinsurers reported a significant drop in 2017 earnings, but continued to pay out high dividends.

20. Cross-border business plays an important role in the European insurance sector. Schoenmaker and Sass identify more than one third of insurance premiums as being attributable to some form of cross-border business in a wider sense (i.e., including business via subsidiaries).[8] By far the largest part of cross-border business is performed through subsidiaries which are subject to full supervision in the host country. Taking on a narrower focus, cross-border premiums via branches or under the EU single market's freedom to provide services account for less than 10 percent of total insurance premiums, with rates being higher for reinsurance and non-life insurance than for life insurance. Another notable difference between life and non-life business is the type of cross-border business: While the former is performed mainly via the freedom to provide services, the latter is predominantly pursued via branches. Re-insurance is very internationalized.

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[8] Schoenmaker, D. and J. Sass, 2016, Cross-Border Insurance in Europe: Challenges for Supervision, The Geneva Papers

RISKS AND VULNERABILITIES

21. Many euro area insurers are still vulnerable to a prolonged period of low interest rates as well as to a global repricing of risk premia. While on aggregate the EA insurance sector looks rather robust in terms of solvency and profitability and the market environment becomes more favorable, medium- and long-term risk are still looming. In particular the low-interest rate environment could further dampen life insurers' profitability in many EA countries. This could be exacerbated by a larger correction of market prices which could, e.g., be triggered by geopolitical tensions and protectionism.

22. Most life insurers in the EA face a structural duration mismatch which in combination with high interest rate guarantees outstanding makes them vulnerable to falling interest rates. Since the duration of investments is usually less than that of liabilities, insurance companies suffer from this duration mismatch when interest rates decline, as they can only reinvest assets at lower rates. Also, with their higher duration, the value of liabilities increases more than the value of assets when interest rates go down. EIOPA's most recent insurance stress test in 2016 concluded that insurers were most adversely affected by a so-called "double hit" scenario in which a sudden increase of risk premia coincides with low yields. Therefore, the scenario specifies higher credit spreads for both sovereign and corporate bonds as well as a fall in stock prices and property prices. The maximum shortfall in the coverage of SCR by eligible own funds implied by the EIOPA stress test amounts to 0.26 percent of the euro area GDP, but differs widely across countries. In relative terms, Portuguese and Belgian insurers have the largest shortfalls with 1.5 and 0.8 percent, respectively. Germany Greece and Spain are in range between 0.4 and 0.5 percent of GDP, and France and Lithuania are below 0.1 percent; in the other EA countries, no SCR shortfalls were observed after stress.[9] Since the 2016 stress test, interest rates have risen slightly and on aggregate the sector has seen rising solvency ratios, and hence a greater resilience to external shocks. However, this improved resilience stems to the largest degree from valuation effects and much less from an increase in shareholder equity.

23. The insurance sector has been adapting to the low-yield environment, but managing the legacy business remains challenging. Some large insurers in the most affected countries have completely stopped writing new life insurance business with interest rate guarantees, sometimes offering existing policyholders to switch from high-guarantee to lower-guarantee products. Such offers come at a cost and can be made via outright cash payments or by adding some flexibility features to new contracts which are perceived as beneficial by the policyholder. Furthermore, many undertakings are increasing their sales in unit- and index-linked insurance, thereby shifting more of the investment risks to policyholders. However, challenges in the legacy business continue to exist. While guarantees on new business have come down over time, legacy guarantees are still considerably higher than current market rates. In the EIOPA stress test sample, almost a third of the

[9] The numbers refer to the maximum shortfall. As the SCR was not recalculated after stress, this number is an approximation and likely overstates the actual capital shortfall. A more detailed analysis can be found in the Selected Issues Paper of the Euro are 2017 Article IV consultation.

contracts guarantee interest rates between 3 and 4 percent for the next 12 years on average, and another 10 percent of the contracts promise rates above 4 percent. Such legacy portfolios are in some instances put in run-off and transferred to third parties, which can be dedicated run-off platforms. Those third parties, which are authorized insurers, can administer existing insurance contracts more cost-efficiently as no new business is written and overhead costs are smaller, however it needs to be monitored by NCAs how sustainable those business models can be over a remaining contract duration of several decades.

24. In a low-interest rate environment, insurance undertakings have to engage in a search for yield without taking on undue risk. With the implementation of Solvency II, previous quantitative investment limits determined by national laws were abolished, instead the prudent person principle applies to investments. While under the prudent person principle, insurers still need to have in place an effective risk management framework, they benefit from being more flexible in making investment decisions and venture into riskier or more exotic asset classes. Such a behavior can become problematic if insurers take excessive risks or when the internal risk management is no longer able to properly measure and manage these risks. Search for yield can take different forms. EIOPA notes that the allocation to the broad asset classes like bonds and stocks has been rather stable over the last years (Figure 4). Nevertheless, the share of fixed-income instruments with a rating below investment grade has been rising, which was driven by downward rating migration during the global financial crisis and the EA sovereign crisis, but more recently also by actively shifting investments into those lower rating categories. Still, the amount of non-investment-grade assets is limited with about 8 percent of all fixed-income assets, but in some EA countries like Cyprus, Greece, and Portugal it ranges between 25 and 50 percent.[10] In other countries, insurers increase their investments in illiquid assets like real estate and mortgage loans. In particular in the Netherlands, but also in Austria, Belgium, and Malta, such investments exceed the EA average of less than 5 percent of total assets considerably.

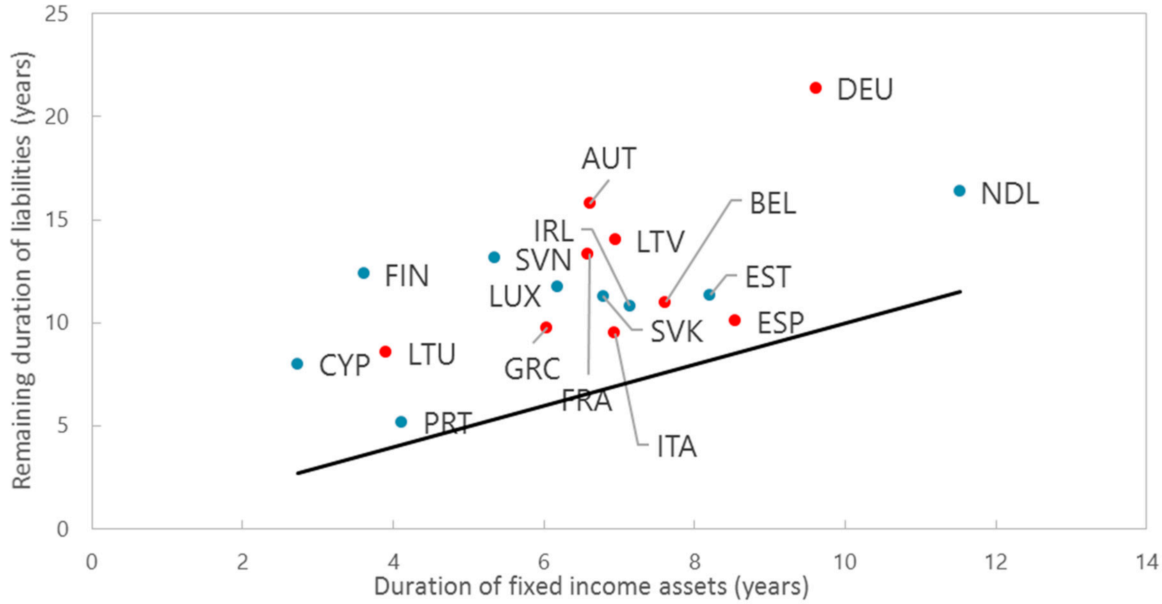
25. While the low-interest rate environment poses medium-term challenges, a sharp upward trend in interest rate could also be a disruptive event for the EA insurance sector. The solvency position of a life insurer would be affected mainly via the valuation of assets and liabilities which would both decline. With typically longer durations on the liability side than on the asset side, the valuation impact might in fact be positive. However, higher interest rates on substitute products might also lead to a combination of higher lapsation and reduced new business, altogether impacting an insurer's profitability and liquidity negatively. While in isolation such a development is unlikely to cause a systemic liquidity shortfall in the sector, it might give rise for action among a few insurers when coinciding with a substantial deterioration in market liquidity or major disasters with large claims. EIOPA is going to assess the impact of a sharp interest rate rise on the solvency of major European insurance groups in its 2018 stress test.

[10] The numbers refer to insurance undertakings using the Solvency II Standard Formula. No comparable data is available for internal model users.

Figure 3. Risks in a Low-yield Environment

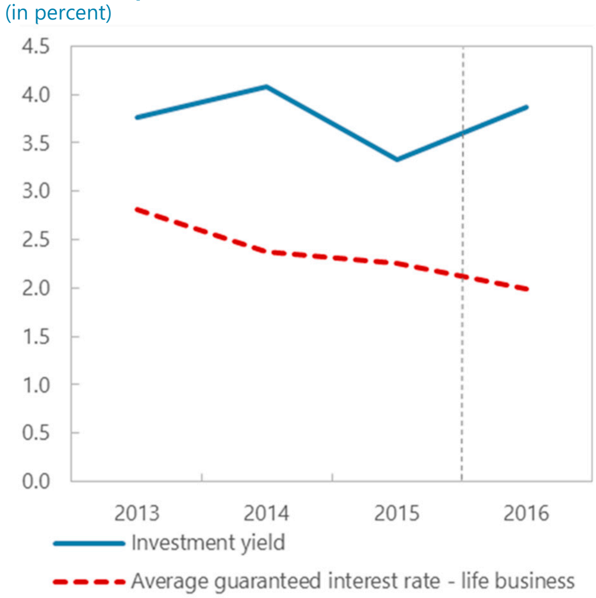
Durations of liabilities exceed those of assets significantly, most notably in NL and DE.

Duration Mismatch (end-2015)



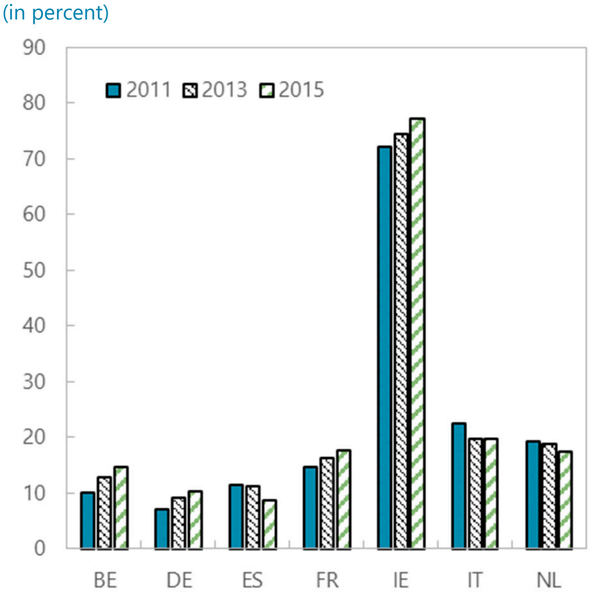
Investment spreads (investment yields minus guaranteed interest rates) remained positive despite low interest rates.

Investment Spread
(in percent)



The share of unit-linked business has expanded in several EA countries over the last years.

Share of UL liabilities / total life liabilities
(in percent)



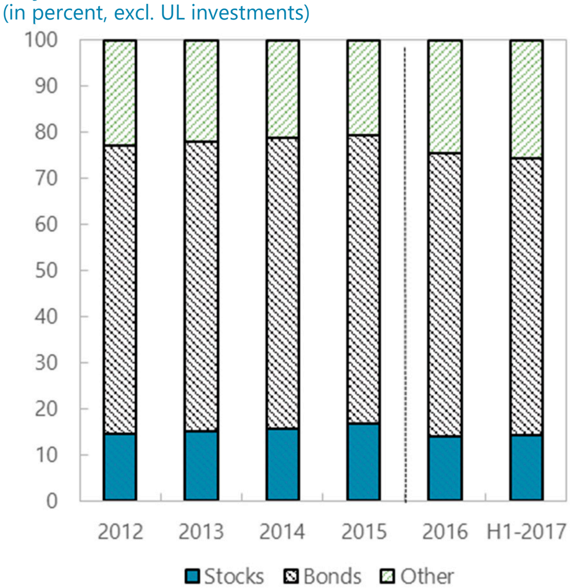
Source: IMF staff calculations based on EIOPA data and EIOPA's Investment Behaviour Report (2017b).

Notes: Macaulay duration of liabilities, and modified duration of assets. Countries with 75–100 percent of insurers offering guaranteed products are marked in red. If guaranteed technical provisions as share of total technical provisions were used as a criterion, then Netherlands would be marked red. Structural break in the time series for the investment spread between 2015 and 2016 (smaller sample until 2015).

Figure 4. Search for Yield

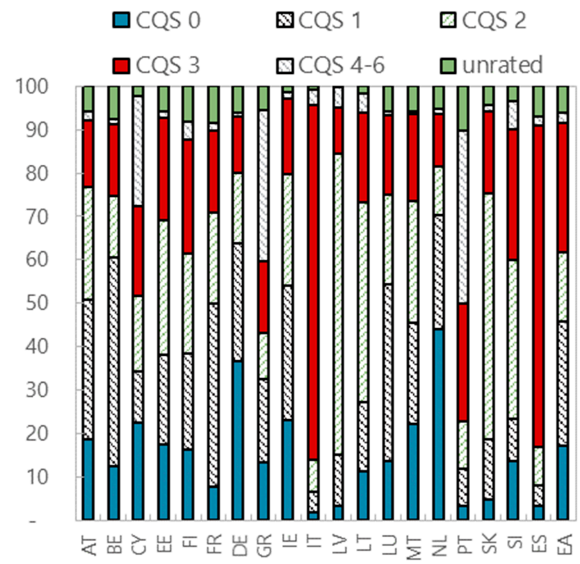
Over the last years the allocation has been stable when looking at broad asset categories.

Major asset classes
(in percent, excl. UL investments)



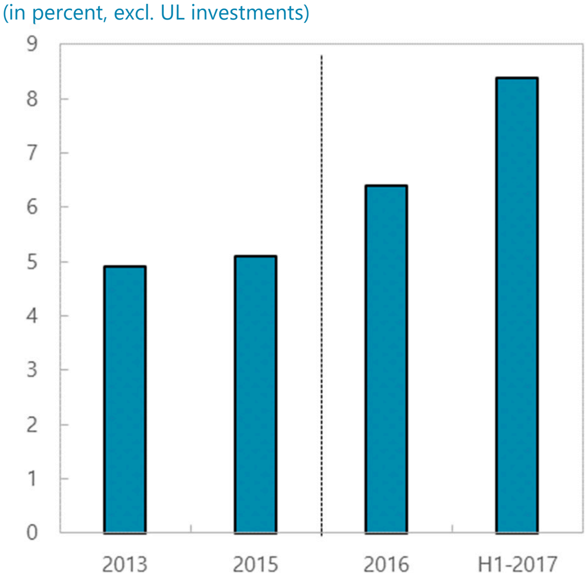
The rating breakdown reflects concentrated exposures towards domestic sovereigns and banks.

Fixed-income investments by rating class
(in percent)



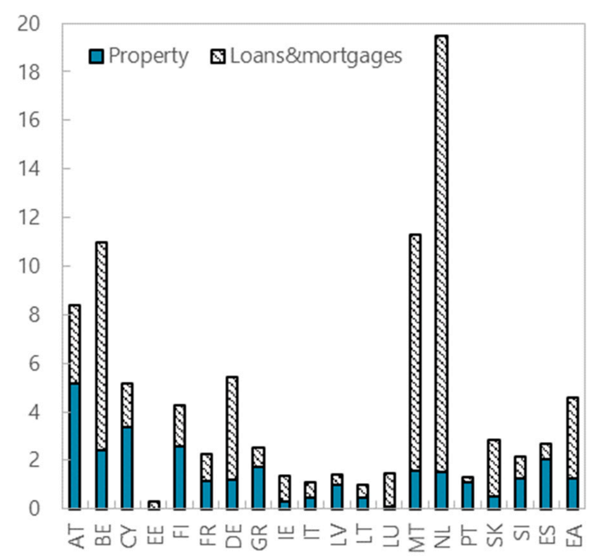
Exposure to non-investment grade assets is increasing.

Fixed income assets below inv. grade or unrated / Total fixed-income assets
(in percent, excl. UL investments)



Real estate and loan/mortgage exposures differ substantially, being highest in NL, MT, BE, and AT.

Property investments and loans&mortgages / Total assets
(in percent)



Source: IMF staff calculations based on EIOPA data.

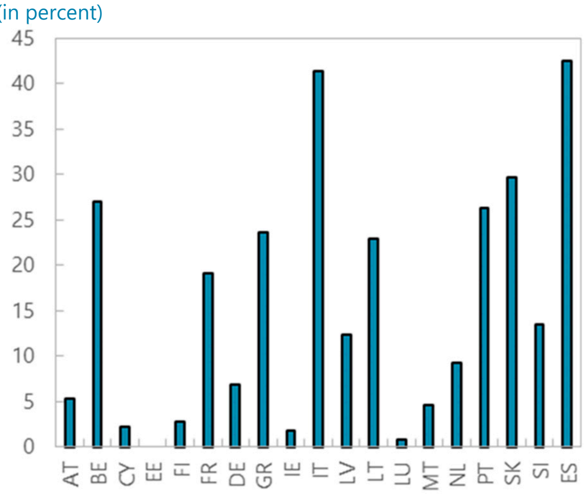
Notes: Structural break in the time series for asset classes and fixed-income assets below investment grade between 2015 and 2016 (book values until 2015 and Solvency II values thereafter).

26. In some EA countries, insurers hold very concentrated exposures towards the domestic sovereign or the domestic banking sector, exposing them to contagion risks (Figure 5). Investments in domestic sovereign bonds differ widely across EA countries. The home bias tends to be significantly higher in certain EA countries, in particular in Spain and Italy with 40 and 35 percent of total assets (excl. assets backing unit-linked business), respectively, but also Slovakia and Belgium stand out with almost 25 percent. German insurers, while being only moderately exposed to domestic sovereign bonds, hold large exposures towards domestic entities active in financial services instead—those account for more than 25 percent of total assets (excluding unit-linked assets) and consist in large part of covered bonds ("Pfandbriefe"). Exposures are also rather high in Austria, France, the Netherlands, and Slovakia with more than 12 percent of assets in each case. Such high exposures give rise to potential contagion effects in both ways: While insurers could suffer market value losses during a banking crisis, also banks might see reduced long-term funding stemming from the insurers in case that sector faces an adverse situation.

Figure 5. Sectoral Concentrations

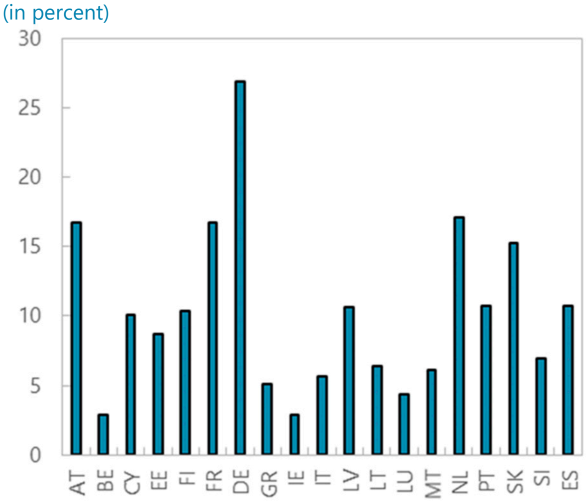
The home bias in sovereign bond holdings is highest in ES, IT, SK, and BE…

Investments in domestic sovereign bonds / Total assets (excl. unit-linked assets)
(in percent)



…while German insurers have the highest exposures towards entities active in financial services (mainly via Pfandbriefe).

Exposure towards domestic financial services / Total assets (excl. unit-linked assets)
(in percent)



Source: IMF staff calculations based on EIOPA data.

Notes: Domestic financial services (NACE code K64) include entities active in monetary intermediation (central and commercial banks), holding companies, trusts, funds and similar financial entities, and other financial service activities, except insurance and pension funds.

27. Insurers are facing an increasingly challenging environment stemming from technological as well as climate change. Digitalization of insurance business becomes ever more important, and insurers are already adapting to this change. Calculating tariffs in motor insurance based on tracking a driver's behavior with GPS data, or implementing insurance contracts in a blockchain are just a few examples in how such a data-intensive industry like the insurance sector can employ modern technologies. The increasing digitalization, however, also bears risks. Cyber-attacks on insurers might take different forms like ransomware attacks or access to sensitive customer information. In turn, modelling cyber risks and developing capabilities to price it could lead to further advancements in the development of cyber risk insurance products. Overall, technological change might disadvantage smaller insurers with less expertise, ultimately increasing concentration in the sector. Climate change is another overarching trend which is not limited to non-life insurers. Both the frequency and the severity of certain weather-related natural disasters, like wind storms, droughts and floods is expected to increase further. The direct impact on claims could be limited for most insurers as they can adjust premiums for such risks regularly and many may be able to recover from a large loss quickly. Nevertheless, there could be indirect effects on financial markets when investor sentiment towards certain industries, e.g., those being very energy- or carbon-intensive, turns negative, leaving those insurers with concentrated exposures with market losses.

28. In some EA countries, insurers have been expanding their asset management activities, potentially changing their overall investment behavior. Since also the importance of unit- and index-linked life insurance products has increased, the shift might shorten insurers' investment horizon and make them behave more cyclically. In effect, this could increase the dependence on fee business and ultimately the volatility of insurers' earnings. Even more importantly on a systemic scale, insurers behaving more like other asset managers could increase the risk of a co-movement of asset prices and contribute to heightened systemic risk.

INSURANCE REGULATION

A. Implementation of Solvency II

29. Solvency II entered into force in 2016 and contributed to improved risk management practices and governance. Solvency II was a leap forward in the prudential regulation of EU insurers and reinsurers, moving towards a risk-based solvency regime which builds on a broadly market-consistent valuation of assets and liabilities. The new regime rests on three pillars, of which the first one comprises quantitative requirements, like the valuation of assets and liabilities, capital requirements, and own funds. The second pillar determines risk management and governance as well as the supervisory review process. Finally, the third pillar regulates supervisory reporting and public disclosure. Not all European insurers are subject to Solvency II as exemptions exist for undertakings below a certain size-threshold—nevertheless, the combined market share of exempted insurers is only marginal.

