

## Annex 6

# Macroprudential policies and instruments to mitigate or prevent identified systemic risks

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## Summary

- Several monitoring tools are in place to detect systemic risks in the EU insurance sector, most notably risk dashboards and stress tests. Within their risk dashboards, both EIOPA<sup>1</sup> and the ESRB<sup>2</sup> include indicators relevant for financial stability such as solvency, profitability, premium growth, lapses, counterparties by sector and a measure for insurers' contribution to systemic risks. In addition, the upcoming ESRB heat map links these indicators to the ESRB intermediate objectives. The EIOPA EU-wide stress tests apply scenarios, developed in co-operation with the ESRB, which capture key systemic risks in the EU and vulnerabilities of the insurance sector.<sup>3</sup> The questionnaire on second-round effects of the stress scenarios, included for the first time in the 2014 test, aims to reveal potential transmission mechanisms of systemic risks. Finally, Solvency II will improve the reporting of exposures and risks considerably.
- Many national supervisors currently have powers, tools and flexibility which can limit risks to financial stability and have actually used these in the past decade. They include restrictions on non-insurance activities, restrictions on certain assets, the prohibition on paying out dividends, the requirement to build up additional provisions, a cap on guaranteed returns, a reduction in discount rates, and changes in solvency requirements, recovery periods and valuation methods. Although mostly microprudential in nature, they are often applied to mitigate risks to financial stability as well (Table 1).

Table 1  
National measures

Country	Year	Measure	Aim
Denmark	2008 and 2012	Changes to discount rate	Prevent large-scale sale of mortgage bonds, alleviate pressure on sovereign bonds and manage low interest rates
Germany	2011-now	Obligation to build up provisions	Protect against a prolonged period of low interest rates
Italy	2013-2016	Changes to valuation methods (optional and conditional)	Cope with artificial volatility due to exaggerated bond spreads in the market
Netherlands	2012	Changes to discount rate	Reduce fluctuations in solvency positions
Sweden	2001-2012	Changes to discount rates and extension of recovery period	Reduce the impact of low rates and falling equity prices on asset allocation
UK	2001-2004 2008-2009	Changes to solvency requirements (both periods), changes to valuation methods and discount rates (2001-2004)	Avoid the sale of assets and manage temporary volatility of capital resources. Reduce the sale of equities

Source: Bank of England and ESRB/IEG

- Some of these current national powers and measures will be transferred to and institutionalised in Solvency II, though with much less flexibility. National discretion will be replaced by common application and a level playing field. The "prudent-person principle" replaces current quantitative limitations on certain investments. In addition, the higher the risk, the more capital that is required under the Solvency II capital regime due to its holistic and risk-based approach. The long-term guarantee measures replace most measures listed in

<sup>1</sup> Available at: [https://eiopa.europa.eu/Publications/Standards/EIOPA-FS-15-209-PUBLIC\\_20032015.pdf](https://eiopa.europa.eu/Publications/Standards/EIOPA-FS-15-209-PUBLIC_20032015.pdf).

<sup>2</sup> Available at: [https://www.esrb.europa.eu/pub/pdf/dashboard/150326\\_ESRB\\_risk\\_dashboard.pdf?8a7c3b84042cf9bdc21c958171cbbad3](https://www.esrb.europa.eu/pub/pdf/dashboard/150326_ESRB_risk_dashboard.pdf?8a7c3b84042cf9bdc21c958171cbbad3)

<sup>3</sup> ESRB, Adverse stress test scenarios for EU-wide stress test of insurance firms carried out by EIOPA in 2014, 30 April 2014.



Table 3, but the volatility adjustment and matching adjustment work on a more automatic basis: once approved by the supervisor, their levels are prescribed by the delegated acts of Solvency II with no national discretion. Although this is welcome from the perspective of a level playing field in the internal market, it may reduce flexibility for supervisory authorities to react to financial-stability risks given that these risks may materialise in specific companies to different degrees.