30. The SCR is typically calculated with the so-called standard formula, alternatively insurance undertakings can use a full or partial internal model, subject to approval by the supervisory authority. The standard formula follows a modular approach, determining a capital charge for each risk separately before aggregating those charges to the overall solvency capital requirement (SCR). Both the capital charges for each risk and the SCR after aggregation are calibrated towards a 99.5 percent value at risk with a one-year holding period. This means that Solvency II does not aim for zero failure, but requires insurers to hold sufficient capital to weather an unexpected loss which can be expected once in 200 years.

31. Capital charges for market risks traditionally contribute most to the SCR (Figure 6). More than 60 percent of undiversified capital requirements can be attributed to market risks, which include interest rate risks, spread risks, equity risks, property risks currency risks and market concentration risks. The second-most important risks are underwriting risks, which contribute another third (life, non-life and health combined). Counterparty default risks, which mainly deal with exposures towards reinsurers and counterparties in derivative transactions contribute only little, and so do operational risks. Besides the diversification effects inherent to the standard formula via the correlation matrices used for aggregating individual risk charges, two other effects reduce the overall SCR. The loss-absorbing capacity of deferred taxes (LAC DT) accounts for the reduction of future tax payments in a stressed situation, similarly the loss-absorbing capacity of technical provisions (LAC TP) assumes that future discretionary benefits to policyholders would be reduced in such a situation. Overall, both effects reduce the Basic Solvency Requirement by more than 40 percent. The size of the LAC DT differs widely across Member States and is highest in Spain, Slovakia, and Luxembourg.

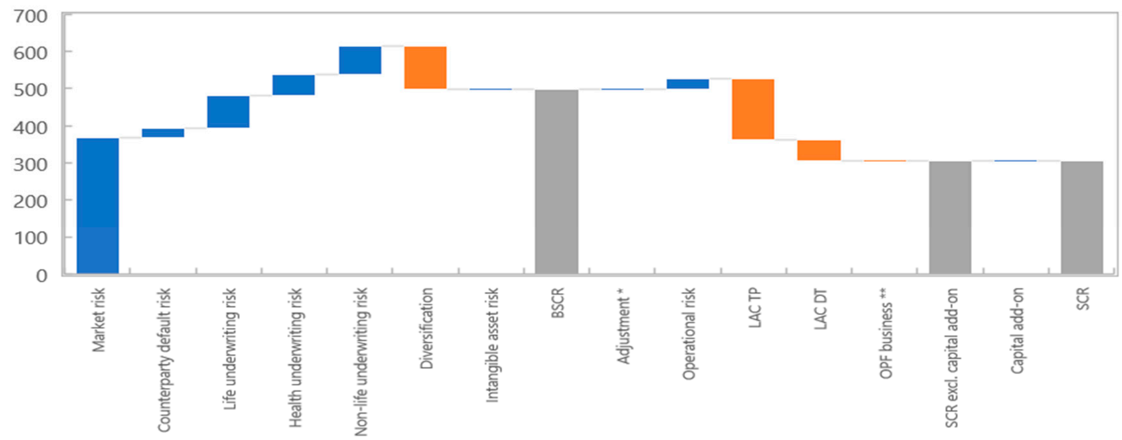
32. The SCR needs to be covered by eligible own funds, which in terms of the Solvency II classification are of very high quality in all EA countries. The SCR ratio is the ratio of eligible own funds to SCR, and this ratio should be at least 100 percent. Distributions of the SCR ratios can in practice be very wide. Within the EA, 80 percent of the insurers fall between 140 and 450 percent, and the median company stands at 220 percent. The quality of capital which is used to cover the SCR is high in EA Member States; unrestricted Tier 1 accounts for 90 percent of total eligible own funds.

33. In addition to the SCR, a minimum capital requirement (MCR) needs also to be complied with. The MCR, which is not risk-based, typically is between 25 and 45 percent of the SCR, subject to an absolute minimum amount, and the MCR ratio is the ratio of eligible own funds and MCR. If an insurer or reinsurer is not complying with the SCR, it has to take measures (increasing capital or lowering risk) to meet the SCR again within six months. A breach of the MCR could result in a withdrawal of authorization unless it is covered again in three months.

Figure 6. Solvency Capital Requirements

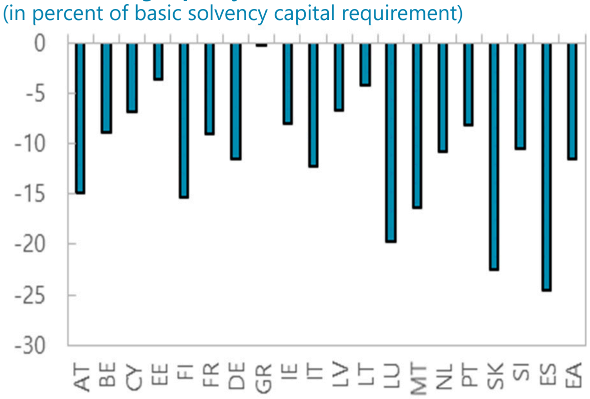
The SCR of standard formula users is mostly composed of capital charges for market risks.

SCR composition of standard formula users
(in EUR bn)



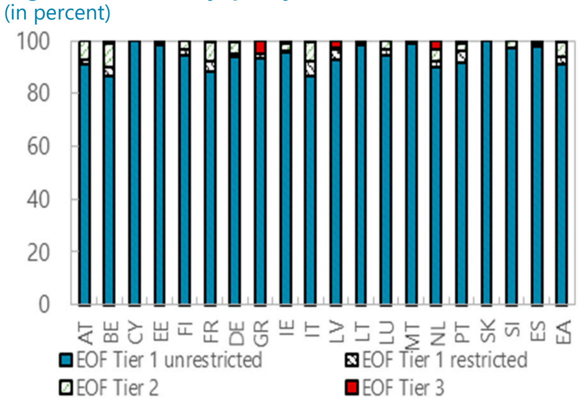
The loss-absorbing capacity of deferred taxes has a relatively great importance in ES, SK, and LU.

Loss-absorbing capacity of deferred taxes / BSCR
(in percent of basic solvency capital requirement)



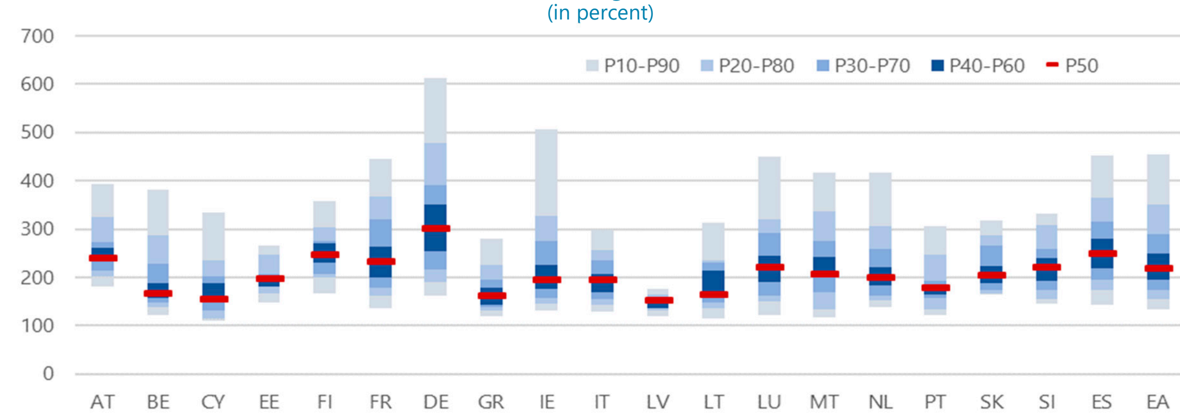
Eligible own funds are of a very high quality in all EA countries (90 percent unrestricted Tier 1), but capital instruments can have different characteristics.

Eligible own funds by quality
(in percent)



Distributions of the SCR coverage ratios can be very wide. Within the EA, 80 percent of the insurers fall between 140 and 450 percent, and the median company stands at 220 percent.

SCR Coverage Ratios
(in percent)



Source: IMF staff calculation based on EIOPA data.

Note: The bar chart on the SCR coverage ratios shows the percentiles of the distribution in each country (P50 = median).

34. Internal models are used predominantly by larger insurers and insurance groups and are subject to supervisory approval. While the number of internal model users is small, the market share of companies using such models is significant, implying that mostly larger insurers have made the effort in implementing the model. Full internal model users that include all SCR modules in their model account for nearly 20 percent of the EA market in terms of premiums, and partial model users incorporating only a selected number of modules in the model and using the standard formula for the remaining insurers account for another 12 percent. Internal models have to meet certain criteria with regard to their prudence, soundness and robustness. To this end, EIOPA has started performing benchmarking analyses across EU internal model users, most recently on the modelling of market and credit risks, and on the dynamic volatility adjustment. Contrary to those internal models where the volatility adjustment is considered to remain unchanged over the following year (constant VA), certain models assume a future change of the VA (dynamic VA). Where the VA moves in line with the spreads on the assets of the undertaking, the modelling of a dynamic VA reduces the effect of spread changes on the own funds of the insurer. Decreases in asset value caused by the spread widening are partially or fully compensated by decreases of liabilities caused by the change of the VA. As a result, the capital requirements for the risk of spread widening are usually lower if a dynamic VA is modelled than if a constant VA is being used. In 2017, EIOPA analyzed internal models of a small sample of insurers that include a dynamic VA. It was observed that the modelling of a dynamic VA results in a capital requirement for spread risk that is about half as large as the capital requirement derived by using a constant VA. The overall SCR derived with a dynamic VA is in the range of 69 to 94 percent of the SCR calculated with a constant VA. In a recent Opinion from December 2017, EIOPA sets out some supervisory expectations towards the approach adopted by internal model users, but this Opinion is not binding.

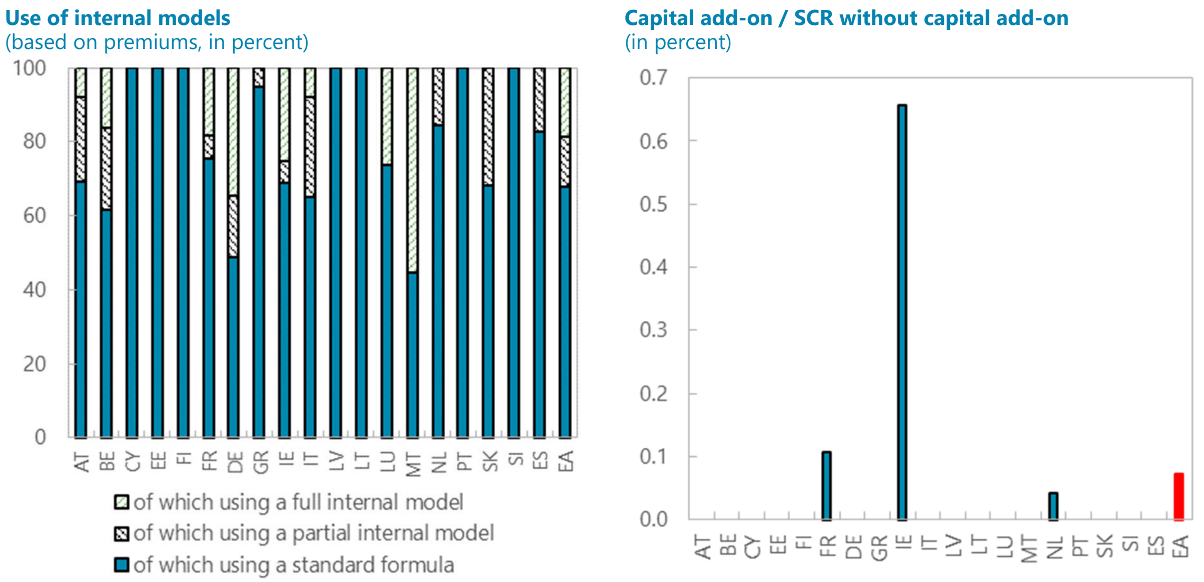
35. The second pillar of Solvency II prescribes sound internal control functions, risk management practices and governance processes—however it is rarely used by NCAs to prescribe additional capital requirements. Insurance undertakings are required to document their risks in the Own Risks and Solvency Assessment (ORSA) report which is also submitted to the NCA. For those insurers where the standard formula is not considered appropriate, the NCA can decide to prescribe a capital add-on. At this stage, the use of the Pillar 2 add-on is very limited, and only three NCAs (France, Ireland, and the Netherlands) have made use of this power. Compared to the aggregated SCR in each of these three countries, the add-on increases the SCR only marginally by less than 1 percent.

36. The third pillar prescribes an extensive set of quantitative reporting templates (QRT) and narrative reporting being submitted to the NCA, and various disclosures to the public, including the Solvency and Financial Condition Report (SFCR) which each undertaking has to publish annually. The SFCR serves two purposes: The main part is targeted towards market analysts, while the summary part is required to be drafted in a way that it could be understood by policyholders. Market participants indicated that they are not fully convinced that the SFCR serves the intended purpose: The summary section might still be too technical for the policyholder, and information included in the main part is already available from other sources, especially for listed companies.

Figure 7. Use of Internal Models and Pillar 2 Capital Add-ons

Full or partial internal models are only used in twelve EA member countries.

Capital add-ons are still very rarely used and do not result in a significant increase of the SCR.



Source: IMF staff calculations based on EIOPA data.

37. **Solvency II includes rules for group supervision, including various methods to calculate solvency capital requirements at the group level.** Supervision at this level is exercised by the group supervisor—typically the NCA in charge of supervising the parent company—who exchanges information and collaborates with host authorities via supervisory colleges in which also EIOPA is represented.

38. **Insurance being a global business, Solvency II establishes a complex regime for insurance undertakings pursuing business with or in third countries.** Depending on a positive equivalence decision by the EC on a third country's regulatory and supervisory framework, both EU and third-country insurers can mutually benefit as open international insurance markets are promoted, whilst simultaneously an adequate protection of policyholders is ensured. By now, the EC has stated full equivalence for the regulatory and supervisory frameworks of Bermuda and Switzerland, and provisional decisions have been taken on Australia, Brazil, Canada, Japan, Mexico, and the United States. For Japan, also a decision on "temporary" equivalence has been adopted.

39. **The Solvency II framework does currently not include explicit macroprudential measures.** While some mechanisms, especially those of the long-term guarantee package and the equity-based measures can have a macroprudential effect, they mostly work either fully mechanistic and without any discretion to the supervisory authorities (e.g., the symmetric adjustment for equity risk), or they are designed in a way that they work as forbearance tool by easing the capital requirements for a limited period of time, namely the extension of the recovery period. However, there are no dedicated macroprudential tools incorporated in the Solvency II framework which give discretion to supervisors to prescribe buffers or to take other preventive measures in the build-up

phase of systemic risks. To assess the need for such instruments, EIOPA and the ESRB are currently developing a taxonomy by mapping systemic risks in the insurance sector, the various transmission channels to other financial sectors and the real economy, considering the impact of existing tools and the effectiveness of potential new instruments and measures.[11]

40. A fragmented landscape in the field of recovery and resolution would complicate the cooperation and coordination between NCAs and could impede the orderly resolution process, particularly in the case of cross-border insurance groups. In an Opinion from July 2017, EIOPA suggests a minimum harmonization which entails the definition of a common (minimum) approach to the fundamental elements of recovery and resolution (e.g.. objectives for resolution and resolution powers) to be reflected in national frameworks. Member States should be able to adopt additional measures to better address the specificities of the national markets, subject to these measures being compatible with the principles and objectives set at the EU level. Although Solvency II has reduced the likelihood of insurers failing in the future, it is not designed to completely eliminate this risk. EIOPA considers it essential to have a harmonized recovery and resolution framework in place in the EU and that national authorities are equipped with the necessary powers and tools to manage crisis situations effectively. EIOPA suggests that the harmonized framework should be in place for all insurers which fall under the scope of Solvency II. However, proportionality should be a fundamental guiding principle of a harmonized framework. For example, the requirements to develop and maintain pre-emptive recovery and resolution plans could be waived at the discretion of Member States, subject to certain criteria. These criteria would need to be further developed in order to promote convergence in the EU.

41. Insurance guarantee schemes (IGS) that cover all types of insurance exist only in a few EA Member States, and neither coverage nor funding rules are harmonized. In some countries the IGS covers only non-life insurance, others have only the life sector included, and a third group of countries includes both sectors. Schemes differ with regard to their funding method with only a few IGS being ex ante funded—even in those cases, the pre-funded capital can be very small.

Recommendations

42. It is recommended that European legislators incorporate borrower-based instruments like limits to loan-to-value, debt-to-income, and debt-service-to-income in the Solvency II Directive. While mortgage lending by insurers is relatively small for the Euro area as a whole, in some countries insurers have significant exposures. To avoid regulatory arbitrage and to ensure a consistent implementation of macroprudential policies across all relevant lenders, borrower-based instruments should be introduced also for nonbank lenders when lending by those is sizable or can be expected to increase to circumvent limits set for banks. While such borrower-based instruments have not been implemented yet in a harmonized way in EU banking legislation, any harmonization efforts should also be extended to the insurance sector.

[11] See e.g., EIOPA (2018a)

43. The FSAP recommends that European legislators establish a harmonized framework for recovery and resolution in the insurance sector, taking into account the preparatory work undertaken by EIOPA and the ESRB. While it is acknowledged that national specificities, in particular national accounting rules, might render a full harmonization neither possible nor meaningful, a situation in which cross-border insurance groups would have to cope multiple resolution regimes and varying demands by their national resolution authorities, should be avoided. Ideally, a comprehensive framework would also include a more harmonized approach towards insurance guarantee schemes.

B. The Long-term Guarantee Measures and Transitionals

44. Long-term guarantee (LTG) measures and so-called "transitionals" were introduced in Solvency II to better reflect the long-term nature of some business lines, especially life insurance and to avoid excessive volatility from a valuation relying purely on market prices. The LTG measures need to be understood as part of Solvency II, and as they impact the valuation of liabilities, they ultimately also affect own funds and the solvency coverage ratio. Transitionals were introduced to bridge the capital needs of the life insurance sector during the transition from Solvency I to Solvency II in some Member States. Such transitionals are temporary in nature and will be gradually phased out by 2032. Supervisors have to assess whether companies are capable of covering their SCR without the transitionals by the end of the transition period. The remainder of this section will expand on the following instruments:

- The extrapolation of risk-free interest rate,
- The volatility adjustment,
- The matching adjustment,
- The extension recovery period in case of non-compliance with the SCR,
- The transitional measure on risk-free interest rates, and
- The transitional measure on technical provisions.

45. Furthermore, measures on equity risk should ensure an appropriate allowance for equity risk in the capital requirements. The equity risk measures are the application of a symmetric adjustment mechanism to the equity risk charge and the duration-based equity risk sub-module. Both measures should reduce procyclical investment and in particular fire sales in falling stock markets.

46. For discounting insurance liabilities, risk-free interest rates are used which are derived from prices of financial instruments that are traded in deep, liquid and transparent markets. The financial instruments are interest rate swaps and, where swaps are not available, government bonds. For maturities where the markets for the relevant financial instruments are no longer deep, liquid and transparent, the risk-free interest rates are derived by means of extrapolation towards an ultimate forward rate (UFR). For the euro, the risk-free interest rates for maturities longer than 20 years are extrapolated. Until the end of 2017, EIOPA applied a UFR of 4.2 percent for most currencies, including for the euro. According to the methodology published by EIOPA in April 2017, the UFR is determined as the sum of an expected real rate and an expected inflation rate. The expected real rate is a long-term average of observed real rates since 1961, and the expected inflation rate is based on the inflation targets of central banks. This means that the UFR might change over time, but in order to strike the right balance between the legal requirements of stability of the UFR over time and reflecting changes in long term expectations, the maximum annual change to the UFR was limited to 15 basis points. The first application of the UFR methodology is set to the beginning of 2018. In line with the methodology, and reflecting the significant changes in the long-term expectations of interest rates in the recent years, the calculated value of the UFR for the euro is 3.65 percent. However, since annual changes will not be higher than 15 basis points, the current UFR of 4.2 percent was lowered in January 2018 to 4.05 percent. Based on an EIOPA analysis, the impact of a lower UFR is fairly limited. Even for life insurers, the reduction in the SCR coverage ratio flowing a UFR reduction by 50 basis points averages only 6 percentage points.

47. The volatility adjustment (VA) was introduced in order to prevent procyclical investment behavior. Insurers are allowed to adjust the risk-free interest rate term structure to mitigate the effect of exaggerations of credit spreads. The VA is based on 65 percent of the risk-corrected spread between the interest rate that could be earned from a reference portfolio of representative assets and the risk-free interest rates without any adjustment. The VA is derived per currency. It is the same for all insurance liabilities denominated in this currency unless a country-specific adjustment applies. 638 insurers used the measure as of end-2016 which is a reduction of 128 entities compared to one year earlier. Member States may require prior supervisory approval by NCAs—within the EA, such an approval is required in Estonia, Germany, Ireland, Portugal, and Slovenia. Potential problems could arise for insurers whose investment portfolio differs significantly from the reference portfolio which means that ultimately the VA impact becomes counterintuitive for them. Based on more granular market data being available under the Solvency II reporting, the reference portfolios have been evaluated by EIOPA recently and a revised methodology is used as of March 2018.

48. Within the EA, the matching adjustment (MA) is used only by 38 Spanish insurers. The MA fulfils a similar purpose as the VA by adjusting the discount rate, but instead of representative portfolios an undertaking’s own investments are used to determine the fundamental credit spread and the irrational part of spread changes. The MA, which is subject to supervisory approval, comes with certain safeguards, in particular the cashflows of matching assets must closely mirror the cashflows of liabilities, and matching assets need to be of sufficient credit quality. In order to gain more evidence on the adequacy of the calibration of these safeguards, EIOPA’s 2018 annual report on the LTG measures will evaluate in more detail the risk of losses due to bond defaults and downgrades of bonds in MA portfolios. In no EA country other than Spain, the MA is used, and outside the EA it is used only in the United Kingdom.

49. Transitionals can come in two different forms, and effectively reduce insurance liabilities over a phase-in period of 16 years after the implementation of Solvency II. Insurers can apply a transitional measure on the risk-free interest rate (TRFR) or on technical provisions (TTP). Under the TRFR, insurers apply a transitional adjustment to the risk-free interest rate for the valuation of insurance liabilities, based on the difference between the discount rates of Solvency I and the risk-free interest rates. Over the transitional period of 16 years both transitional adjustments are linearly reduced to zero. Both transitional measures apply only to insurance liabilities arising from contracts concluded before the start of Solvency II and are subject to supervisory approval. While the TRFR is used by only six EA insurers, 127 companies use the TTP. For 46 companies using either of the transitions a formal phasing-in plan was requested by NCAs.

50. The importance of LTG measures and transitionals differs substantially among member states. Although average SCR coverage ratios in all EA Member States are above 100 percent, the SCR ratios without LTGs and transitionals drop below than 100 percent in Portugal, and were lower by more than 50 percentage points for Germany, Greece, the Netherlands, and Spain. While German life insurers benefit most from the TTP, Dutch life insurers see the greatest impact coming from the VA. Greek life insurers depend heavily on the TRFR, and Spanish life insurers are the only users of the MA in the euro area.

51. The symmetric equity adjustment helps in reducing procyclical investment behavior. The standard formula prescribes a 39 percent shock to stock markets to derive the capital requirement for equity risks. In order to reduce the incentives of an insurer to sell off its shares in a market downturn in order to reduce the SCR and, in turn, improve the SCR coverage, a symmetric adjustment is made to the capital charge for equity risk depending on the level of equity prices. The symmetric adjustment is expected to be positive (i.e. the capital requirement is higher) when markets have risen recently, and negative (i.e. the capital requirement is lower) when equity markets have dropped in the previous months. The adjustment is calculated as follows:

$$SA = \frac{1}{2} \cdot \left(\frac{CI - AI}{AI} - 8\% \right)$$

where *SA* is the symmetric adjustment,

CI denotes the current level of the equity index, and

AI denotes the average of the daily levels of the equity index over the last 36 months.

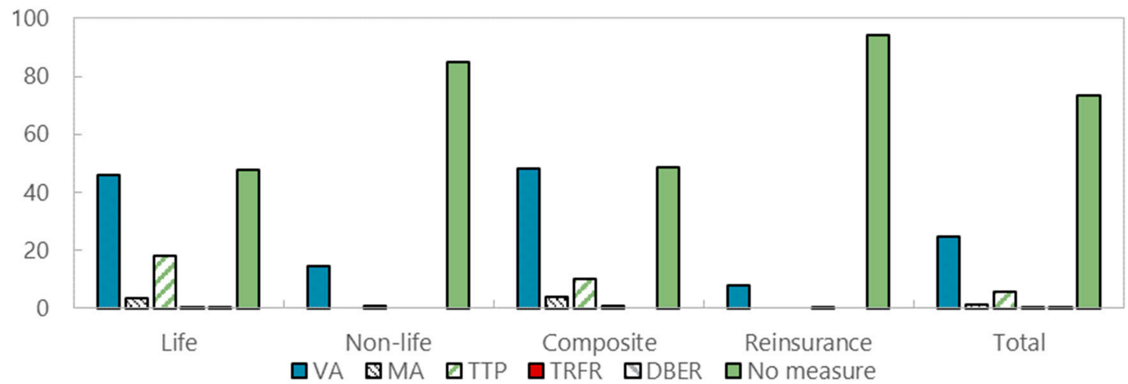
The formula, and in particular the deduction of 8 percent is based on the assumption of an average growth rate of equities of 4 percent. Symmetry is therefore to be understood with respect to this average trend. Upward movements of equity prices will therefore result in smaller absolute changes of the equity risk capital charges than equally sized downward movements.

Figure 8. Use of Long-term Guarantee Measures and Transitionals

LTG measures and transitionals are mainly used by life and composite insurers, but almost 50 percent of those do not use any of the measures.

Use of LTG measures and transitionals

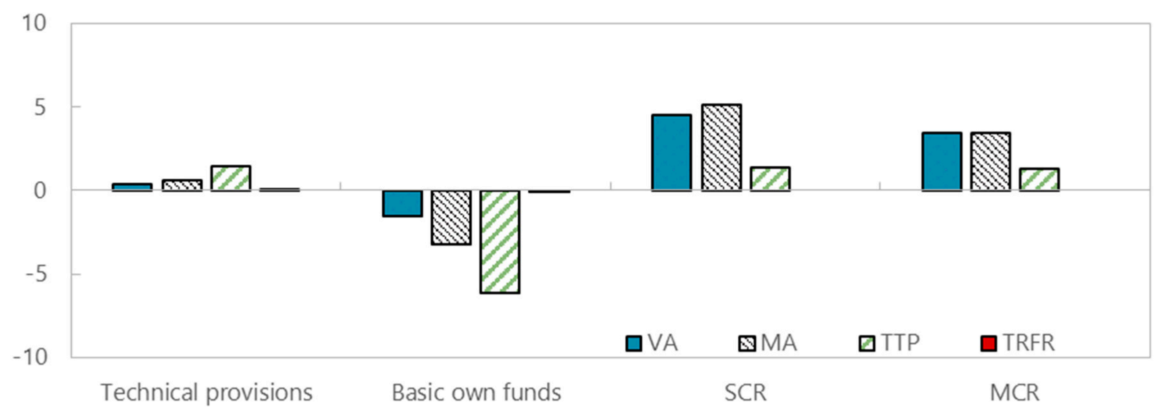
(based on number of companies, in percent)



Without LTG measures and transitionals, own funds would be lower while SCR and MCR would be higher.

Impact of removing LTG measures and transitionals

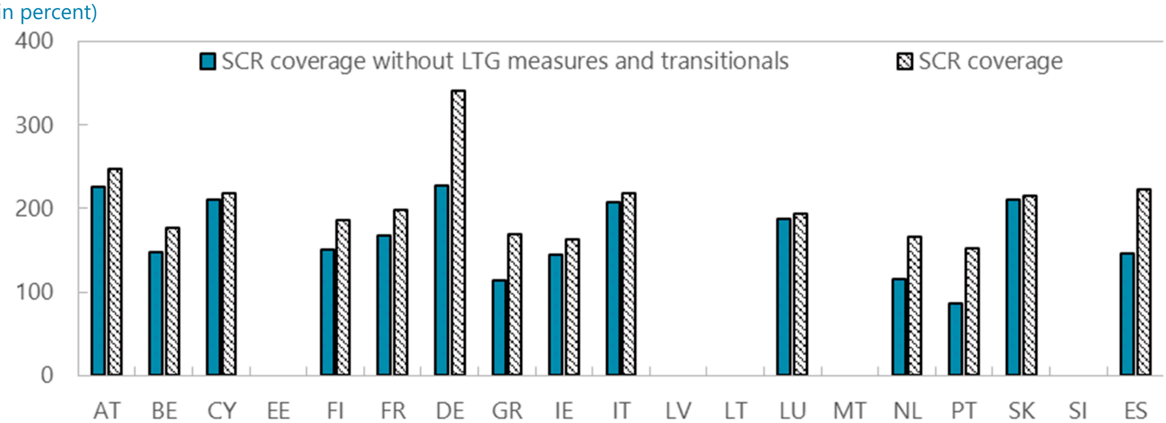
(in percent)



Insurers in DE, ES, PT, and GR benefit most from the LTG measures and transitionals

Average SCR coverage

(in percent)

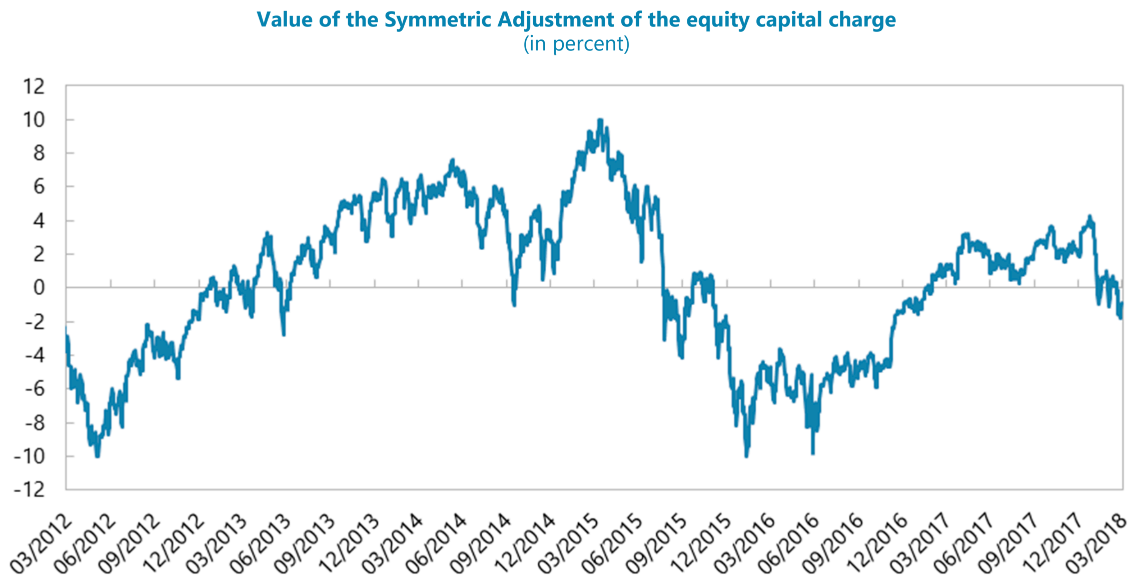


Source: IMF staff calculations based on EIOPA data.

Notes: No information available on the SCR coverage after LTG measures in EE, LV, LT, and SI due to small sample sizes.

Figure 9. The Symmetric Adjustment for Equity Risk

The symmetric adjustment mirrors the development of stock markets, having been mostly positive between early 2013 and mid-2015, and again during 2017.



Source: IMF staff calculations based on EIOPA data.

Recommendations

52. The FSAP recommends that EIOPA explore methods for transforming the LTG measures into more symmetric measures. Such measures should not only reduce liabilities of insurance undertakings in times of stress but could also be designed in a way to build up additional reserves in good times.

53. Public disclosures on the use of LTG measures and transitionals should be improved. While quantitative information (SCR before and after the use of LTG measures and transitionals) is disclosed in the SFCR, an evaluation by EIOPA reveals that the summary of the SFCR often leaves out a discussion of those measures, especially in countries where the use of such measures is more widespread. It is therefore recommended that EIOPA develops more detailed guidelines on how insurers should also qualitatively discuss the use of LTG measures and transitionals in the summary of the SFCR.

C. Review of Solvency II

54. The Solvency II Directive and further Delegated Acts are currently undergoing a legal review. As a first step, the SCR review is planned to be finalized by the European Commission by the end of 2018. The Solvency II Directive also foresees in Article 77f the review of the long-term guarantees measures and measures on equity risk by January 1, 2021.

55. In a first step, the Solvency II review focusses on certain aspects of calculating the capital requirements with the standard formula. In 2017, the EC has asked EIOPA's for technical advice with three overarching priorities:

- Simplifications and proportionate application of the SCR requirements,
- Removal of technical inconsistencies, i.e. recalibration of certain risks and other technical issues,
- Removal of unjustified constraints to financing.

56. In response to the call for advice, EIOPA has submitted two reports to the EC with proposed simplifications. Considering the implementation costs the industry already incurred, EIOPA has, in most cases, advised the EC to introduce optional simplifications. The main focus with regard to introducing simplifications or more proportionate approaches was on the following areas:

- Catastrophe risks,
- Simplifications of the look-through approach,
- Look-through approach at the group level,
- Market risk concentration,
- Currency risk at group level,
- Counterparty default risk,
- Reducing reliance on external credit ratings,
- Treatment of guarantees, exposures guaranteed by a third party, and exposures to regional governments and local authorities,
- Risk-mitigation techniques,
- Undertaking-specific parameters.

57. One of the main inconsistencies in the current standard formula identified by EIOPA relates to the capital requirement for interest rate risk. The current approach for calculating capital requirements to cover for interest rate risk does not cover negative interest rates and is not effective when interest rates are low. The proposed methodology, supported by most stakeholders and used in internal models, corrects this unintended technical inconsistency. The calibration is however subject to extensive criticism from the industry. The impact has been assessed with due care and EIOPA proposes that it be gradually implemented over the next three years.

58. The loss-absorbing capacity of deferred taxes (LAC DT) is a mechanism which allows insurers to offset losses with future profits—however national practices diverge. In its advice, EIOPA specifies the assumptions with which future profits should be calculated. Assumptions on future profits of new business should not be more favorable than those included in the business plan. Assumptions on the future return on assets should be set prudently, and credible evidence should be provided where assumed returns exceed risk-free rates. The governance around these projections should be reinforced by the involvement of key functions and in particular the actuarial function. Appropriate public disclosure and supervisory reporting is recommended so that all relevant stakeholders can assess the extent to which insurers are relying on this mechanism to absorb losses.

59. EIOPA suggests a refined treatment of unrated debt and unlisted equity to improve access to finance, thereby promoting the CMU. On unrated debt, the criteria relate to certain financial ratios and to the yield of the debt. Further requirements on governance and risk management have been advised as well. On unlisted equity, the criteria relate to the underlying equity investments and to own risk management.[12]

60. The Solvency II Directive also requires a review of the LTG measures and the measures on equity risk by January 2021. Since December 2016, EIOPA is already publishing an annual report on the impact of the application of the LTG measures and the measures on equity risk to the European Parliament, the Council, and the EC. In 2020, EIOPA will submit an Opinion on the assessment of the application of the LTG measures and the measures on equity risk to the EC. Based on EIOPA's Opinion, the EC will submit a report on the impact of the LTG measures and the measures on equity risk to the European Parliament and to the Council.

Recommendations

61. The FSAP recommends that European legislators remove the remaining technical inconsistencies in the Solvency II framework. In the current environment, the capital charge for interest rates does not yield reliable results and should therefore be modified. On the LAC DT, a more harmonized approach is also seen beneficial.

INSURANCE SUPERVISION

62. While insurance supervision remains a national competence, EIOPA supports NCAs in delivering high-quality effective supervision by overseeing the level playing-field and appropriate application of supervisory measures within the EU. This objective is primarily achieved through close cooperation and open dialogue with NCAs. Oversight activities follow a three-step process: diagnosing and analyzing market risks and the effectiveness of NCAs, ongoing monitoring of identified risks, and taking preventive and remedial action. In this context, EIOPA has developed a number of tools to facilitate productive engagement with national supervisors and to strengthen their supervisory capacity. These tools range from structured bilateral engagements, peer

[12] This is not the first area in which the Solvency II framework is adapted to promote long-term financing. First amendments regarding infrastructure projects and European Long-Term Investment Funds (ELTIF) took effect already in April 2016.

reviews and balance sheet reviews to consistency projects, participation in cross-border colleges of supervisors and setting up cooperation platforms together with NCAs.

63. **Recently, EIOPA has focused its internal resources on convergence issues related to cross-border business.** This is done through engagement in colleges of supervisors for insurance undertakings with cross-border business, consistency projects to identify differences in national supervisory practices, and through cooperation platforms between home and host supervisors.

64. **In 2017, a notable achievement has been the development of cooperation platforms.** Such platforms have been set up to enhance cooperation and communication between supervisory authorities in case of concerns on specific companies offering cross-border insurance, so that risks can be examined and preventive actions agreed in the most effective and timely manner. The establishment of these platforms reflect EIOPA's readiness to respond to an increase in cross-border business resulting from the freedom to provide service regime, as well as the value that the EIOPA's pan-European purview and steering bring to the performance of national supervision. At the end of 2017, nine platforms were active, involving eleven NCAs.

65. **When EIOPA identifies divergences in national supervisory practices, it can issue opinions or supervisory statements.** While these documents are not legally binding, they are meant to provide NCAs with EIOPA's stance on supervisory priorities and expectations. More recently, EIOPA has set up a process to answer questions on the various Solvency II-related regulations with those answers being available via EIOPA's website.

66. **EIOPA engages in peer reviews and benchmarking studies and can also take on a coordinating role in balance sheet reviews and technical assistance.** Two recent benchmarking studies focused on market and credit risks and on the use of the dynamic volatility adjustment in internal models. A recent example for a balance sheet review (although outside the EA) is Bulgaria. Technical assistance was provided to the Romanian NCA with regard to its preparations for the CMU.

67. **The EC has proposed several measures to strengthen the powers and the governance framework of the ESAs.** According to the EC proposal, EIOPA's governance should be strengthened and the European mandate be made more explicit, in particular by giving the EIOPA Chair a vote in the BoS and by adding new, full-time members to the BoS. Furthermore, the EC proposes to assign more direct powers to EIOPA in order to facilitate the convergence work. With regard to internal models, EIOPA should have a more active role and receive more data and information from NCAs. When performing stress tests, EIOPA should also have enhanced powers and be able to request information directly from participating companies.

Recommendations

68. **The FSAP recommends that European legislators endow EIOPA with the necessary powers and resources to promote further convergence in supervisory practices.** The EC

proposal to strengthen EIOPA's oversight function on internal models, including better access to data and information from the group supervisor, which is considered very useful in this respect.

69. It is further recommended that EIOPA intensifies its convergence work in the following areas:

- **Internal models:** In particular, more convergence in the use of the dynamic volatility adjustment should be strived for. This should be followed up by regular benchmarking exercises.

- **Loss-absorbing capacity of deferred taxes:** Further guidance should be provided on the extent to which insurers can use LAC DT to reduce their capital requirements. This should be followed up by regular benchmarking exercises.

- **Use of the Pillar 2 capital add-on:** EIOPA should assess NCAs' use of capital add-ons and provide more guidance on cases where typically such an add-on should be required. In this context, EIOPA should consider publishing its Supervisory Review Process Handbook once it has reached a stable version.

- **Cyber risks:** EIOPA should facilitate the exchange among NCAs on cyber risks. Ideally, such an exchange, which in a first stage would probably focus on identifying and sharing best practices, would also involve insurance undertakings and experts from specialized consulting firms. Additionally, EIOPA should start defining good practices in the supervision of cyber risk underwriting.

70. To better allow NCAs and other authorities (e.g., ESRB, ECB) performing their own benchmark analyses, EIOPA should make more data accessible to these authorities. While currently authorities can already request EIOPA to perform certain analyses, making all data accessible to them on a virtual platform (and with data security safeguards in place) could be a more efficient way to analyze data. At the same time, EIOPA would be less burdened by ad-hoc requests.

Box 1. Possible Consequences of Brexit

The prospective withdrawal of the United Kingdom from the EU on March 29, 2019 will transform its regulatory status into that of a "third country" outside the EU. Subject to any transitional arrangement that a withdrawal agreement might possibly include, the EU rules in the field of insurance regulation, in particular the Solvency II Directive and the Insurance Distribution Directive, will no longer apply to the U.K. This would have several consequences.

U.K. insurers will no longer benefit from the Solvency II authorization to provide services in the EU—as third-country insurers they will lose the so-called "EU passport." Branches of U.K. insurers in the EU will be able to continue doing business only when they receive an authorization in the Member State of their activity, and they will also have to comply with certain requirements of the Solvency II Directive. The authorization of a branch however does not grant the right to conduct business across the EU Member States, but only in the Member State that has granted the authorization. EU-27 subsidiaries of U.K. insurance groups can continue to operate as EU insurance undertakings on the basis of their authorization in the EU Member State of their establishment and subject to their compliance with the EU rules. U.K. reinsurers will have to comply, for their EU business, with the conditions set by the EU Member State in which they carry out their activity. These conditions cannot be more favorable than those applying to reinsurance companies from the EU, but they may be less favorable and may well differ between EU Member States, e.g., Member States may require the pledging of assets or the establishment of a branch by a third country reinsurer.

Any group-level internal model covering a U.K. group operating in the EU, approved by the U.K. Prudential Regulatory Authority before the withdrawal date will no longer be recognized in the EU as of the withdrawal date, and will require a new application and approval by an EU-27 supervisor. Any entity-level internal model for a subsidiary of an U.K. insurance undertaking established in one of the EU-27 Member States and approved by the supervisor of that Member State will remain valid.

The loss of EU authorization may affect the ability of U.K. insurers to continue performing certain obligations and activities and ensure service continuity with regard to contracts concluded before the withdrawal date. According to the Solvency II Directive insurers are required to take measures to ensure that contracts can continue to be serviced. EIOPA expects policyholders to be informed about the impact on their rights and on the provision of insurance services that may emerge from the withdrawal of the U.K. from the EU, including the upcoming loss by the relevant insurance undertaking or intermediary of its EU authorization.

EIOPA issued an Opinion addressed to NCAs in July 2017 in order to foster convergence and consistency of authorization processes across Member States by setting out guidance on the application of the existing legal framework considering arrangements between EU and non-EU entities. EIOPA's Opinion on supervisory convergence in light of the U.K. withdrawing from the EU emphasizes the need for consistent supervisory approaches both on authorization processes and on-going supervision of undertakings so as to avoid standards being lowered or prudential requirements disregarded.

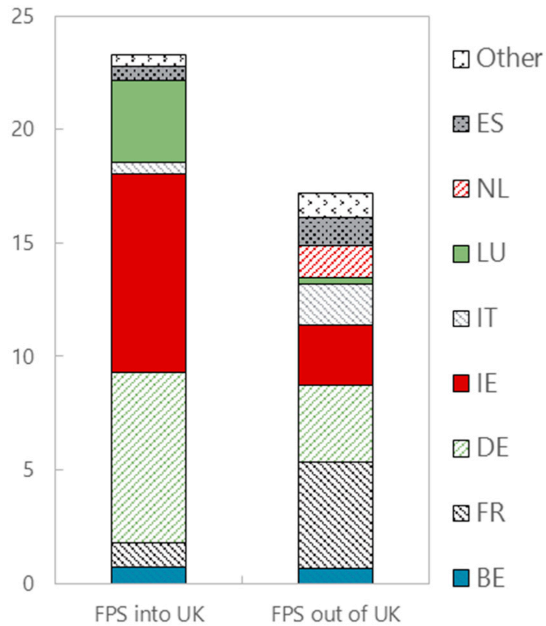
Recommendations:

The FSAP recommends the European authorities and the NCAs to accelerate the preparations that ensure continuity of financial service and reciprocal data access by U.K. and EU supervisory authorities.