4. The risk-sensitive capital requirement, incentives to match assets and liabilities and higher reserving requirements in Solvency II may help to mitigate some of the sources of systemic risks identified. The interest-rate risk module in the capital requirement incentivises insurers to match the duration of their assets and liabilities such that they decrease the risk of (downward) shifts in interest rates, which makes insurers less vulnerable to the risk of a double hit. The concentration-risk module incentivises insurers to reduce concentration of exposures to specific counterparties, decreasing firm-level interlinkages but not exposures to sectors and countries. The matching adjustment incentivises insurers to match their cash flows of assets and liabilities. The ORSA gives supervisors more information on risks. Moreover, Solvency II is expected to result in higher capital and reserving requirements than Solvency I.
5. In addition Solvency II contains instruments some of which aim to reduce procyclicality, mostly in periods of financial distress. The symmetric adjustment in the equity-risk module raises (reduces) capital requirements when equity markets increase by more (less) in value than approximately 5% per annum. The volatility adjustment mainly reduces reserving requirements, especially in times of financial distress.<sup>4</sup> There is also the possibility for supervisors to extend the recovery period to seven years in the case of exceptionally adverse conditions. Both the VA and the extension of the recovery period are likely to stave off fire sales.
6. However, neither Pillar 1 nor Pillar 2 allows authorities to raise reserving requirements for pure macroprudential reasons.<sup>5</sup> The Pillar 2 capital add-on can be applied in the event that the risk profile of the insurer deviates significantly from the assumptions of the standard formula of the capital requirement or the assumptions of the long-term guarantee measures, but not in the case of macroprudential concerns.
7. The International Association of Insurance Supervisors (IAIS) addresses the “too-big-to-fail” risk of the largest globally active insurers. It has designated nine global systemically important insurers, five of which are headquartered in the EU. It addresses systemic risks posed primarily by their non-traditional, non-insurance (NTNI) activities and interconnectedness, with enhanced supervision (a systemic risk management plan and a liquidity management plan), effective resolution and higher loss absorbency, including capital surcharges. The IAIS measures will benefit the stability of the EU insurance market, though they do not address activities which are small on a global scale but large on a national scale. Nor does the IAIS currently address other potential macroprudential risks such as procyclical investment behaviour, except for measures aimed at the global systemically important insurers.
8. These together potentially leave macroprudential authorities with a few gaps when dealing with the systemic risks of the EU insurance sector. As noted above, due to its microprudential

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<sup>4</sup> The VA is symmetric in terms of design. It can theoretically also raise reserving requirements, but according to ESRB exemplary calculations for the period 2000 to 2015 this would have only occurred twice. Thus, the equity dampener is the only countercyclical element in Solvency II which is symmetric in terms of outcome.

<sup>5</sup> Recital 36, and article 45 of the Solvency II Directive.



nature Solvency II does not have the flexibility to raise and loosen reserving and capital requirements relative to microprudential requirements in the event of macroprudential concerns with specific companies, activities or exposures. NTNI activities are monitored, but authorities have few tools to limit them. NTNI activities and the procyclicality of investments are addressed by the IAIS specifically only for global systemically important insurers and not for the sector at large.

9. The insurance guarantee schemes and recovery and resolution arrangements currently in place are unlikely to be fit to handle all of the scenarios. An orderly resolution could minimise any impact on financial stability, ensure the continuity of critical functions and avoid exposing taxpayers to loss. Currently there is no Europe-wide recovery and resolution framework for insurers. Powers and schemes currently vary between countries and in many cases face shortcomings which could be remedied by adoption of a resolution regime for insurers that is compliant with the FSB's Key Attributes.<sup>6</sup> An insurance recovery and resolution directive and an insurance guarantee scheme directive would form a holistic framework for dealing with insurer failure. This is currently on the agenda of the European Commission. The application of a resolution regime should be proportionate and more intrusive tools (such as bail-in tools) should only be used in a situation where ordinary winding-up procedures (such as run-off or portfolio transfers) cannot achieve the resolution objectives.

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<sup>6</sup> FSB "Key Attributes of Effective Resolution Regimes for Financial Institutions", 15 October 2014 (update).