Box 1. Possible Consequences of Brexit (concluded)

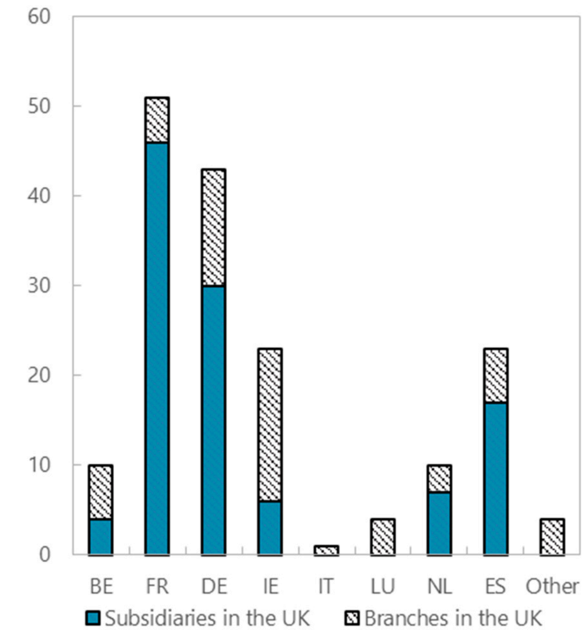
Cross-border premiums under the freedom to provide services into the U.K. exceed those out of the U.K.

Cross-border premiums
(in bn. EUR)



The highest number of subsidiaries and branches in the U.K. are part of FR, DE, IE, and ES insurance groups.

Subsidiaries and branches in the U.K.
(number)



Source: IMF staff calculations based on EIOPA data.
Notes: "FPS into UK" refers to premium inflow from the EU 27 into the U.K., and "FPS out of U.K." refers to premium outflows from the U.K. to the EU27.

INVESTMENT FIRM REGULATION AND SUPERVISION[13]

71. Applying more proportionate and effective regulation and supervision of investment firms is part of the EC's CMU action plan. Presenting a legislative proposal to review the prudential treatment of investment firms was a priority action in the EC's June 2017 Communication on the mid-term review of the CMU. According to the EC, a more effective prudential framework calibrated to the size and nature of investment firms should restore a level playing field, boost competition, and improve investors' access to new opportunities and better ways of managing their risks. The EC's proposal reflecting this objective was published in December 2017.

72. In light of Brexit, the importance of the investment firm regulatory and supervisory framework has further increased, since many U.K.-based firms may need to relocate part of their activities to EU27 to maintain single market access. The EC acknowledged this in its June 2017 Communication, emphasizing that the new prudential framework should ensure that any relocation of investment firms is not driven by regulatory arbitrage or differences in the supervisory

[13] The main author of this section is Eija Holttinen, Senior Financial Sector Expert in the Monetary and Capital Markets Department of the IMF.

framework. At the same time, both the ECB and EBA have emphasized the need to subject systemic euro area investment firms to SSM supervision. Brexit has also prompted ESMA and EBA to enhance their supervisory convergence work to promote a level playing field among EU countries to which firms may consider relocating.

73. Against this background, the objective of this part is to assess the extent to which the recent and proposed regulatory and supervisory changes enhance the effectiveness of the overall framework. The first section below describes the current regulatory structure, based on the Markets in Financial Instruments Directive (MiFID) II[14] and the Markets in Financial Instruments Regulation (MiFIR), as well as the EU market structure for investment services. The second section presents the main changes (both recent and proposed new ones) to EU and euro area prudential regulation and supervision, approach to supervisory convergence, and third country firms' ability to provide investment services in the EU. The discussion focuses on the regulatory and supervisory elements with the potential for the most significant financial stability impact.

REGULATORY AND MARKET STRUCTURE

A. Regulatory Structure

74. Both investment firms and credit institutions can provide investment services in the EU.[15] While investment firms require a separate authorization for each investment service, investment activity and ancillary service,[16] credit institutions can provide investment services under their credit institution authorization.[17] Investment services consist of a broad set of services that subject the firms to very different types of risks.[18] In some services, such as portfolio management, the main risk is operational (e.g., legal or reputational risk), whereas in other services, such as dealing on own account, the firm is subject to various types of market, credit, and counterparty credit risks.

[14] References to MiFID in this note refer to MiFID II unless specifically mentioned.

[15] References to the EU in this note also encompass countries belonging to the European Economic Area (EEA) that apply the EU regulatory framework under the EEA Agreement.

[16] In the remainder of this note, references to the provision of investment services also cover the conduct of investment activities (such as dealing on own account) and the provision of ancillary services (such as safekeeping and administration of financial instruments).

[17] However, some member states require credit institutions to submit an additional application to provide investment services, following the MiFID categories.

[18] MiFID investment services are: (i) reception and transmission of orders; (ii) execution of orders; (iii) dealing on own account; (iv) portfolio management; (v) investment advice; (vi) underwriting and placing financial instruments on a firm commitment basis; (vii) placing of financial instruments without a firm commitment basis; (viii) operation of a multilateral trading facility; and (ix) operation of an organized trading facility. In addition, investment firms (and credit institutions) can often provide other services either subject to an additional authorization or under a national discretion provided in the EU legislation. An example of such services is being a depositary for investment funds.

75. The provision of investment services is regulated in MiFID and MiFIR. They provide for a wide regulatory framework, including governance, organizational, and conduct of business requirements. The revised version of MiFID (MiFID II) and MiFIR have applied since January 3, 2018.[19] The MiFID conduct of business and organizational requirements also apply to credit institutions that provide investment services, while they are exempted from certain other MiFID requirements because they are already subject to similar requirements under the CRR and CRD.[20] The main responsibility for developing the EU secondary legislation under MiFID and MiFIR (e.g., regulatory technical standards) lies with ESMA.

76. The prudential requirements for investment firms are currently in the CRR and CRD. Initially investment firms were subject to the full CRD, but various exemptions and waivers have been introduced as the prudential framework has become progressively more complex. Currently, depending on the nature and volume of services provided, some investment firms are fully exempted from prudential regulation, some are subject to a lighter framework, and some have to comply with full CRR/CRD requirements. Member states also have certain discretion in the scope of application of the requirements. The EBA drafts the secondary legislation under the CRR and CRD, including that applicable to investment firms.

77. At the core of the EU regulatory framework is the ability of investment firms and credit institutions to provide investment services in other member states without a separate authorization in the host countries. An investment firm or credit institution can start providing investment services on a cross-border basis from its home country within the EU after its home authority has forwarded the firm's notification to the host authority. Establishing a branch in the host country is subject to additional information requirements and more extensive scrutiny by the home authority. Firms are also permitted to become remote members of trading venues in other EU countries. The functioning of the investment services passport within the EU is described in more detail in Appendix III.

78. Provision of investment services from third countries to the EU was fully subject to national regimes under MiFID I. The new framework, introduced in MiFID II and MiFIR and described in more detail in section E. and Appendix IV below, has applied only since January 3, 2018.

B. Market Structure

79. Investment firms represent a very heterogeneous group of firms ranging from subsidiaries of global systemically important banks (G-SIBs) to very small firms providing limited investment services to retail clients in one country. According to data collected by the EBA in cooperation with ESMA, at the end of 2015 there were 6,051 EEA investment firms. The EBA estimated that eight investment firms designated under the CRD as other systemically important

[19] MiFID I had applied since November 1, 2007.

[20] In particular, requirements on the management body and shareholders.

institutions (O-SIIs) controlled approximately 80 percent of all investment firm assets. The risk profile of investment firms is further illustrated by the additional statistics presented by the EBA:

- Around 85 percent of the firms conduct only investment advice, reception and transmission of orders, portfolio management, and execution of orders;
- Almost 40 percent of the firms are authorized to provide only investment advice;
- Around 20 percent of the firms are authorized to deal on own account and underwrite on a firm commitment basis; and
- 55 percent of all EU investment firms are based in the United Kingdom.

80. No EU/EEA level data is available on banks' provision of investment services. Anecdotally, in many EU countries, banks dominate the provision of investment services, including trading on exchanges. Banks' market share is even larger if considered at group level, including their investment firm subsidiaries.

81. The free provision of services within the EU has fundamentally changed the market structure in many countries. Remote trading on exchanges has become the norm particularly in smaller member states, with the number and market share of local independent investment firms declining significantly. Some regulated markets also permit remote members from third countries (for example from Switzerland).

82. Limited data is currently available on the extent of cross-border provision of services from the United Kingdom to EU27 and vice versa. Many firms have made a notification to all or most member states without necessarily having a concrete plan to provide services in those countries. There is no harmonized data on the services provided on a cross-border basis, so authorities must rely on general supervisory information. Therefore, it is difficult to provide a quantitative estimate on the extent to which the United Kingdom's withdrawal from the EU may impact the provision of services to clients in the EU27 from the United Kingdom and vice versa. More generally, lack of consistent data may limit the authorities' ability to assess the overall investor protection and financial stability impact of cross-border provision of services, other than on the basis of anecdotal supervisory information. The same data challenge applies to the provision of investment services from third countries to various EU member states.

83. It appears likely that the relocating business of large U.K.-based investment firms would continue to be provided from group investment firms rather than credit institutions. Subject to appropriate authorizations, U.K.-based investment firms could in principle choose to relocate some of their business to group credit institutions in EU27. However, in the case of firms whose ultimate parent companies are from the United States or Japan, their home country legislation is likely to constrain the groups' ability to provide investment services from an entity that also provides banking services (or from its subsidiary). Some other relocating groups may otherwise prefer a business structure where banking and investment services are provided by separate arms of the group. Therefore, it is likely that most (if not all) large U.K.-based investment firms that are part of global investment banking groups will transfer the relocating business to an existing or new EU27 group investment firm rather than a group credit institution.

RECENT AND PROPOSED REGULATORY AND SUPERVISORY CHANGES

A. Prudential Requirements

84. In December 2017, the EC proposed amending the current prudential requirements for investment firms. The proposal largely followed the September 2017 EBA opinion that was provided in response to the EC call for advice. According to the proposal, the investment firms considered to be systemic (so-called Class 1 firms) would be required to obtain an authorization as credit institutions and would therefore remain under the CRR/CRD prudential requirements. The objective would be to capture under the same requirements as banks the largest firms that typically incur and underwrite significant risks throughout the single market and create a greater risk to financial stability than other investment firms. The non-systemic firms would be divided into two types: Class 2 and Class 3. The former would be subject to a simplified version of the existing prudential requirements, if they trade financial instruments, whereas the latter would only be required to hold the higher of initial capital or the quarter of their previous year's fixed overheads. Table 2 and Appendix V summarize the main elements of the proposal.[21]

Table 2. New Classification and Prudential Regime for Investment Firms

Systemic	Non-Systemic	
Class 1	**Class 2**	**Class 3**
• Largest firms (with individual firm/group assets over EUR 30 billion) • Carry out risky, "bank-like" activities • Will remain under CRR/CRD	• Large firms, above specific thresholds • New risk assessment tailored to their business • Simplified version of existing rules, if trade financial instruments	• Smaller, non-interconnected firms • Simpler capital requirements (higher of initial capital or previous year's fixed overheads)

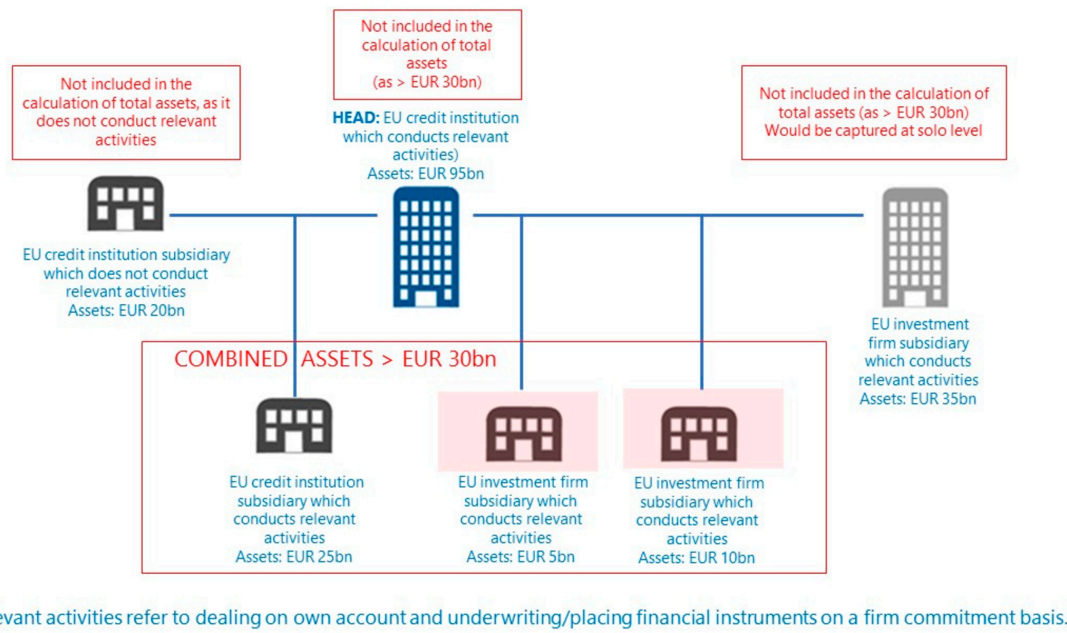
Source: European Commission.

[21] In addition, as credit institutions Class 1 firms would continue to be subject to full CRR/CRD corporate governance and remuneration requirements, whereas such requirements would be applied to Class 2 firms in a more limited manner. For Class 3 firms, the EC considers that MiFID rules are sufficient.

85. **The continued application of CRR/CRD to systemic investment firms would be achieved by amending the definition of credit institution in CRR**.[22] The revised definition would capture undertakings (i) that carry out the MiFID activities of dealing on own account or underwriting/placing financial instruments on a firm commitment basis; and (ii) whose total value of assets exceeds EUR 30 billion either on a solo basis or together with certain other group entities. The automatic method for determining whether the EUR 30 billion threshold is exceeded together with other group entities is illustrated in Figure 10.[23] An existing or new firm captured by the revised definition of a credit institution would be required to apply for authorization as a credit institution.

Figure 10. Application of the EUR 30 Billion Threshold at Group Level

Under the EC proposal, all three investment firms in the group below would have to apply for authorization as credit institutions. The largest one, because its total assets exceed EUR 30 billion at solo level. And the two smaller ones, because together with the credit institution that also conducts relevant activities but has assets less than the EUR 30 billion threshold, their total assets exceed EUR 30 billion.



Source: ECB.

[22] According to the current definition a credit institution means an undertaking the business of which is to take deposits or other repayable funds from the public and to grant credits for its own account (article 4(1)(1) CRR).

[23] This is based on the EC proposal for amendments to article 4(1)(1)(b)(ii) of the CRR. In addition, article 4(1)(1)(b)(iii) would provide the consolidating supervisor the ability to require a firm to apply for authorization as a credit institution if the total assets of all the group entities that conduct dealing on own account and/or underwrite on a firm commitment basis exceed EUR 30 billion, even if the firm's own assets (on a solo basis) would be below this threshold. In this discretionary determination, all firms providing the relevant services within the group would be included, independent of whether their own assets are above or below EUR 30 billion (cf. the automatic determination where only those firms whose own assets are below EUR 30 billion would be aggregated).

86. The prudential requirements for Class 2 and 3 investment firms are proposed to be completely overhauled. This is because the EBA and EC consider that the CRR and CRD focus too extensively on the risks of credit institutions but not those of investment firms. In their view, the services provided by typical investment firms and the risks they can create are, to a large extent, not explicitly addressed by the existing prudential framework. Out of the eight investment services that investment firms can perform under MiFID, only dealing on own account and underwriting and placing financial instruments on a firm commitment basis have clear corresponding requirements under the CRR. For the other investment services, there are no such requirements, resulting in an approximate coverage of the risks involved.

87. The other EU institutions are currently discussing the EC proposal. While progress has been made at both the European Parliament and the Council of the EU, it is difficult to predict when the discussions may be completed.

88. The FSAP supports continuing to apply full CRR/CRD requirements to systemic investment firms. This is closely linked to the proposal for the supervision of these firms (see the following section). However, some technically complex details, such as the application of the EUR 30 billion threshold at group level, require clarification before the new framework is finalized.[24]

89. It would be useful to maintain some flexibility for competent authorities in applying the criteria for systemic importance. This would avoid creating a rigid threshold that may result in a cliff effect or require very small investment firms to apply for authorization as credit institutions. On the other hand, a somewhat smaller firm may also provide an essential service or be highly complex and interconnected. Explicitly committing to reviewing the functioning and impact of the new legal framework in a few years would also be sensible to address any unintended consequences.

90. The prompt adoption of the new prudential regime for small and medium sized firms would enhance convergence between member states' frameworks. This is important against the backdrop of firms establishing new or expanding existing entities in EU27. To avoid unnecessary market disruption with potential negative impact on financial stability, due consideration should be given to permitting appropriate arrangements for the transition of investment firms to the new prudential regime.

B. Supervision of Investment Firms

Prudential Supervision

91. One of the key elements of the EC's proposal for the revised prudential framework is establishing a level playing field in terms of supervisory arrangements. Since Class 1 firms would need to apply for authorization as credit institutions, they would become subject to

[24] These are currently discussed at the Council working group.

prudential supervision by the SSM, if they were established within the euro area.[25] At the same time, they would fall under the purview of the SRM. Class 2 and 3 investment firms would continue to be subject to the supervision of their home country NCA designated under MiFID[26] and resolution planning and resolution by their home country national resolution authority.

92. This new structure would require the SSM to put in place the requisite operational capacity during the transition. For example, the SSM would have to recruit staff with relevant skills; establish an organizational structure; set up databases; and determine how to coordinate activities in this area with its other supervisory activities and monetary operations.

93. Under the EC's proposal, a limited number of investment firms would currently qualify as Class 1 firms. Most of them are currently established in the United Kingdom. The extent to which they would continue to qualify as Class 1 firms after Brexit would depend on the amount of activities they would relocate to EU27. In the run-up to and after Brexit, other firms may also exceed the EUR 30 billion threshold either at a solo or group level. Table 3 provides information on the eight U.K.-based investment firms that have been designated as O-SIIs, their EU27 affiliates that are authorized to provide investment services, and their publicly disclosed plans to relocate some of their group activities to EU27.

94. Since the U.K.-based investment firms are planning to relocate to different member states, it is essential to ensure sufficient coordination of the NCAs' authorization decisions. As illustrated in Table 3, the majority of the potentially relocating large U.K.-based firms must apply for new authorizations in one of the EU27 countries. Pending the application of the new requirements for systemic investment firms, the authorizations would be granted by the NCAs that have been designated to carry out this duty under MiFID, potentially in cooperation with the NCAs designated under the CRD. For all other investment firms, the relevant NCAs would continue to be in charge. Coordination of authorization criteria and decisions is essential to avoid supervisory arbitrage. ESMA (for MiFID/MiFIR) and the EBA (for CRR/CRD) should continue to play a key role in this regard through their supervisory coordination mechanisms. Given the likely future supervisory role of the ECB for systemic firms, it should be engaged in the cooperation from early on. ESMA and the EBA should continue their efforts to ensure that NCAs bring all relevant cases for discussion in the relevant coordination forums.

[25] If a systemic investment firm were established within EU27 but outside the euro area, it would instead be supervised by the NCA designated under the CRD.

[26] In some member states, the responsibility for investment firms' prudential supervision may have been allocated to another competent authority.

Table 3. Potential U.K.-Based Systemic Investment Firms and Their Relocation Plans

Firm	Likely Main Relocation City[1]	Current Entities Providing Investment Services in the Relocation Country[2]
Barclays Capital Securities Limited	Dublin	Branch of the U.K. bank, no investment firm
Citigroup Global Markets Limited	Frankfurt	Local investment firm
Credit Suisse Securities (Europe) Limited	…	…
Goldman Sachs International	Frankfurt	Local bank, no investment firm
Merrill Lynch International	Dublin	Branch of the U.K. bank
MUFG Securities EMEA plc.	Amsterdam	N/A
Morgan Stanley & Co. International Plc	Frankfurt	Local bank, no investment firm
Nomura International Plc	Frankfurt	Branch of the U.K. investment firm, local inactive bank (authorization withdrawn)

Sources: Bank of England list of investment firms designated as O-SIIs, ESMA MiFID database, various news media.

[1] Based on Internet search last conducted on June 8, 2018, the information has not been verified from groups' official disclosures.

[2] ESMA MiFID database may not include all relevant information. The information has not been verified from the information published by the relevant competent authorities.

Conduct Supervision

95. While the EC's proposal for prudential supervision of systemic investment firms is sound, the increasing challenges for conduct supervision deserve equal attention. With the relocation of part of the U.K.-based investment firms' business, the extent of wholesale market activities[27] in EU27 will increase. The NCAs designated under MiFID would be responsible for supervising this business, in addition to the existing investment services by EU27 investment firms and credit institutions. Initially they would need to cooperate with the member state prudential authorities (if different), but in the future with the SSM. A future supervisory model where the ECB would need to increasingly cooperate with NCAs beyond the SSM context may not be optimal due to the large number of counterparties involved. However, a mechanism to facilitate the interaction of prudential and conduct supervision would need to be established.

[27] Wholesale market activities here refers to large scale investment services provided to professional investors and eligible counterparties and dealing on own account. A more precise legal definition would need to be developed if any reallocation of supervisory responsibilities were to be proposed.

96. Enhancing ESMA's role in the supervision of significant institutions' wholesale market activities would simplify cooperation between the prudential and conduct authorities. Bilateral cooperation between the ECB and the various NCAs responsible for conduct supervision may not be sufficient to ensure efficient supervision of significant institutions' wholesale market activities that may be a source of significant operational risks, including legal and reputational risks. These markets are cross-border in nature, which was the key criterion in the EC's recent proposal for enhancing the powers of ESMA. Therefore, consideration could be given to the benefits of allocating the responsibility for wholesale conduct supervision (within the EU) to ESMA, including for on-site supervision. Alternatively, a stronger role could be granted to ESMA in facilitating enhanced cooperation between the ECB and the relevant NCAs beyond the current supervisory coordination arrangements.