10. There are a number of instruments that may address the possible systemic risks identified in different ways:
- The possibility to ring fence and limit or restrict NTNI activities;
  - Application of measures (e.g. capital surcharge, limits or enhanced supervision) for activities which are not systemically important on a global scale but are nevertheless systemically important on an EU or national scale.
  - Enhanced liquidity supervision (NTNI activities and lapses).
  - The possibility to adjust reserving and/or capital requirements above the microprudential requirements when deemed necessary.
  - The possibility to adjust capital charges for certain types of assets, counterparties or insurance liabilities to address macroprudential externalities and regulatory leakage from/to the banking sector.
  - An effective recovery and resolution regime and insurance guarantee scheme.
11. It is recommended to analyse these instruments for future introduction into the legal framework (e.g. by means of Solvency II reviews). While these measures are considered likely to mitigate the risks identified, the IEG has not assessed whether the probability or impact of the systemic risks discussed in this paper are actually large enough to require responses by macroprudential authorities. Such analysis would need to be undertaken, considering also the deadweight loss and costs of any of the measures, before any recommendation on the application of these measures can be made.
12. In the meantime, authorities should address the most imminent systemic risk within the Solvency II framework. Of the risks identified in this report, the common vulnerability of life insurance to low yields and a sudden repricing of risks (i.e. “the double hit”) in combination with the risk of insufficient loss absorption capacity, also under Solvency II, are the most imminent ones at the current economic conjuncture. The need for life insurers to adapt to a period of low yields and high volatility is widely recognised.<sup>7</sup> EIOPA and national supervisors are already taking action.<sup>8</sup>
13. Authorities can decide on the timing of life insurers’ adaptation. They can either allow for more time, which would smoothen the adaptation process, but risks inaction and the build-up of hidden losses. They can also decide to front load the adaptation by requiring build-up of resilience now. This would decrease any inaction bias, but risk losses in the insurance sector with potential spillovers. In the absence of an adequate resolution framework to address some of the identified adverse scenarios, authorities should consider who could bear losses and what could be the systemic impact.

## 1. Introduction

14. The notes “Sources of systemic risks”, “Systemic risks of reinsurers”, “Interconnectedness of EU insurance sector” and “Incentives of prudential regulation” identify potential financial stability risks arising from (re)insurance. This note contains a high-level description, analysis

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<sup>7</sup> IMF, “Global Financial Stability Report”, April 2015, pp 22-24 or DNB, “Overview of Financial Stability”, spring 2015, pp 17-18.

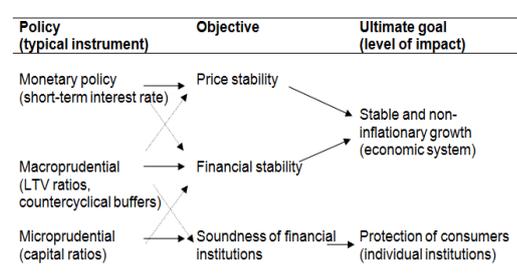
<sup>8</sup> EIOPA, “Opinion of the European Insurance and Occupational Pensions Authority of 28 February 2013 on Supervisory response to a Prolonged Low Interest Rate Environment”.



and assessment of existing and possible policies and tools to address these risks, should they materialise. It can be considered as a starting point for deeper analysis, e.g. an impact assessment, which should inform the final policy choice.

15. This draft note outlines the preliminary thinking of the IEG. This analysis should be expanded by a more in-depth analysis of the effectiveness of these measures, possibly including a quantitative impact study.
16. Macroprudential measures consider the financial system as a whole and are concerned with the impact on the wider economy. They interact continuously with monetary policy and microprudential supervision.

**Figure 1**  
**Policy framework for the financial and economic system**



Source: Based on Schoenmaker and Wierds (2011).  
Note: Examples refer to the banking sector.

17. There are different views on what exactly constitutes a macroprudential measure. The ESRB report “A review of macroprudential policy in the EU one year after the Introduction of the CRD/CRR” refers to the broader concept of national measures that are of macroprudential interest. Such measures can also be taken in the areas of microprudential supervision or fiscal policy. Examples of measures which are of macroprudential interest include the introduction of the capital conservation buffer, exempting small and medium-sized firms from buffers, using Pillar II to address systemic risk concerns, introducing

limits through supervisory guidelines, tax deductibility of certain loans and risk weights (or stricter criteria) for certain exposures.

## 2. Risks in relation to the ESRB intermediate objectives

18. The table below summarises the risks identified by the IEG in its workstreams on sources of systemic risks, systemic risks of reinsurance and incentives in prudential regulation. It relates these risks to the ESRB intermediate objectives for macroprudential policy, which have been designed to justify and frame macroprudential policy measures for the financial system. Overall, the risks which we have identified can partly be linked to one or more of the ESRB intermediate objectives. However, there are risks which are not entirely captured by the intermediate objectives. For example, the disruption to real-economy funding which may arise from the procyclical behaviour of insurers is not yet reflected in the intermediate objectives.



Table 2

## The main systemic risks and the ESRB intermediate objectives of macroprudential policy

Risks	Excessive credit growth and leverage	Maturity mismatch and market illiquidity	Direct and indirect exposure concentrations	Too-big-to-fail/moral hazard	Elements not captured by ESRB objectives
NTNI activities	Indirectly in the case of providing credit insurance, but also potentially via securities lending (allowing others to borrow) and CDS.	Policyholder options may increase risk of lapses; other activities, e.g. in securities lending, may involve maturity mismatch.	In certain market segments of NTNI like monoline insurance.	Insurers may enter into more NTNI activities in the expectation of being bailed out.	Failure, impact of losses and disruption to real economy and household including confidence impacts.
Procyclicality of investment behaviour both in downturns and upturns.	If providing credit directly or indirectly via investments (including purchase of corporate debt, provision of liquidity and funding to banks – including securitisation).	In the case of fire sales.	In some market segments (bank funding, derivatives, securities lending) insurers hold a large share. Across the sector, insurers have common exposures (e.g. sovereigns, long-dated corporates). Some measures may further encourage herding.	Insurers may take on more risk in expectation of automatic relief in stresses.	Disruption to real-economy funding.
Procyclicality in provision of certain insurance products.	If insurance provision is a requisite for credit.				
Common vulnerabilities to double hit.	Search for yield in response to low interest rates might prompt increased credit activities.	In the case of fire sales when failing or in distress.	In some market segments (bank funding, derivatives, securities lending) insurers hold a large share. Across the sector, insurers have common exposures (e.g. sovereigns, long-dated corporates). Some measures may further encourage herding.	Major insurers may not change vulnerability given expectation of getting relief – too-big-to-fail possible for large (e.g. life) firms.	Failure, impact of losses and disruption to real economy and household including confidence impacts.
Disruption of commercial insurance due to concentration issues.				Too-big-to-fail possible or dominant firms in key markets.	Failure, impact of losses and disruption to real economy.
Risks in reinsurance (concentration, ART, captives).	If (re)insurance provision is a requisite for credit.	In the case of investors suddenly retreating from ART.	Large share of insurers may be reinsured with same reinsurer. Exposures may be moved out of supervisor's sight to reinsurance captives and not appropriately capitalised for.	Large reinsurer may be too big to fail.	Regulatory arbitrage through reinsurance captives.
Potential insufficient loss-absorption capacity arising from SII calibrations and LTG package design.		In the event of fire sales.	Reduced ability to absorb shocks on asset and liability side.		Failure, impact of losses and disruption to real economy and household including confidence impacts.
Potential arbitrage (with banking regulation).	Potential leakages in event of bank charges being increased.	Depends on nature of any activity migrating.			All objectives can be affected.



### 3. Regulatory toolbox

#### 3.1. Monitoring and measurement of systemic risks

19. The main tool for measuring systemic risks is a stress test. The stress test is also a microprudential tool. Its aim is to test the resilience of institutions (micro) and to identify vulnerabilities and systemic risks (micro and macro). Last year EIOPA, in cooperation with the ESRB, conducted an EU-wide stress test that included shocks in financial markets (asset price falls and low interest rates) and insurance-specific shocks (catastrophe, longevity, mortality, lapses, reinsurance), thereby covering most systemic risks identified. A qualitative questionnaire aimed to lay bare second-round effects of an adverse financial market scenario.
20. EIOPA and the ESRB publish quarterly risk dashboards. These dashboards contain key variables of the health of and risks in the EU insurance sector. Both dashboards are regularly reviewed and improved. The EIOPA risk dashboard (Figure 2) gives an overview of the key risks in the insurance sector and assesses the level and trend as well as the impact of the respective risk.