C. Requirement to Establish an EU Intermediate Parent Undertaking

97. The future prudential regulatory and supervisory model for investment firms is linked to the potential requirement for third country financial groups to establish an intermediate parent undertaking (IPU) in the EU. In its November 2016 proposal for changes to the CRD as part of its so-called risk reduction package, the EC proposed requiring the establishment of an EU IPU if two or more EU credit institutions or investment firms have the same ultimate parent undertaking in a third country. The objective of the proposal is to enhance the EU authorities' ability to supervise and resolve entities belonging to third country groups operating in the EU. The EU IPU could be either a holding company subject to the CRR/CRD or a credit institution. According to the original EC proposal, the requirement would have applied to third country groups that are identified as non-EU global systemically important institutions (G-SIIs) or that have EU entities with total assets of at least EUR 30 billion. The value of total assets would have been determined on the basis of the assets of both subsidiaries and branches of the third country groups.

98. The Council and Parliament have made progress in their discussions on the EC proposal. The Council early March general approach includes changes to the original EC proposal. The requirement for all G-SIIs to establish an IPU independent of the value of their EU assets has been removed. Competent authorities would also be able to allow the establishment of two EU IPUs if a single IPU were incompatible with a mandatory requirement of the third country where the group has its head office. The asset threshold has been increased to EUR 40 billion. An investment firm could also be the IPU for groups that do not include EU credit institutions (or that have been established to comply with the requirements in the third country). Finally, the transitional period for existing EU institutions has been extended to four years from the date of application of the CRD changes. The European Parliament is less advanced in its discussions, but several members of the European Parliament have tabled similar proposals to those included in the Council general approach.

99. Given the proposed long transition period, any requirement to establish an EU IPU is likely to have an impact on investment firm supervision only in the medium term. Therefore, the impact on the firms that would become subject to SSM prudential supervision is likely to remain unknown for many years. Market participants generally indicated that their primary focus at this stage is to establish the required EU27 investment firms and deal with any other legal restructuring needs only after there is certainty on the requirements.

D. Supervisory Convergence

100. The importance of the ESAs' supervisory convergence work has increased in preparation for Brexit. The tools the ESAs currently use to promote convergence of supervisory approaches among the NCAs include guidelines, opinions, and Q&As. In certain areas they are involved in supervisory colleges. Other supervisory convergence measures, such as peer reviews, are also used, subject to the limitations in the regulations establishing the ESAs. ESMA has emphasized that its powers and tools are not sufficiently strong to deal with all cases of regulatory or supervisory arbitrage and has called for enhancement of its supervisory convergence tools.[28] In ESMA's view, particular emphasis should be put on enhanced legal powers to conduct peer reviews, get access to information on national supervisory practices, and use the breach of union law procedure.

101. As part of its CMU action plan, the EC adopted in September 2017 a proposal to review the ESFS. As part of the review, the EC is proposing to enhance the ESAs' supervisory coordination role by giving them the responsibility to set EU-wide supervisory priorities, check the consistency of NCAs' work programs with EU priorities, and review the implementation of the work programs. The NCAs would also be required to notify the ESAs when a market participant, such as an investment firm, intends to significantly outsource, delegate or transfer risks to non-EU countries in a way that would allow the firm to benefit from the EU passport while essentially carrying out its activities outside the EU. An ESA would be able to issue an opinion to the NCA if it considers that the authorization would not comply with relevant legal and regulatory requirements.

102. A key part of the EC proposal is amending the governance of the ESAs, which would also contribute to strengthening their supervisory convergence measures. The proposed governance changes are intended to address the challenges in managing conflicts between EU and national interests, which can create the risk that ESAs' decisions are not taken in the common interest of the EU, that decision-making is delayed or that there is an inaction bias. The governance changes are expected to be particularly helpful in enhancing the ESAs' ability to use their supervisory convergence tools, such as peer reviews. Under the proposal, peer reviews would become the responsibility of review committees, exclusively composed of staff from the ESAs. The NCAs would be required to make every effort to comply with any guidelines and recommendations that the ESAs may issue as follow-up to a peer review. The proposal would also enhance the ESAs' ability to publish the peer review reports.

103. Enhancing the ESAs' supervisory convergence powers would better enable them to respond to the increasing supervisory coordination challenges. These are heightened in light of Brexit and the need to build the CMU.

[28] ESMA response to the public consultation on the operations of the ESAs, May 29, 2017.

E. Provision of Investment Services from Third Countries

104. MiFID II and MiFIR changed the requirements for third country firms' right to provide investment services in the EU. While MiFIR introduced the possibility for third country firms to provide investment services to professional clients and eligible counterparties[29] under an EU level framework (subject to an EC equivalence decision and ESMA registration), national regimes will continue to exist pending the application of the MiFIR framework. For services to retail clients, no passport will be available, and member states can continue to apply their national regimes, which may include requiring the third country firm to establish a branch when services are provided to retail clients. Appendix IV and Figure 11 summarize the content of the new framework.

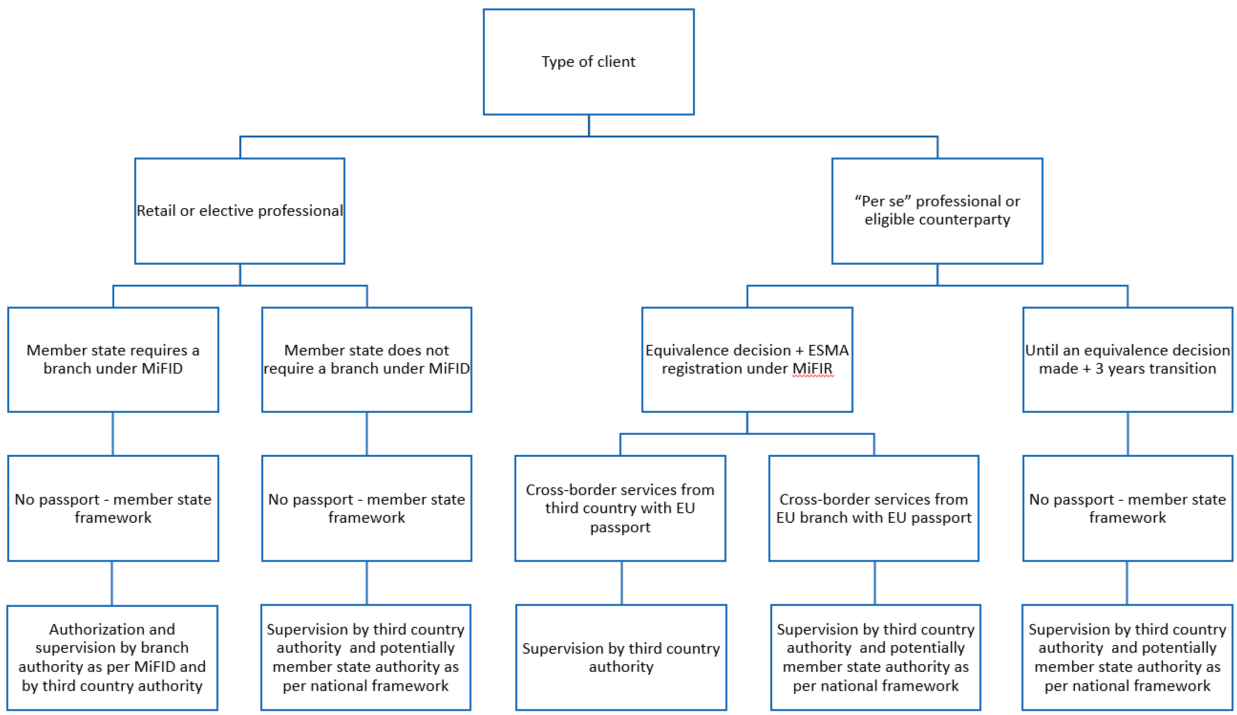
105. Brexit will enhance the importance of the third country framework for investment services. An EC equivalence decision concluding that the U.K. prudential and conduct of business framework is equivalent to that of the EU would enable U.K. investment firms to provide investment services to EU professional clients and eligible counterparties on a cross-border basis, subject to ESMA concluding a cooperation agreement with the relevant U.K. authority and registering the firm.

106. If no equivalence decision is made, U.K. firms may be able to continue to provide investment services under the member states' national regimes in those member states. The national regimes differ from each other and some member states have not yet completed the transposition of MiFID.

107. The EC has recently proposed certain changes to the MiFIR and MiFID third country frameworks. MiFIR changes relate to expanding the scope and depth of the EC equivalence assessment and requiring registered third country firms to provide certain information regularly to ESMA. ESMA would become subject to new monitoring and reporting duties in relation to whether a third country continues to fulfill the conditions for an equivalence decision adopted by the EC. Similarly, proposed MiFID changes would expand the obligations of third country firms' branches to report certain information to the branch country NCA. The suggested reporting changes would enhance first the NCAs' and—subject to equivalence decisions being made—ultimately ESMA's access to data on third country firms' provision of investment services (see Appendix IV).

[29] The definition of professional clients is in Annex II of MIFID and that of eligible counterparties in article 30 of MiFID.

Figure 11. MiFID and MiFIR Third Country Framework



Sources: MiFID, MiFIR.

108. While the recently proposed changes to the MiFIR and MiFID third country frameworks address some of the gaps of the current framework, they may still not be sufficient to ensure EU level financial stability and consistent investor protection. It may take a while before the EC will have made its first equivalence decisions under MiFIR. The transitional period under MiFID, permitting the coexistence of national arrangements alongside the EU level approach, is also fairly long. It would be useful for the EC to consider proposing the removal or at least reduction (e.g., by shortening the length of the transitional period under MiFID) of member states' ability to permit third country firms to provide investment services under the MiFID national regimes. An expedited introduction of a harmonized EU level framework, at least in relation to services to non-retail clients, would ultimately best serve EU financial stability and investor protection objectives. In the meantime, the EC and ESMA should aim at further enhancing data availability on cross-border provision of investment services from third countries already before the application of the MiFIR reporting requirements.

MACROPRUDENTIAL POLICY[30]

A. Context

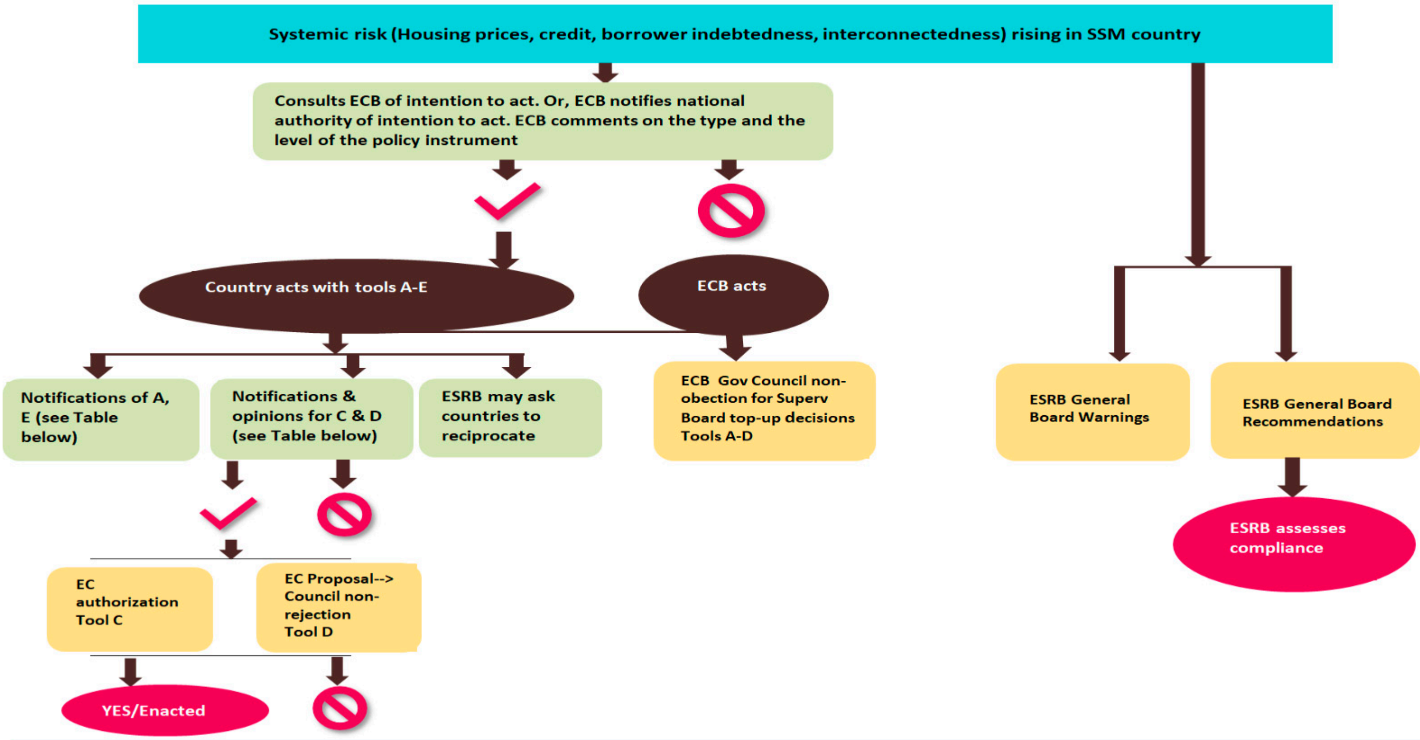
109. Macroprudential policy is a shared competency between SSM-area national authorities and the ECB, while centralized checks and balances protect single-market objectives (Figure 12). National macroprudential or designated authorities (DA), overseeing domestic financial systems, can use capital-based and selected other tools in the CRD/CRR, and borrower-based tools from national legislations where they exist. The ECB can act as a designated authority and "top up" measures based in the CRD/CRR where national measures have been insufficient to address macroprudential or systemic risks or area-wide risks warrant action. The European Systemic Risk Board (ESRB), responsible for EU-wide macroprudential oversight, issues warnings on financial stability risks and recommendations, while coordinating cross-border reciprocity of macroprudential policies. To ensure the integrity of the single market, an elaborate process for notification and non-objection of certain policy tools are in place. A hierarchy or "pecking order" applies to capital-based tools (Figure 12, table); those in the 3rd and 4th categories need to seek opinions from the EBA and the ESRB, and in some cases, non-rejections from the Council are required as well.

110. Private sector financing sources differ between households and corporates. Banks remain the most important intermediary for the private sector. However, loans amounting to almost 40 percent of euro area GDP are granted by corporates and the so-called Other Financial Institutions "OFIs" (Figure 13). Other NFCs and OFIs grant more than 50 percent of loans to NFCs (Figure 13). While banks are the main financing sources of corporates in the four largest members of the Eurozone, cross-border OFIs and banks dominate in the Netherlands and Luxembourg. In Belgium and Ireland, domestic OFIs are at least as important as domestic banks (Figure 14). In Belgium and the Netherlands, insurers lend 5–10 percent of their assets in loans and mortgages to households (EIOPA, 2018).

111. Moreover, housing finance characteristics and the role of fiscal incentives vary significantly across countries. For example, some countries, like Austria and Slovakia, give subsidies to selected groups, while others, like France, Germany, and Slovenia, provide subsidies through savings-account contributions. Housing finance funds provide either loans or guarantees for housing loans in the Netherlands, Slovak Republic and Slovenia. Many countries allow tax-deductibility of mortgage interest and/or capital gains (Table 4). Data from the ESRB shows that supply and demand-side characteristics of real-estate markets also vary significantly (Table 5). While banks are the main mortgage providers in Belgium, Italy, and Portugal, mortgage brokers play a considerable role in Ireland, Netherlands, and Spain (Table 6).

[30] The main authors of this section are Srobona Mitra, Senior Economist in the European Department of the IMF and Shamsiah Yunus, Assistant Director in the Monetary and Capital Markets Department of the IMF.

Figure 12. Euro Area: Macroprudential Policy Decision Tree on CRD/CRR Tools



Type	Tools; Risks addressed	Pecking Order	Legal basis	Notify/Consult	Obtain opinion/ recommendation	Obtain authorization/ Non-rejection
A	Countercyclical Capital Buffer (CCyB)--cyclical, all banks	1	Art 130, 135-140 CRD	Notify ESRB		
A	Global (or Other) Systemic Institution buffer (GSII/OSII)--structural, institution-specific	1	Art 131 CRD	Notify ESRB, EBA, EC		
A	Risk-weights (for banks on standardized models), real estate--cyclical, exposure-based	1	Art 124 CRR	Consult EBA		
A	Higher Loss-given-defaults (LGDs) for real estate in IRB banks--cyclical, exposure-based	1	Art 164 CRR	Notify EBA		
B	Pillar 2 (systemic risks in SREP) for institutions with similar risk profiles	2	Art 103-105 CRD	Notify EBA		
C	Systemic Risk Buffer (SRB)--structural, institution-specific	3	Art 133-134 CRD	Notify EBA, ESRB	EC[1], EBA, ESRB[2]	EC[1]
D	Flexibility measures--cyclical or structural, temporary	4	Art 458 CRR	Notify EP, EC, EBA, ESRB	EBA, ESRB[3]	Non-rejection by Council[4]
E	Non-capital measures		National legislations	Notify ECB, ESRB		

[1] If EC opinion is negative, the member state needs to provide further reason for the need of such measures. EC authorization required also for an SRB above 3 percent of exposures in other EU member states, and for an SRB above 5 percent on domestic and 3rd country exposures.
[2] For subsidiaries whose parent is from another member state, the EC and the ESRB are notified and are required to provide recommendations.
[3] Issue opinions to the Council and the EC.
[4] Based on EC proposal.

112. The varied financing characteristics could lead to leakages of capital-based policy measures. While banks can be subject to a host of increased capital requirements to counter macroprudential risks, such measures will not be binding for borrowers in countries where mortgage brokers or insurance companies are major players. Moreover, non-EU foreign branches are outside the scope of capital-based tools or of ESRB's reciprocity arrangements for macroprudential measures (Figure 15). Borrower-based tools—such as limits on loan-to-value (LTV), debt-service-to-income (DSTI), or loan-to-income (LTI)—could be used by macroprudential authorities in member states, but only if such powers and tools are available in national legislations. There are many member states where such tools are not available (Appendix VI).

113. Currently, while EA-wide systemic risk concerns are limited, some country-specific vulnerabilities in credit and housing markets are increasing. Overall bank credit growth is trailing GDP growth in the euro area, but growth in private sector debt/GDP in some countries is crossing the 3 percentage point threshold (GFSR, 2011, Chapter 3) used to flag concern in the IMF's vulnerability exercises. Similarly, EA-wide housing market affordability and overheating indicators such as price-to-rent and price-to-income ratios are below 1 standard deviation of historical averages. However, unlike the average trend in credit growth, these indicators have been inching up and are above 1 standard deviation across several countries (Figure 16), warranting the use of targeted macroprudential measures.

B. Institutional Framework

114. The macroprudential policy in the EU is unique, trying to address systemic risks in different national markets while preserving the single market. In the euro area, in particular, macroprudential policy plays a role, together with other policies, in managing the impact of a common monetary policy on distinct national financial developments. The framework seeks to strike an appropriate balance between allowing national authorities the necessary flexibility to use tools to minimize risks to financial stability in their countries and preserving the smooth functioning of the single market. A complex operational structure for the use of macroprudential measures has emerged in the attempt to balance these policy objectives. An elaborate activation, notification and decision-making process was put in place to ensure that the intent of the macroprudential measures does not hurt the free movement of capital and liquidity within the single market.

115. In the euro area, macroprudential policy is a shared competency between the national authorities and the ECB (Figure 12). The SSM Regulation confers to the national authorities and the ECB specific tasks relating to macroprudential instruments for the banking sector set out in the CRR (European Union Capital Requirement Regulations No. 575/2013) and the CRD IV (European Union Capital Requirement Directive 2013/36/EU). The ECB is a competent and a designated authority fulfilling the mandates of a supervisory and of a macroprudential role.[31] Some instruments can be activated only by the national competent authority (NCA) and other instruments can be introduced by the national designated authority (NDA) (Appendix VI). In addition to the tools from

[31] See ECB's Macroprudential Bulletin, Issue 1, Chapter 1, on the ECB's role.

the CRR and the CRD, Member States can use borrower-based instruments, such as LTV, DSTI, or LTI, for real estate lending, if these are legislated under national law as being available for use by macroprudential authorities.

116. The ESRB is mandated with issuing recommendations, warnings, and opinions:

- **Recommendations:** ESRB recommendations can be directed to the EU as a whole or to Member States, the European Commission, the European supervisory authorities or national authorities. The recommendations have a time-bound course of action, followed up by an "act or explain" compliance mechanism. Some recent recommendations included "Closing Real Estate Data Gaps", "Liquidity and Leverage Risks in Investment Funds," and "Macroprudential Measures Recommended for Reciprocation."

- **Warnings:** ESRB issues warnings if significant systemic risks are identified in member countries and where the country authorities (and the ECB, in the euro area) have not acted. The first (and, to date, the only) set of public warnings were published on November 2016 (Figure 17).

- **Opinions:** the ESRB must issue an opinion when authorities wish to use national flexibility measures under CRR Article 458 and in some cases the systemic risk buffer under CRD 133-134. This opinion should cover the justification of effectiveness and proportionality of the measure, why other instruments in the CRD/CRR (alone or in combination) cannot adequately address the systemic risk and the likely impact on the single market. The ESRB's opinions weigh more on the financial stability risks, whereas EBA's role tilts toward favoring the single market.

117. The ESRB assesses the potential adverse cross-border spillover effects of specific macroprudential policy measures. It evaluates whether specific macroprudential policy measures taken by the Member States should be reciprocated across the Union. If a reciprocation request has been received from the relevant national activating authority, the ESRB will evaluate whether specific macroprudential measures should be reciprocated across the EU. The ESRB also coordinates the setting and recognition of countercyclical buffer rates for the exposures to third countries.

C. Assessment

118. The EA-wide macroprudential policies framework is young, appears to be working well, but is complicated. As Figure 12 suggests, the decision-making is complex, trying to balance national financial stability versus EU-wide single-market objectives. The framework for the EA should be reviewed regularly, i.e. at least every 3 years to ensure that the framework is still working efficiently, in line with ECB's comments on the *EC Consultation on Macroprudential Policies*. This is especially so as further experience is gained and the banking union and the CMU advance toward being a single market.

119. The framework for warnings could benefit from greater transparency. Both ECB and the ESRB play crucial roles in giving informal and formal warnings based on collegial decisions. While the ESRB's publication of its warnings in November 2016 was helpful, there could be more transparency on its decisions to warn. For example, based on publicly available data, the Fund's own analysis (Figure 16) showed that there was at least one more country that had rapid growth both in real estate prices and in private indebtedness, and yet was left out from the warnings.

120. The ESRB plays a strong coordinating role. The ESRB cannot issue *legally binding* recommendations/warnings. The secretariat of the ESRB is hosted by the ECB, drawing financial, logistical and analytical support from the ECB. The 2013 EU FSAP had recommended a more legally independent role for the ESRB. While such a role for the ESRB is not envisaged by the EC in the near future, its non-binding powers to warn and recommend as well as being a thought-leader in cross-country analytical issues in the macroprudential sphere are well recognized by the country authorities. It is increasingly collaborating with the ECB, especially in creating top-down risk assessment frameworks. Shadow Banking and Commercial Real Estate risk assessment frameworks are examples of ongoing joint efforts. Recommending reciprocity of macroprudential measures by the relevant authorities of other EU member states, especially for branches, is another important 'act or explain' function of the ESRB.

121. ECB uses cutting-edge analytical tools to assess risks and macroprudential policies for the SSM-area countries both in the context of its regular assessment and in assessing national measures. With regard to the former, the ECB identifies key sources of risks in the euro area and while some of these are included in the Financial Stability Review (FSR), others are discussed confidentially with the national authorities. The ECB suggested that the informal and collegial nature of the discussions had the necessary moral suasion powers that would be lost if such discussions were made public. On the latter, once national authorities notify the ECB on their intention to trigger a macroprudential policy, the ECB assesses using top-down models whether the stance was appropriate and whether further action is needed. The cost and benefit of such policies is assessed with empirical or structural models such as a DSGE model (akin to the IMF's MAPMOD, but with micro-foundations). After a policy is implemented, the ECB has tools to assess the effectiveness and the unintended consequences of such policies.

122. One particular measure, the systemic risk buffer, has generated discussion on whether it could be used for ring-fencing capital in subsidiaries. Home-country authorities of cross border banking groups have complained that host-country authorities have used the systemic risk buffer (SRB) to justify requiring higher capital on groups of banks, including on foreign subsidiaries, citing the externality of the subsidiaries' failure on the rest of the domestic financial system. However, in the euro area, only four countries have implemented the SRB: Estonia on all banks, Austria on 12 banks, the Netherlands on 3 banks, and Slovakia on 4 banks (Appendix VII). In all the four countries, the SRB is applied to both domestic and foreign subsidiaries. Therefore, there is no public evidence of discrimination between domestic and foreign groups, at least within the euro area in the usage of SRB.

D. Simplifying and Filling Gaps in the Framework

123. The EC is set to propose only marginal changes in response to the EC Consultation on Macroprudential Policies. It is unlikely that an in-depth overhaul of the framework is on the cards in the medium term. The EC has already proposed, as part of the November 2016 Risk Reduction package, that Pillar 2 be used only for microprudential purposes, thus removing Pillar 2 from the pecking order. Furthermore, as part of the review of the European System of Financial Supervision and to work toward more integrated financial supervision, it proposed to make the ECB President the permanent chair of the ESRB and to provide the ESRB with powers to direct its warnings to the ECB in its SSM-role.[32] Thus, the FSAP's recommendations aim at improving the functioning of the existing framework, drawing also on recommendations made in recent FSAPs (Table 7).

Simplifying Decision-making

124. Flexibility in the use of instruments could be increased and should be kept free of undue political processes. Onerous activation and notification processes must be followed to demonstrate the intent behind the proposed use of a measure and to justify the selection with respect to the pecking order. Both willingness and ability to act are hindered by these procedures. Some recent country FSAPs had also called for simpler activation procedures (Table 7). Suggestions for giving more flexibility to national authorities include:

- **The activation process for the group of temporary measures against cyclical and structural risks could be simplified.** Countries should be able to activate a measure right after the favorable opinions of the EBA and the ESRB. The ECB already checks, as part of procedure in Art 5.1 in the SSMR, for adverse spillover effects and adequacy of the intended introduction of a tool by NCAs and NDAs in the SSM area. Since EBA's opinions, in practice, are based on single market considerations, the Commission and the Council need not add to the length of the approval process.

Example of activation procedure of Art 458 CRR: Finland (steps after ECB's non-objection procedure)

June 27, 2017	Finanssivalvonta (FIN-FSA, NDA) notifies the ESRB and EBA for introducing an institution-specific risk weight floor of 15 percent for residential real estate mortgage loans for IRB banks
July 19, 2017	ESRB provides assessment on the Finnish proposal
August 1, 2017	EBA opinion on Finnish measure
August 21, 2017	EC gives a no-objection [1]
January 3, 2018	Measure activated, for a year

[1] Since the EC decided not to propose to the Council an implementing act to reject the Finnish measure, the procedure was closed with the EC decision.

- **Remove Pillar 2 from the set of allowed macroprudential tools.** The mission agrees on the EC's proposal (November 2016 reform package), to remove the macroprudential use of Pillar 2, given that Pillar 2 requirements are microprudential in nature. The co-mingling of Pillar 2 with

[32] Other proposals include: The ESRB Head of Secretariat is proposed to have an increased profile and visibility. The SSM and the SRB are proposed to formally become members of the ESRB General Board, and that warnings and recommendations are directed to the European Parliament, the Council, and the ESAs.

other capital-based measures that can be used for macroprudential purposes blurs the intention of use. Also, removing the macroprudential use of Pillar 2 would importantly contribute to a clear delineation of instruments and responsibilities between micro and macroprudential authorities.

- **Clarify the use of risk weights under Art 124/164 CRR, which is number 1 in the current pecking order.** Art 124 CRR allows for higher exposure-based risk weights for banks on standardized approach, and Art 164 CRR allows for increasing the loss-given-default (LGD) floor for calculating exposure-based risk-weights for banks on internal ratings based approaches. However, in EU countries (including in those that have been warned by the ESRB), Art 124/164 CRR are not in the hands of NDAs (Appendix VI). The real estate risks could have been addressed by Art 124/164 for financial stability considerations, without going through the onerous activation procedures for Art 458, a tool that is 4th in the pecking order.

- **Make reciprocity mandatory.** Currently, reciprocity is voluntary for all tools, except for Art 124/164 CRR and the countercyclical capital buffer (up to a level of 2.5 percent). ESRB has recommended reciprocity of national exposure-based measures should become the rule, albeit with exceptions in justified cases. Allowing for automatic reciprocity, with some ex-ante exceptions for small exposures, would streamline the decision-making process. Also, extending the mandatory reciprocity framework would ensure the effective mitigation of cross-border spillover effects and regulatory arbitrage in the EU. While flexibility is crucial, it is still important for the EU macroprudential framework and toolkit to provide for a sufficient degree of coherence between the instruments and across Member States. The extension of the mandatory reciprocity mechanism would simplify the coordination mechanism between Member States, the ECB and other EU authorities.

125. Macroprudential frameworks at the national levels should strengthen coordination with fiscal and other agencies that are relevant for the systemic risk (for example, rapid real estate price increases, see Table 4). A few country FSAPs had a similar recommendation (Table 7).

- Tax-deductions on mortgage interest rates; stamp duties (Table 4)

- Zoning restrictions and other supply-side measures

- Changes in tax and depreciation rules that could spur CRE booms (see FDIC, 2000 for an example from the United States in the 1980s)

Widening and Organizing the Policy Toolkit

126. Borrower-based tools should be added to the European macroprudential toolkit, with harmonized definitions. Cross-country experiences show that well-targeted borrower-based tools are effective in reining-in excessive indebtedness, although these might be less effective in decelerating real estate prices.[33] Moreover, these tools can be applied to all institutions (banks, branches, nonbank financials), if the macroprudential authority has the necessary powers, on both household and corporate collateralized borrowings. In this regard, the ESRB's recommendation on closing real estate data gaps and the ECB's suggestions on legislating borrower-based tools at the EU level are helpful. However, given the usefulness of the tools, and the number of countries that are yet to legislate these tools (Appendix VI), EU level legislation could be useful. Moreover, the definitions of these tools—loans, value, debt, debt service, income—need to be harmonized, so that these can be easier to reciprocate or top-up if the ECB gets powers over these tools in the future.

127. National macroprudential frameworks should be updated to allow NDAs to impose borrower-based tools on all entities, both for individuals and for corporates, where the legislation exists. Many countries in the euro area do not have the national legislation in place to allow macroprudential authorities to use borrower-based tools (Appendix VI). Granting this authority would allow NDAs to act in a timely fashion. Given the extent of political sensitivities around these tools, the legislation process should start soon, while financial cycles are still contained, so that the toolkit is ready when needed.

128. Sharp increases in commercial real estate prices warrant closing gaps in data and policies on corporate sector. More than half of corporate loans come from nonbank sources, including from other corporates and OFI creditors (Figures 13 and 14). Moreover, private (and corporate) debt is increasing rapidly in some countries (Figure 16). While increasing risk weights on corporate loans, especially based on CRE loans, can be a common policy response for banks, these may not be sufficient to rein in corporate indebtedness or CRE price booms, given varied financing sources. Tightening LTV, DSTI, or LTI for collateralized lending for corporates could be more effective. Moreover, close cooperation with fiscal authorities is necessary for changes to tax codes that could precipitate a bust or propagate a boom in CRE prices.

129. Tools related to market-based activities or for nonbank financial institutions are currently not as developed as in banking. For example, there could be EA-wide concern over excessive procyclicality of margin requirements for securities used for collateral in CCPs. As ESAs get more integrated supervisory powers with increasing capital markets activities, there could be a case for the ESRB to warn on such risks and for the use of such a tool (coordinated by one of the ESAs or the ESRB). In this regard, the framework should be completed for the relevant EU and national authorities with tools to address risks arising from the continuously growing nonbank sector. This is particularly important given the trend from bank-based to market-based financing, and given that the CMU agenda is to develop this part of the financial system (as also suggested by the ECB in its response to the EC Consultation on the EU macroprudential policy framework).

130. All CRR/CRD tools that can be enacted for macroprudential purposes could be grouped into one Section in the CRR and CRD. To improve the state of readiness, all relevant

[33] See for example, Tressel and Zhang (2016), "Effectiveness and Channels of Macroprudential Instruments: Lessons from the Euro Area," IMF WP/16/4; IMF Staff Guidance Note on Macroprudential Policy—Detailed Guidance on Instruments; and Jacome and Mitra (2015), "LTV and DTI limits—Going Granular", IMF WP/15/54, and the references.

prudential tools that can be used for macroprudential purposes can be consolidated into one article of the relevant legislation. For instance, all capital-based macroprudential tools in the CRR/CRD could occupy a single Article so that the purpose is clarified. When other macroprudential tools are developed, for instance, tools for insurance companies, all the relevant prudential tools that can be used for macroprudential purposes can be arranged in one Article of the Solvency II directive. Grouping all tools would enhance transparency and alleviate concerns on the intent of their uses, and could simplify the activation process.

Making Decisions More Transparent and Closing Data Gaps for Systemic Risk Analysis

131. Decisions on macroprudential policy could be made more transparent by means of a single dashboard of key risks telling a story. The ECB's Financial Stability Review does a stock-take of financial stability in the euro area twice a year, the ESRB's dashboard provides multiple charts illustrating key vulnerabilities, and the risk report of the Joint Committee of the European Supervisory Authorities goes through EU-wide risks. But there could be a chapter dedicated to macroprudential concerns in the ECB's Macroprudential Bulletin that pulls together country-specific and area-wide concerns from the FSR, ESRB, and the Joint Committee reports. This chapter could also explain the decisions taken by the NDAs and the ECB, the ESRB's warnings and follow-ups. For example, the ECB could summarize the macrofinancial analysis in Section 1.3 of its November 2017 FSR, discuss policy options for the EA countries, ESRB's warnings and the Governing Council's Macroprudential Forum recommendations for the countries. Furthermore, the ECB could also comment on whether the policy actions by the countries are sufficient, based on ECB's own analysis, and why the ECB has not used top-up powers in countries that have not acted.

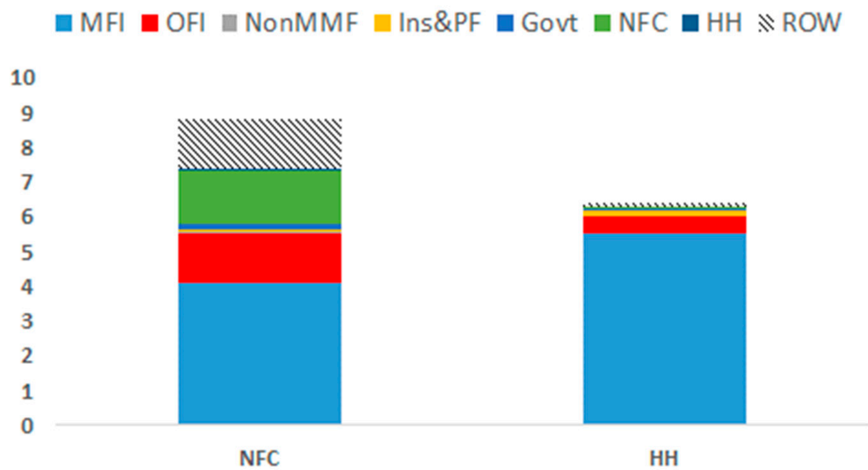
132. ESRB and ECB could further share analytical tools with national authorities related to macrofinancial linkages of the real estate sector. The ECB and the ESRB are jointly working toward developing risk assessment frameworks for real estate risks, using a mix of indicators and survey responses from countries, with very useful interactions on data and assessments with country authorities. Also the analytical models have been shared between the ECB, ESRB and national authorities. Additional analytical work could be undertaken to understand better the impact of real estate price changes on sectoral activities. Given the differences in macrofinancial linkages between countries, understanding the channels would help tailor policy tools. Moreover, in some countries, RE (especially CRE) markets are fueled either by non-debt financing or by non-EU nonbank institutions. Analyzing the possible cross-sectoral impact of real estate price downturns could help authorities decide on whether to act against non-EU financed RE price booms.

133. Data gaps. Finally, pervasive data gaps on real estate prices (such as commercial real estate) and credit-granting other financial institutions (OFIs) hinder systemic risk analysis and targeted interventions with macroprudential measures. There should be systematic follow-up on the ESRB's recommendation on closing real estate data gaps, and harmonizing definitions of borrower-based tools.

Figure 13. Sources of Loans for the Private Sector in the Euro Area

Euro Area NFCs and Households: Sources of Loans in 2017Q2

(EUR trillions)

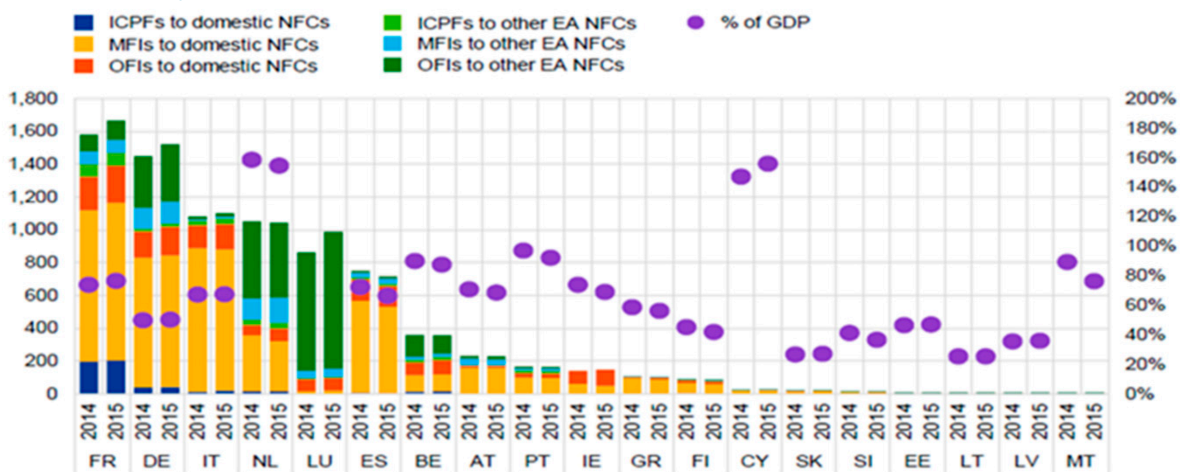


Sources: ECB "Whom-to-whom" statistics; IMF staff calculations.

Figure 14. Sources of NFC Financing, by Country

Financing provided by the domestic financial sector to NFCs located in the same country and in other euro area countries, 2014 and 2015

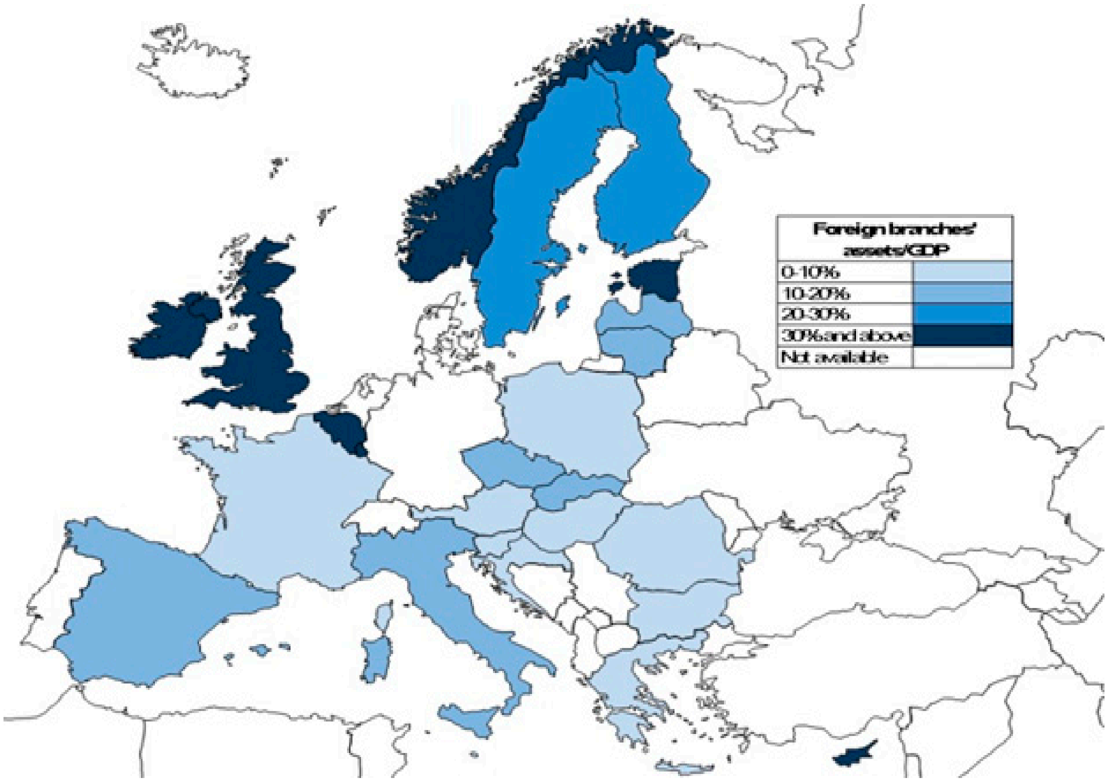
(EUR billions and percent of domestic GDP)



Sources: ECB (EAA), and ECB calculations.

Notes: Financing is computed for three instruments combined: loans, debt securities, and listed shares. Data for foreign exposures in Ireland are not reported due to confidentiality reasons. The share of financing in GDP for Luxembourg stood at 1,765 percent (2014) and 1,899 percent (2015). The countries are placed in order according to the absolute amount of financing recorded in 2015.

Figure 15. Assets of Branches of Non-EU Banking Groups

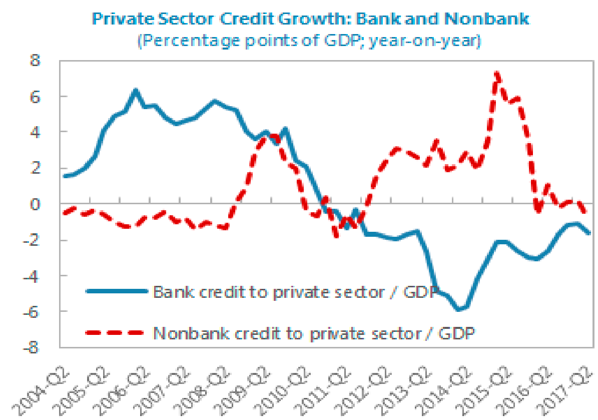


Source: EBA; Fahr and Żochowski (2015) "A framework for analyzing and assessing cross-border spillovers from macroprudential policies," ECB Financial Stability Review", May 2015.

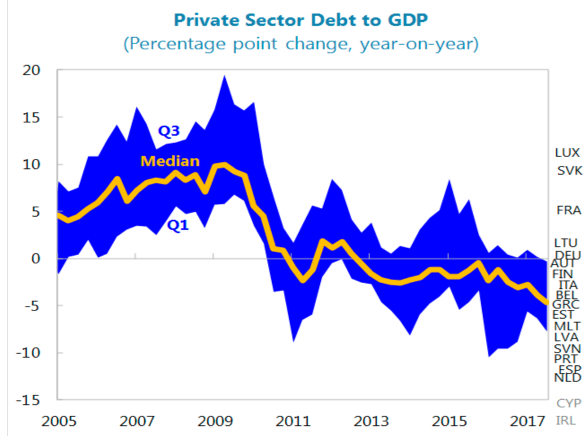
Note: Based on 2013 transparency exercise with EEA counterparties.

Figure 16. Macrofinancial Indicators

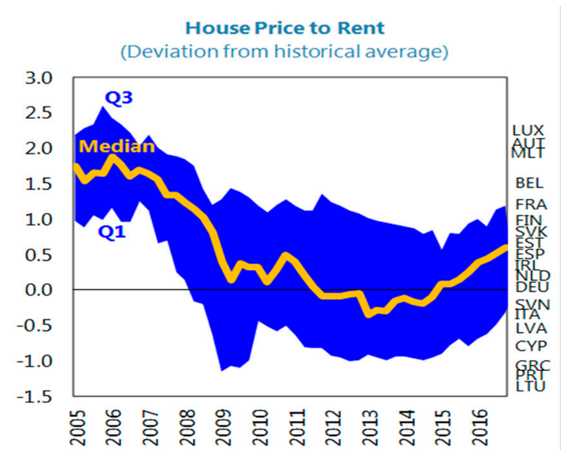
Overall bank credit growth is trailing GDP growth (offset by growth in nonbank credit)…



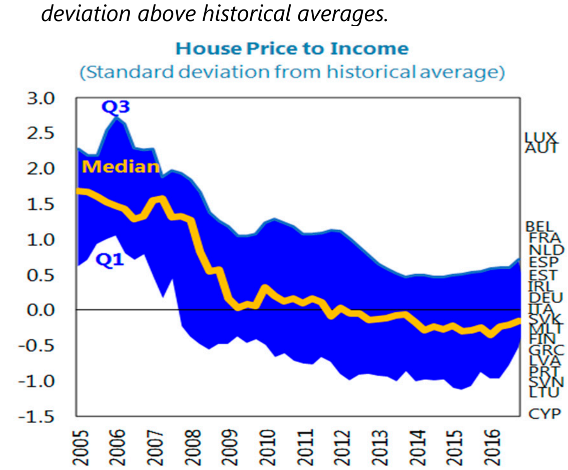
…but private debt in some countries is growing at over 3 percentage points of GDP…



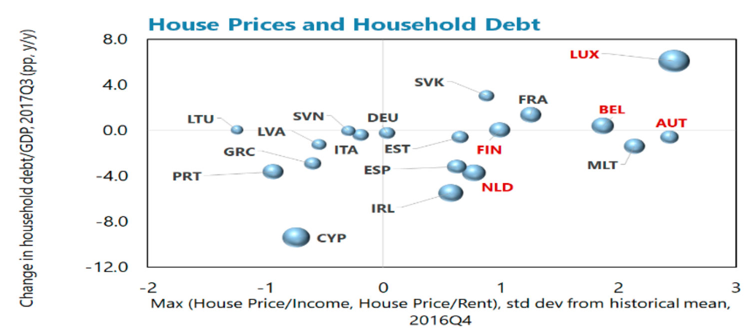
In some of the same countries, house price to rent….



…and house price to income are more than 1 standard deviation above historical averages.



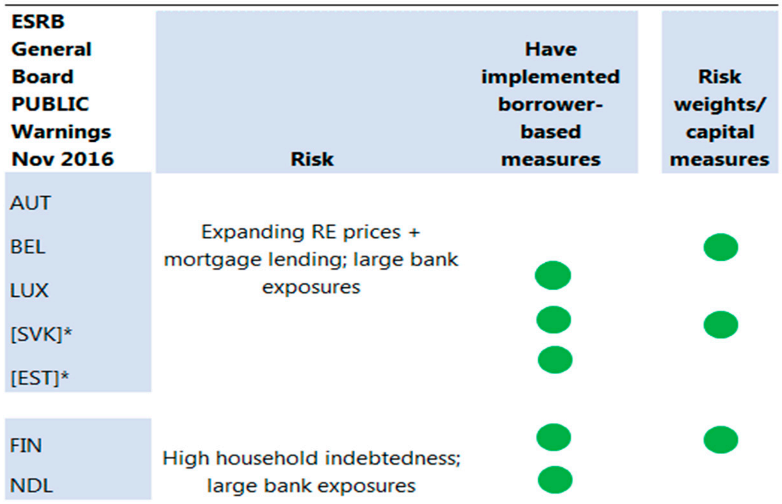
Rising debt and house prices raise the urgency of macroprudential polices in several countries that were warned by the ESRB (red)



Sources: European Central Bank; Haver Analytics; and IMF staff calculations.
Note: ESRB warnings in 2016 are in red. Size of bubbles proportional to private debt/GDP ratios.

Sources: Haver Analytics, and IMF staff calculations.

Figure 17. Warnings by the ESRB on Euro Area Countries



*Although Slovakia and Estonia were found vulnerable to real estate risks, ESRB deemed the existing measures to be sufficient in these two countries so as not to call for warnings.

Table 4. Fiscal Incentives and Government Policies in Housing Finance

Index of Government Participation in Housing Finance Markets, 2008

	Government Support Categories and Weights									
	Category (A) - (D)				Category (E)	Category (F)-(G)		Category (H)		
Category Weight	0.25				0.25	0.25		0.25		
Sub-category Weight	0.0625	0.0625	0.0625	0.0625	0.25	0.125	0.125	0.25		
Economy	Subsidies to 1st time or other buyers-upfront	Subsidies to buyers-through savings account contributions or through preferential fees	Subsidies to selected groups, low and middle income	Provident funds early withdrawal for house purchases	Housing Finance Funds/Government Agency that provides guarantees /loans	Tax deductibility of mortgage interest	Capital gains tax deductibility	State-owned institution majority market player >50%	Index of government participation (higher weight to subcategory H)	Alternative index of government participation (equal weights to the eight sub-categories)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I) 1/	(J) 1/
Slovak Republic			1	1	1	1		1	0.75	0.63
Slovenia		1			1				0.31	0.25
Australia	1	1	1				1		0.31	0.50
Austria	1	1	1						0.19	0.38
Belgium						1	1		0.25	0.25
Canada				1	1		1		0.44	0.38
Denmark						1	1		0.25	0.25
France		1				1	1		0.31	0.38
Germany		1					1		0.19	0.25
Ireland						1	1		0.25	0.25
Italy						1	1		0.25	0.25
Japan					1	1			0.38	0.25
Netherlands					1	1	1		0.50	0.38
Spain		1				1	1		0.31	0.38
United Kingdom							1		0.13	0.13
United States			1		1	1	1		0.56	0.50

Sources: April 2011, Global Financial Stability Report. Original sources: Housing Finance Network; Merrill Lynch Guide to Emerging Mortgage and Consumer-Credit Markets, Vol 1; Crowe et. al. (2011b); IMF staff estimates.

Note: Cells marked with "1" indicates the existence of the government participation measure;
Column (I) = 0.0625*{(A)+(B)+(C)+(D)} + 0.25*E + 0.125*{(F)+(G)} + 0.25*(H) Column (J) = 0.125*{sum of (A) – (H)}. Subsidies through downpayments in Spain, rather than through savings accounts contributions. An Austrian housing assistance scheme (Wohnbauförderung) supports mostly low-income and some first-time buyers. Some information in this table might have changed since 2008; for example, in Spain, since 2013, tax deductibility does not apply to new mortgages.

Table 5. Structural and Institutional Features of Residential Real Estate Markets in the Euro Area

	MARKET CHARACTERISTICS				TAX & TRANSACTION			SUPPLY SIDE CHARACTERISTICS			
	Dwellings per capita	Home ownership	Prevailing type of interest rate	Typical mortgage maturities (years)	Mortgage Tax Relief	Contribution of tax to marginal cost of housing	Trans-action tax	Estimated long-run price elasticity of new housing supply	RRE investment/GDP (annual average 1995-2014)	RRE Investments/GDP (annual change in 2013)	Construction cost index
AT		57.3	Variable		None	6.9	< 5%	0.2	4.9	1.8	85.2
BE	0.35	72.3	Long term fixed	21.4	Bounded	24.0	≥ 10%	0.3	5.7	-1.4	95.5
CY		74.0			None			0.2		-26.3	99.7
DE	0.32	52.6	Medium term fixed	30.0	None	9.8	5-9%	0.4	3.4	2.7	91.9
EE		81.1	Variable	22.6	Bounded and Limited	-5.3			4.6	17.0	87.9
ES	0.37	77.7	Variable	22.7	None	24.1	5-9%	0.5	3.6	-15.7	91.3
FI	0.41	73.6	Variable	21.6	Bounded	7.5	< 5%	1.0	7.4	-1.4	90.5
FR	0.39	64.3	Long term fixed	18.6	None	32.5	5-9%	0.4	8.0	-2.2	83.3
GR	0.42	75.8	Variable		None	30.2	< 5%		5.7	-33.3	88.7
IE	0.22	69.9	Variable	26.4	None	15.8	< 5%	0.6	7.1	8.4	97.2
IT	0.42	73.0	Variable	21.9	Bounded and Limited	22.1	5-9%	0.3	5.1	-4.8	87.0
LT		92.2	Variable	21.0	None	8.4			2.5	15.4	93.4
LU	0.26	73.0	Variable	20.6	Bounded and Limited	8.0	5-9%		2.9	6.9	94.1
LV		81.2		16.2	None	14.1	< 5%		2.7	-6.1	85.0
MT		80.3	Variable	26.7	None	5.0	5-9%		4.9	4.8	94.2
NL	0.36	67.1	Long term fixed	29.7	High or Unbounded	-7.2	< 5%	0.2	5.2	-11.1	94.0
PT	0.40	74.2	Variable	29.0	None	18.5	5-9%		5.6	-15.2	93.5
SI		76.6	Variable		None	10.3			3.4	-7.2	82.9
SK		90.5			None	6.3		0.4	2.7	5.9	79.1
EU Average	**0.37**	**76.0**		**23.8**		**12.7**		**0.5**	**4.5**	**-3.5**	**88.9**

Source: ESRB.

Table 6. Housing Finance Features in the Euro Area

Housing Finance Features in the euro area, 2008

Country	Main lenders[1]	Mortgage Funding: Deposits/other	Mortgage Funding: Covered bonds/Residential loans (%)	Mortgage Funding: Residential Mortgage-backed Securities/Residential loans (%)	Mortgage Loan Features: Predominant interest rate type	Mortgage Loan Features: Maximum LTV on new loans[2]	Mortgage Loan Features: Typical loan term (years)	Mortgage Loan Features: Prepayment penalties[3]
Austria	Banks & Bausparkassen (mainly savings banks)	Mainly	7.0	3.1	Fixed	80	25-30	
Belgium	Banks	Mainly		29.9	Fixed	100	20	
France	Mortgage & retails banks	Mainly (banks)	22.5	1.8	Fixed	100	15-20	Maximum 6 months interest or 3% of outstanding
Germany	Banks & Bausparkassen (mainly savings banks)	Mainly	19.0	1.8	Fixed	80	20-30	Interest margin damage and reinvestment loss on fixed rate
Ireland	Banks & building societies & mortgage brokers	Mainly (banks)	15.6	29.6	Variable	100+	21-35	
Italy	Banks	Mainly	2.1	30.8	Mixed	80	20	
Slovak R	Mortgage banks, bausparkassen, State funds	Mainly	5			100		
Slovenia	Banks	Mainly, capital inflows				80		
Netherlands	Banks & mortgage banks and brokers (60%)	Mainly	3.6	30.8	Fixed	125	30	YM on fixed rate
Portugal	Banks	Mainly + wholesale funds	14.5	27.3	Variable	90	25-35	
Spain	Banks (commercial & savings) & mortgage brokers (55%)	Some + covered bonds and securitization	45.6	24.1	Variable	100	30	2.5% up to YM on fixed rate; 0.5% on variable rate

Sources: GFSR, April 2011, Chapter 3; ESRB (for maximum LTC in 2018; Housing Financing Network; Lea (2010b); Crowe and others (2011b); Warnock and Warnock (2008); European Mortgage Federation; Federal Reserve Board; Reserve Bank of Australia; Bank of Canada; European Securitization Forum; European Central Bank (2009).

[1] Banks include commercial and savings banks.

[2] Maximum with insurance or for covered bonds in brackets. In 2018, it came down to 80–90 in Ireland, and to 100 in the Netherlands.

[3] YM=Yield Maintenance; ARM=Adjustable Rate Mortgages. There is complete waiver in certain circumstances, for instance, if the property is sold (Germany), hardship or relocation of the borrower (Netherlands), of the borrower is unemployed (France).

Table 7. Past Recommendations on Macroprudential Policies in Selected Recent FSAPs

Recommendation	Recent FSAPs
Empower NDAs with hard or semi-hard powers	LUX, NDL, ESP, FIN
Streamline decision-making at the EA level	NDL, IRL
Recommend legislative action to complete the macroprudential toolkit with limits on LTV, DTI, and DSTI	LUX, NDL, ESP, FIN, IRL
Close data gaps, strengthen systemic risk monitoring on real estate	LUX
Close data gaps, strengthen systemic risk monitoring on investment funds and/or market activity	LUX, ESP
Close data gaps, strengthen systemic risk monitoring on corporate sector and commercial real estate	NDL
Enhance surveillance on intra-FI linkages: investment fund-bank; crossborder linkages	LUX, ESP, FIN, IRL
Provide guidance to asset managers on the modalities of stress tests	LUX
Address supply shortage of real estate	NDL
Address both the build-up and the downward-phase of the financial cycle	NDL, EU
Expand ECB toolkit	EU
Empower ESRB with legal mandate, independent from the ECB	EU
Enhance ESRB's coordination powers	EU

Note: "EU" refers to the 2013 EU FSAP.

Table 8. Policies on Real Estate Markets: Cross-Cutting Institutions and Sectors

Objective	Target CRE sector	Measure
Excessive credit growth and leverage	Broad-based CRE market	Loan-to-Value ratio limits (National) Debt Service to Income ratio limits (National) Minimum Interest coverage ratio (National)
	Banks	Risk weights (RW) under standardized approach (SA) Art 124 CRR RW for specialized lending Art 153 CRR Higher capital or RW Art 458 CRR Pillar II for CRE exposures Art 103 CRD IV Systemic risk buffer Art 133 CRD IV Countercyclical capital buffer Art 136 CRD IV
	Insurers	Solvency capital requirement Supervisory capital add-ons (Solvency II) Matching adjustment and volatility adjustment of the LTG package (Solvency II)
	Funds and Asset Managers	Leverage limits (AIFMD) Leverage limits on REITS (National)
Direct & indirect exposure	Broad-based CRE market	Mortgage lending valude requirement (National legislation)
	Banks	Higher exposure limits Art 458 CRR
Excessive maturity & liquidity mismatch	Funds and Asset Managers	Not available

Source: ESRB.

Appendix I. Financial Soundness Indicators of the Insurance Sector

Euro Area: Financial Soundness Indicators of the Insurance Sector

(In percent)

	2012	2013	2014	2015	2016	H1 2017
Capital adequacy						
Shareholder equity and reserves / total assets /3	6.1	6.3	6.0	6.1	13.8	14.4
Solvency coverage ratio (Solvency I)	278	265	259	274	…	…
Solvency coverage ratio (Solvency II, SCR) /1	…	…	…	206	246	256
Profitability						
Growth in gross written premiums - life business	-3.1	5.9	11.7	-3.3	N/A	4.0
Growth in gross written premiums - non-life business	3.5	0.3	1.3	1.9	N/A	3.3
Loss ratio (net paid claims / net premiums) - non-life business	72.2	72.6	70.8	71.3	65.2	65.2
Expense ratio (net expenses / net premiums) - non-life business	20.6	20.5	20.7	20.3	26.3	26.9
Combined ratio (loss ratio plus expense ratio) - non-life business	92.8	93.1	91.4	91.7	91.5	92.1
Return on equity /3	8.5	9.0	7.3	8.2	6.1	3.2 /4
Asset quality						
Stocks / total investments excl. unit-linked /2	14.5	15.0	15.7	16.8	13.9	14.2
Bonds / total investments excl. unit-linked /2	62.5	62.9	63.0	62.6	61.5	60.3
Domestic government bonds / total investments excl. unit-linked /2	…	…	…	…	19.5	19.2
Fixed income assets below investment grade or reported non-rated / fixed income assets	…	4.9	…	5.1	6.4	8.4
Investment yield	4.8	3.8	4.1	3.3	3.9	…
Average guaranteed interest rate - life business	2.5	2.8	2.4	2.3	2.0	…
Liquidity						
Liquid assets / total investments excl. unit-linked /5	79.9	80.5	81.5	81.7	80.9	85.9
Lapse rate (based on technical provisions) - life business	5.5	5.3	5.1	4.5	4.3	2.6 /4
Reinsurance and actuarial issues						
Risk retention ratio (net premium / gross premium)	84.1	83.9	86.1	86.3	87.9	88.3
Net technical reserves / average of net claims paid in last three years	279	288	297	296	…	…
Net technical reserves / average of net premium received in last three years	205	210	213	212	…	…

Source: EIOPA.

Notes: Shaded area—Break in time series due to the Solvency II introduction, both sample and calculation method have changed.

1/ Data for 2015 based on Solvency II "Day 1" reporting as of 01/01/2016
2/ Book values until 2015, afterwards market values
3/ Equity denotes excess of assets over liabilities
4/ Year-to-date
5/ Liquid assets include equity, bonds, mutual funds and deposits

Appendix II. Insurance References

EIOPA (2017a), Report on long-term guarantees measures and measures on equity risk 2017

EIOPA (2017b), Investment Behaviour Report

EIOPA (2018a), Solvency II tools with macroprudential impact

EIOPA (2018b), Oversight activities in 2017

Schoenmaker, D. and J. Sass (2016), Cross-Border Insurance in Europe: Challenges for Supervision, *The Geneva Papers on Risk and Insurance – Issues and Practice,* Vol. 41, Issue 3, pp. 351–377

Appendix III. Investment Services Passport within the EU

MiFID and CRD provide two alternatives for an EU investment firm or credit institution to provide investment services in another EU country. An investment firm or credit institution may establish a branch in another member state or provide services on a cross-border basis from its home country. Both options are subject to a notification procedure. The notification procedure for investment firms is regulated in MiFID, while that for credit institutions intending to provide investment services is covered in the CRD.

The content of the notification for the establishment of a branch is much broader than that for cross-border provision of services. The notification to the home authority must include, among other information, a program of operations setting out the investment services the firm intends to provide and the organizational structure of the branch. The home authority is expected to assess the adequacy of the administrative structure and financial situation of the investment firm before submitting the notification to the host authority (within three months of receiving it). The host authority cannot reassess the merits of the notification, but is simply expected to acknowledge having received it.

Once a branch has been established, the home and host authorities share the supervisory role. The host authority is responsible for ensuring that the services provided by the branch within its territory comply with the obligations laid down in articles 24, 25, 27, and 28 of MiFID and articles 14–26 of MiFIR.[34] The host authority has the right to examine branch arrangements and to request changes that are strictly needed to enable it to enforce these MiFID and MiFIR obligations. The home authority may also carry out on-site inspections in the branch after having informed the host authority.

In contrast, the home authority is solely responsible for the supervision of investment services provided on a cross-border basis. The host authority receives the initial notification and any changes to it, but the notification only lists the investment services the firm intends to provide and whether the firm plans to use tied agents. No other details on the firm's program of operations need to be attached.[35]

In addition, MiFID provides that investment firms and credit institutions can become remote members of regulated markets (RMs) and multilateral trading facilities (MTFs) in other EU countries. This requires that the RM and MTF operators have informed their home authority about the countries where they plan to provide remote access to their trading systems.

[34] The MiFID articles include the requirements on information to clients, suitability and appropriateness, best execution, and client order handling. The MiFIR articles cover the pre- and post-trade transparency and transaction reporting obligations.

[35] While article 34(2) of MiFID requires the notification to include a program of operations also in the case of cross-border provision of services, article 3 of the Commission Delegated Regulation (EU) 2017/1018 limits the content of the program of operations to (i) details of the services to be provided and the financial instruments to be used; and (ii) information on any tied agents that the firm intends to use. A similar notification requirement applies in the case of credit institutions' cross-border provision of investment services on the basis of the Commission Implementing Regulation (EU) No 926/2014 on the implementing technical standards relating to the notifications under the CRD.

Appendix IV. Third Country Firms' Right to Provide Investment Services in the EU

MiFIR and MiFID II created a dual framework for the right of third country firms to provide investment services in the EU (MiFIR) or in individual member states (MiFID). Subject to a range of conditions stipulated in MiFIR, a third country firm could benefit from an EU passport when providing investment services to eligible counterparties or "per se" professional clients[36] either from a branch or on a cross-border basis. This is not possible when providing services to retail clients. The ability of member states to permit third country firms to provide services in their domestic markets under the national regimes is covered in MiFID. Such third country firms do not benefit from any type of EU passport.

EU Level Framework Under MiFIR

The MiFIR framework does not apply until the EC has made an equivalence assessment concluding that the prudential and business conduct framework of a third country is "effectively equivalent" to that of the EU. The EC's assessment should confirm that the legal and supervisory arrangements of the third country ensure that firms providing investment services in the third country are subject to authorization and effective supervision and enforcement on an ongoing basis; that they comply with legally binding prudential and business conduct requirements which have equivalent effect to the requirements set out in MiFIR, CRD, MiFID and their implementing measures; and that the third country framework ensures market transparency and integrity by preventing market abuse. In addition, the legal framework of the third country must provide for an effective equivalent system for the recognition of EU investment firms (reciprocity).

In addition to an EC equivalence decision, certain conditions relating to the registration and supervision of the third country firm must also be fulfilled. Firstly, each third country firm wishing to provide investment services in the EU must apply for registration by ESMA.[37] Secondly, ESMA must establish cooperation arrangements with the relevant third country competent authorities that specify at least the mechanism for the exchange of information, including access to all information on the third country firms requested by ESMA; the mechanism for prompt notification to ESMA if a registered third country firm infringes the conditions of its authorization or other law; and the procedures concerning the coordination of supervisory activities.

Where the above conditions are met, a third country firm may provide investment services to eligible counterparties and "per se" professional clients throughout the EU. Such services can be provided on a cross-border basis either from the third country or from any EU branch authorized under MiFID II. If the services were provided from the third country, the firm would be supervised by

[36] "Per se" professional clients do not include those retail clients that can opt up to be treated as professional clients.

[37] However, registration by ESMA does not provide ESMA with any supervisory powers in relation to third country firms, which remain subject to supervision by the third country authorities.

its third country supervisor. If the services were provided through a branch, the branch would also be subject to the supervision of the member state where the branch is established.

The EC has the discretion to select and prioritize the third country jurisdictions that would become subject to its equivalence assessment. In line with MiFIR recitals, this could take into account the materiality of the equivalence finding to EU firms and clients, the existence of supervisory and cooperation agreements between the third country and the member states, the existence of an effective equivalent system for the recognition of investment firms authorized under foreign regimes, as well as the interest and willingness of the third country to engage in the equivalence assessment process. However, there is no obligation for the EC to initiate an equivalence assessment. The EC is expected to monitor any significant changes to the regulatory and supervisory framework of the third country and review the equivalence decision, where appropriate.

In its recent proposal on the new prudential framework for investment firms, the EC is proposing to expand the scope of the equivalence assessment.[38] The current scope, covering the requirements under MiFIR, MiFID and CRD, would be expanded to include also those under the CRR and the proposed new regulation and directive on investment firms. In addition, the existing outcomes based approach to equivalence would be amended by explicitly referring to the fact that, for countries that are likely to be of systemic importance, the third country requirements may only be considered to have equivalent effect to the EU requirements after a detailed and granular assessment, for which purpose the EC would also assess the supervisory convergence between the third country and the EU.

The EC is also proposing to introduce additional reporting requirements for third country firms and a monitoring obligation for ESMA. Registered third country firms would be required to have established the necessary arrangements and procedures to provide certain information to ESMA on an annual basis.[39] ESMA would be required to monitor the regulatory and supervisory developments, enforcement practices and other market developments in the third countries to verify whether the conditions for the equivalence decisions are still fulfilled. ESMA would need to submit an annual confidential report on its findings to the EC.

National Regimes Under MiFID

If no MiFIR equivalence decision is in effect and during a transitional period of three years after the adoption of an equivalence decision, the provision of services by third country firms

[38] The European Parliament rapporteur's draft report also proposes some additional changes to the equivalence framework.

[39] The scale and scope of the services carried out by the firms in the EU; the turnover and the aggregated value of the assets corresponding to these services; a detailed description of any investor protection arrangements; and the risk management policy and arrangements applied by the firm to the carrying out of the services.

to professional clients and eligible counterparties remains subject to national regimes.[40] MiFID does not regulate the content of such national regimes, but such services can be provided only in the territory of the relevant member state. This enables different regimes to coexist in member states, ranging from the ability of a third country firm to provide investment services in a particular member state on a cross-border basis from the third country based on a notification requirement to requiring the third country firm to be authorized in the member state before it is permitted to provide services. The member state must also ensure that third country firms are not treated in a more favorable way than EU firms. Finally, the third country firms can continue to provide investment services to professional clients and eligible counterparties in member states under the national regimes until three years after any EC equivalence decision in relation to the third country has been made.

MiFID explicitly permits member states to require third country firms to establish a branch if services are provided to retail clients or elective professional clients. However, this is not compulsory and MiFID still allows member states to permit the provision of investment services to such clients on a cross-border basis from a third country, subject to the national requirements.[41] If the member state decides to require the establishment of a branch, the branch must get a prior authorization from the relevant national competent authority, subject to the conditions stipulated in MiFID:

- The provision of services for which authorization is sought is subject to authorization and supervision in the third country where the firm is established and the requesting firm is properly authorized and the competent authority pays due regard to any FATF anti-money laundering and countering the financing of terrorism recommendations;
- Cooperation arrangements, including on exchange of information for market integrity and investor protection purposes, are in place between the member state and third country competent authorities;
- Sufficient initial capital is at free disposal of the branch;
- One or more fit and proper persons are appointed to be responsible for the management of the branch;
- The third country has signed an agreement with the member state where the branch is to be established which fully complies with the Organisation for Economic Co-operation and

[40] As noted above, the provision of investment services to retail clients and elective professional clients will remain subject to national regimes under all circumstances. Elective professional clients ("opt-up") are: public sector bodies, local public authorities, municipalities, and private individual investors that have opted to be treated as a professional client either generally or for a particular service or transaction. The investment firm will need to assess the expertise, experience and knowledge of its client, including whether the client satisfies at least two of the following: (i) the client has traded significantly ten times on average in the last four quarters; (ii) the client has cash and investments exceeding EUR 0.5 million; and (iii) the client has been a financial services professional for over a year.

[41] On the other hand, a member state can require a branch to be established also when services are provided to professional clients and eligible counterparties.

Development Model Tax Convention on Income and on Capital and ensures an effective exchange of information in tax matters; and

- The firm belongs to an investor-compensation scheme authorized or recognized in accordance with the EU Investor Compensation Scheme Directive.

The branch that a third country firm would like to establish must provide relevant information to the member state NCA and comply with the key MiFID and MiFIR provisions. The required information includes a program of operations setting out the services to be provided and the organizational structure of the branch, including a description of any outsourcing to third parties of essential operating functions. The branch must comply with the relevant organizational, conduct of business and market transparency and integrity requirements. Member states are not permitted to impose any additional requirements on the organization and operation of the branch in respect of the matters covered by MiFID or treat any branch of third country firms more favorably than EU firms.

In its proposal on the new prudential framework for investment firms, the EC has also proposed changes to the MiFID framework for third country investment firms. The proposed changes relate particularly to the requirement for the branches of third country firms authorized by a member state NCA to report to the NCA similar information as a third country firm would be required to report to ESMA if it were registered by ESMA under MiFIR (see above). The NCAs would in turn need to notify ESMA on an annual basis of the number of branches of third country firms active in their member states.

Reverse Solicitation

Third country firms are also permitted to provide services to EU clients under the principle of "reverse solicitation." This means that where a third country firm provides investment services to an EU client at the client's own exclusive initiative, the firm is not subject to any EU level or member state requirements applicable to the provision of investment services from a third country. If a third country firm solicits clients or potential clients in the EU or promotes or advertises investment services in the EU, it is not deemed as a service provided at the own exclusive initiative of the client.[42]

[42] See ESMA MiFID II/MiFIR Investor Protection Q&A at https://www.esma.europa.eu/press-news/esma-news/esma-updates-mifid-ii-mifir-investor-protection-qa.

Appendix V. Proposed New Prudential Framework for Investment Firms

The EC proposal on the new prudential framework for investment firms aims to create a single, harmonized set of reasonably simple and proportionate requirements. It is intended to reflect investment firms' different business models and inherent risks. The proposal is largely based on EBA advice and covers, among other issues, the design and calibration of capital and liquidity requirements, consolidated supervision, and reporting requirements for various categories of investment firms.

Firm Categorization

Under the proposal, there would be three main categories of investment firms, each of which would be subject to different prudential requirements.

- ***Class 1 firms*** would be composed of systemic investment firms that would need to apply for authorization as credit institutions.[43] This would be achieved by changing the definition of credit institution in article 4(1) of the CRR to include firms whose business consists of dealing on own account or underwriting or placing financial instruments on a firm commitment basis and where one of the following thresholds applies:[44]
  - The total value of the firm's assets exceeds EUR 30 billion on a solo basis;
  - The total value of the firm's assets is below EUR 30 billion, but it is part of a group where the combined total value of the assets of all the firms that provide any of the above investment services and have total assets below EUR 30 billion does exceed EUR 30 billion; or
  - At the discretion of the consolidating supervisor, if the total value of the firm's assets is below EUR 30 billion, but it is part of a group where the combined total value of the assets of all the firms that provide any of the above investment services does exceed EUR 30 billion.
- ***Class 2 firms*** would be the firms that:
  - Deal on own account and incur market and counterparty credit risk;
  - Safeguard and administer client assets;
  - Hold client money; or

[43] The EBA originally proposed to develop detailed Regulatory Technical Standards for the identification of Class 1 investment firms. However, against the backdrop of the U.K.-based systemic investment firms relocating some of their activities to EU27, the EC decided that it would be more appropriate to deal with the matter at Level 1.

[44] This interpretation is based on discussions with the EC and ECB representatives.

- Are above any of the following size thresholds:
  - Assets under management (AUM) under discretionary portfolio management and non-discretionary (advisory) arrangements higher than EUR 1.2 billion;
  - Client orders handled of at least EUR 100 million/day for cash trades and/or at least EUR 1 billion/day for derivatives;
  - Balance sheet total higher than EUR 100 million; or
  - Total gross revenues higher than EUR 30 million.
- ***Class 3 firms*** would be the firms that do not conduct any of the above activities and that are below all of the above thresholds.

Capital Requirements

The way capital requirements are proposed to be determined is proposed to be changed for all except Class 1 investment firms. As credit institutions, Class 1 firms would remain subject to the full CRR/CRD. The capital requirements for Class 2 firms would be determined on the basis of new proxies referred to as K-factors, the objective of which would be to measure the firms' risk to customers, markets, and the firms themselves.[45] Appendix table 1 provides a summary of the metrics for each K-factor and their rationale as proposed by the EC.[46] Class 3 firms would be required to calculate their capital requirements in relation to their fixed overheads or as equal to revised levels of initial capital, whichever is higher, with the objective of focusing on facilitating such firms' orderly wind-down.

The K-factors would reflect the volume of activity of a Class 2 firm, with higher activity leading to a higher capital requirement. The total capital requirement would be derived by multiplying the volume of activity referred to by each K-factor by a specific coefficient and aggregating the resulting requirements for each activity.[47] The volumes of K-CMH, K-ASA, K-COH, and K-DTF would be calculated on the basis of a rolling average from the previous three months, while for K-AUM the previous year's average would be used.

[45] If the initial capital requirement or the requirement based on fixed overheads would result in a higher capital requirement that that based on the K-factors, it would apply instead.

[46] The European Parliament and the Council of the EU are currently discussing the EC proposal. The European Parliament rapporteur has proposed some changes to the EC proposal with regard to the K-factors, their method and period of calculation, the coefficients used, and the method of moving firms between Class 3 and 2 (see http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-%2f%2fEP%2f%2fNONSGML%2bCOMPARL%2bPE-619.410%2b01%2bDOC%2bPDF%2bV0%2f%2fEN).

[47] The EC proposed the coefficient for K-AUM to be 0.02 percent, for K-ASA 0.04 percent, for K-CMH 0.45 percent, and for K-COH and K-DTF cash/derivatives 0.1/0.01 percent.

Appendix Table 1. K-Factors for Determining Capital Requirements for Class 2 Investment Firms

Risk Type	K-Factor	New/Based on CRR	Metric	Rationale
Risk to Customer	**K-AUM**	New	Assets under management	The risk of harm to clients from incorrect discretionary management of customer portfolios or poor execution, providing customer reassurance in terms of the continuity of service of ongoing portfolio management and advice.
	K-CMH	New	Client money held	The risk of harm where an investment firm holds the money of its customers, regardless of whether the money is on its own balance sheet or segregated in other accounts.
	K-ASA	New	Assets safeguarded and administered	The risk of safeguarding and administering customer assets, and ensures that investment firms hold capital in proportion to such balances, regardless of whether they are on its own balance sheet or segregated in other accounts.
	K-COH	New	Customer orders handled	The risk to clients of a firm which executes orders in the name of the client, and not in the name of the firm itself, e.g., as part of "execution-only" services and in the reception and transmission of orders.
Risk to Market	**K-NPR**	CRR	Net position risk	The risk of trading exposures in financial instruments, FX and commodities based on the CRR.
	Or			
	K-CMG	New	Clearing member guarantee	The margin posted with a clearing member against trading risks.
Risk to Firm	**K-TCD**	CRR	Trading counterparty default	The risk to an investment firm of counterparties failing to fulfill their obligations, multiplying exposures by risk factors based on the CRR, taking into account the mitigating effects of effective netting and the exchange of collateral.
	K-CON	CRR	Concentration risk	Concentration risk in relation to individual or highly connected private sector counterparties with whom firms have exposures above 25 percent of their capital and resulting in capital add-ons in line with the CRR.
	K-DTF	New	Daily trading flow	The operational risks in large volumes of intra-day trades based on the gross value of settled cash trades and notional value of derivatives.

Source: European Commission.

The initial capital requirements are also proposed to be revised. The initial capital of an investment firm that is authorized to conduct dealing on own account, underwriting or placing on a firm commitment basis, or operating an MTF or organized trading facility is proposed to be EUR 750,000. An investment firm that is not authorized to provide any of these services and does not hold client money or securities would have an initial capital requirement of EUR 75,000. All other investment firms would need to have initial capital of EUR 150,000.

Liquidity Requirements

While Class 1 firms would be subject to CRR liquidity requirements, Class 2 and 3 firms would become subject to a specific liquidity regime. Both should demonstrate adequate internal procedures to manage their liquidity needs and hold liquid assets equaling at least one third of their fixed overheads requirement. The list of liquid assets and applicable haircuts would be aligned with the CRR liquidity coverage ratio requirement, supplemented with cash at external banks (excluding any client money). For Class 3 firms, this would be further supplemented with receivables from trade debtors and fees/commissions from their services due within 30 days, provided these do not exceed one-third of the minimum liquidity requirement, do not count towards any additional liquidity requirements imposed by the competent authority, and are subject to a haircut of 50 percent. In exceptional circumstances, investment firms can fall below the required threshold, provided they notify their competent authority immediately. All financial guarantees provided to customers, which can give rise to increased liquidity needs if triggered, would also reduce the amount of available liquid assets by at least 1.6 percent of the total value of such guarantees.

Treatment of Groups

The new rules are proposed to be applied primarily on an individual firm basis. Class 3 firms that are part of a banking group headquartered in the same member state are proposed to be exempted from solo level capital requirements, considering that the consolidated application of the CRR/CRD to the group should sufficiently cover their risks. For groups containing only investment firms, the existing CRR option to ensure sufficient capital at the top-company level is proposed to be maintained. However, competent authorities could also demand the requirements be applied on a group basis, for instance in circumstances where a group is deliberately structured to fall below the thresholds for Class 2 firms or is highly interconnected and applying capital to the group as a whole would better reflect its risks.

Supervisory Reporting and Public Disclosure

Investment firms would be required to report to their competent authorities on their compliance with the prudential framework. Detailed requirements would be set in Level 2 implementing measures. Class 2 firms would have more granular reporting requirements and would need to publicly disclose their levels of capital and capital requirements, whereas Class 3 firms would have only limited reporting requirements and no public disclosure requirements.

Supervisory Review and Evaluation (Pillar 2)

Pillar 2 powers would also apply to Class 2 and 3 firms. Competent authorities are proposed to have powers to review and evaluate the prudential situation of Class 2 and 3 investment firms, based on the firms' internal capital adequacy assessments. Where necessary, competent authorities may exercise powers to require changes to various matters, including internal governance and controls and risk management processes and procedures, as well as set additional capital, liquidity, and other requirements.

Appendix VI. National Authorities for Prudential Instruments That Can Be Used for Macroprudential Purposes

	Policy Instruments--Capital-based								Borrower-based instruments (existence of legislation)		
Country	Countercyclical capital buffer	Higher real estate risk weights and stricter lending criteria	Higher minimum exposure-weighted average LGDs	Pillar 2 (systemic risks in SREP)	G-SII buffer	O-SII buffer	Systemic risk buffer	Flexibility measures:	LTV	LTI	DSTI
	Art 130, 135-140 CRD	Art 124 CRR	Art 164 CRR	Art 103 CRD	Art 131 CRD	Art 131 CRD	Art 133-134 CRD	Art 458 CRR			
Austria	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	✓	✓	✓
Belgium	DA	CA	CA	CA	DA	DA	DA	DA			
Cyprus	DA	CA	CA	CA	DA	DA	DA	DA	✓		✓
Estonia	DA	CA	CA	CA	DA	DA	DA	DA	✓	✓	✓
Finland	DA	CA	CA	CA	CA	CA	-	CA	✓		
France	DA	CA	CA	CA	CA	CA	DA	DA	✓		✓
Germany	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA			
Greece	DA	CA	CA	CA	CA	CA	DA	DA			
Ireland	DA	CA	CA	CA	DA	DA	DA	DA	✓		
Italy	DA	DA	DA	DA	DA	DA	DA	DA			
Latvia	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	✓		
Lithuania	DA	CA	CA	CA	DA	DA	DA	DA	✓		✓
Luxembourg	DA	CA	CA	CA	DA	DA	DA	DA	✓		
Malta	CA, DA	CA	CA	CA	CA, DA	CA, DA	DA	DA	✓		
Netherlands	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	CA, DA	✓	✓	✓
Portugal	DA	CA	CA	CA	DA	DA	DA	DA			
Slovakia	DA	CA	CA	CA	-	DA	DA	DA	✓		✓
Slovenia	CA	CA	CA	CA	CA	CA	CA	CA	✓		
Spain	DA	DA	DA	DA	DA	DA	DA	DA			

Source: ESRB.

Note: "CA" refers to Competent Authority and "DA" refers to Designated Authority. For the last three columns, only binding regulations are included.

Appendix VII. The Use of Macroprudential Policies

Country Decision-making authority	CCoB 1) CRD 129	CCyB 2) CRD 130	The higher of: G-SII buffer CRD 131	The higher of: O-SII buffer CRD 131	The higher of: SRB 3) CRD 133	Combined buffer requirement 4)	Art 124/164 CRR	Art 458 CRR	National legislation
Austria Finanzmarktaufsicht	1.875%	0%		6 banks: 0.5% -1%	13 banks: 0.25%-1%	1.875%-2.875%			Miniimum standards for FX loans
Belgium National Bank of Belgium	1.875%	0%		8 banks: 0.75%-1.5%		1.875%-3.375%		5 pp add-on to the risk weights applied by IRB banks for mortgage loans to Belgian residents covered by residential real estate in Belgium. Continuation of a measure that was already applicable from 8 December 2013.	
Cyprus Central Bank of Cyprus	1.875%	0%		6 banks: n/a		1.88%		Fully phase-in LCR earlier than the deadline and delete stricter national liquidity buffers.	LTV, DSTI
Estonia Eesti Pank	2.5%	0%		3 banks: 0.5%-2%	All banks: 1%	3.5%-5.5%			LTV, DSTI
Finland Finanssivalvonta/ Finansinspektionen	2.5%	0%		4 banks: 0.5%-2%		3%-4.5%		Credit institution-specific minimum level of 15% for the average risk weight on housing loans of IRB credit institutions.	LTV
France Autorité de Contrôle Prudentiel et de Haut Conseil de Stabilité Financière	1.875%	0.25% from July 1 2018	3 banks: 0.75%-1.5%	6 banks: 0.1875%-1.125%		1.875%-3.375%		Tightened the large exposure limit in big French banks for loans to highly indebted large nonfinancial corporations.	
Germany Bundesanstalt für Finanzdienstleistungsaufsicht	1.875%	0%	1 bank: 1.5%	13 banks: 0.32%-1.32%		1.875%-3.375%			
Greece Bank of Greece	1.875%	0%		4 banks: n/a		1.875%			
Ireland Central Bank of Ireland	1.875%	0%		6 banks: n/a		1.875%	Stricter criteria for preferential weighting residential mortgage loans: the property needs to be owner-occupied and the LTV must not exceed 75%. Minimum risk weight on commercial property lending increased from 50% to 100%. These are a continuation of previous policies in place since 2007.		LTI, LTV

Country Decision-making authority	CCoB 1)	CCyB 2)	The higher of: G-SII buffer	The higher of: O-SII buffer	The higher of: SRB 3)	Combined buffer requirement 4)	Art 124/164 CRR	Art 458 CRR	National legislation
	CRD 129	CRD 130	CRD 131	CRD 131	CRD 133				
Italy Banca d'Italia	1.875%	0%	1 bank: 0.75%	4 banks: 0%-0.25%		1.875%-2.625%			
Latvia Financial and Capital Market	2.5%	0%		6 banks: 0.75%-1%		2.5%-3.5%			LTV
Lithuania Lietuvos bankas	2.5%	0.5% from Dec 31 2018		4 banks: 0.5%-2%		2.5%-4.5%			DSTI, LTV
Luxembourg Commission de Surveillance du Secteur Financier	2.5%	0%		8 banks: 0.375%-0.75%		2.5%-3.25%			
Malta Bank Centrali ta' Malta	1.875%	0%		3 banks: 0.375%-1.5%		1.875%-3.375%	Continuation of practice since 2008 for exposures secured by mortgages on residential property and attracting a risk-weight of 35% not to exceed 70% of the market value of that property.		LTV
Netherlands De Nederlandsche Bank	1.875%	0%	1 bank: 0.75%	5 banks: 0.75%-1.5%	3 banks: 2.25%	1.875%-4.125%			LTV
Portugal Banco de Portugal	1.875%	0%		6 banks: 0.063%-0.25%		1.25%			
Slovakia National Bank of Slovakia	2.5%	0.5% (1.25% from Aug 1 2018)		5 banks: 0.5%-1%	3 banks: 1%	3%-5%			LTV, DSTI
Slovenia Banka Slovenije	1.875%	0%		7 banks: n/a		1.875%	Applying stricter criteria than those set out in Article 125(2) CRR on exposures fully and completely secured by mortgages on residential property: for the purpose of Article 125(2d), the LTV ratio is set at 60%. Continuation of an existing measure,		Minimum requirement on changes in loans to the non-banking sector in relation to changes in deposits from the non-banking sector (so-callled Gross Loans to Deposits Flows ratio). Ratio has to be positve for the banks with a positive annual increase in deposits.
Spain Banco de España	1.875%	0%	1 bank: 0.75%	5 banks: 0.1875%-0.75%		1.875-2.625%			

Source: ECB; ESRB.

Notes to the table (as of Jan 2, 2018, with new information on Countercyclical Capital Buffer (CCyB) and Art 458 added in June 2018): (1) The introduction and phasing-in of the Capital Conservation Buffer (CCoB) represents the implementation of Article 129 and 160 CRD IV in national legislation with possible shorter transitional periods leading to different requirements across countries. In addition, possible exemptions for small and medium-sized investment firms by some national authorities may apply. The ECB is not notified of the CCoB, but it is included in the table to calculate the combined buffer requirements. (2) The effective bank-specific CCyB rate can be higher as it is affected by the CCyB rate of the country where exposures are located, see Art. 140 CRD IV. For Italy, Luxembourg, Malta, and Slovakia small and medium-sized investment firms are exempted from the CCyB. (3) In Estonia and Slovakia the Systemic Risk Buffer (SRB) is applied only on domestic exposures, the buffer is cumulated to the higher of the O-SII and G-SII buffers, in line with Art. 133(5) CRD IV. In Estonia all banks—not only systemically important ones—are subject to the SRB buffer. (4) The combined buffer requirement is calculated according to Art. 131 CRD IV but excludes mandatory or voluntary reciprocity of foreign macroprudential measures according to recommendation ESRB/2015/2. It consists of CET1 capital and comes in addition to a minimum requirement of 8 percent total capital (4.5% CET1 + 1.5% AT1 + 2% T2). Pillar 2 measures are not included.