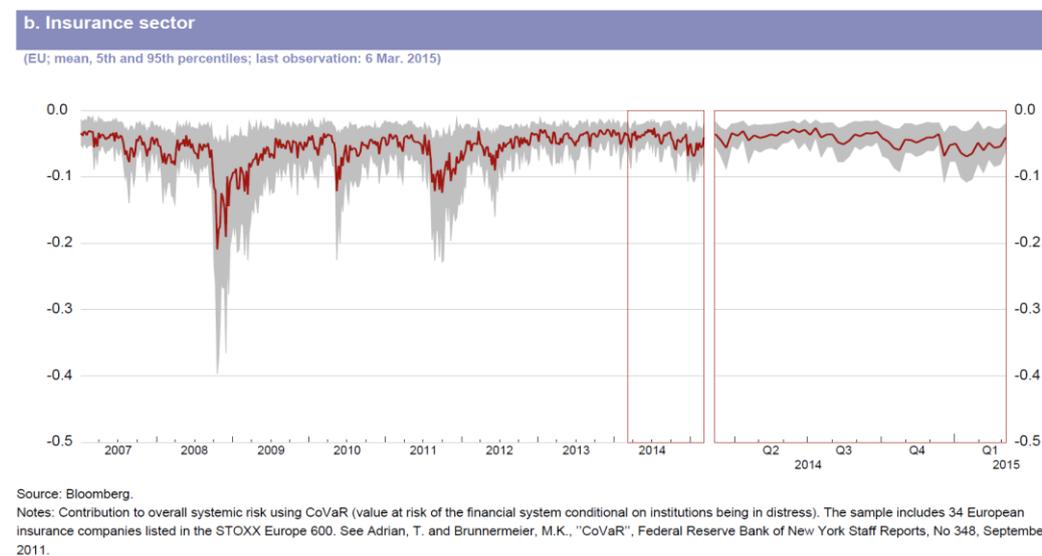
Figure 2  
EIOPA risk dashboard (March 2015)

Risk	Level & Trend	Impact	Risks Description
Market Risk	→	High	<ul style="list-style-type: none"> <li>Swap rates have decreased substantially since the last review as a likely consequence of anticipating the quantitative easing programme. The recent decision of the ECB will prolong the current environment of low yields.</li> <li>Uncertainty about deflationary trends and eurozone stability.</li> </ul>
Macro	→	High	<ul style="list-style-type: none"> <li>Overall the economic outlook improved slightly. Hence, positive growth rates are expected in several member states.</li> <li>Still, the risks remain and the divergence in economic performance across the EU is expected to continue: the trend towards low inflation has intensified and mostly turned to negative on the back of the steep fall in energy prices. Geopolitical risks increased as well.</li> </ul>
Liquidity & Funding	→	Medium	<ul style="list-style-type: none"> <li>Highly liquid assets held by insurance companies in order to meet short-term obligations increased in the last quarter.</li> <li>Still, some risks remain as liquidity issues can be key for insurers, in case of crisis.</li> </ul>
Profitability & Solvency	→	Medium	<ul style="list-style-type: none"> <li>Profitability challenges, especially for life insurance companies, make the sector vulnerable, due to a fragile economic environment.</li> <li>Solvency I ratios remain robust, but Solvency II average levels are in general lower.</li> </ul>
Interlinkages/ Imbalances	→	High	<ul style="list-style-type: none"> <li>Increased derivative holdings, likely due to increased exchange rate movements.</li> </ul>
Credit Risk	→	Medium	<ul style="list-style-type: none"> <li>Valuation of bonds might not reflect the underlying risks correctly.</li> <li>Market expectations possibly diverge from economic fundamentals.</li> <li>Monetary easing may compress spreads.</li> <li>Reassessment of risk premia would have a substantial negative impact on insurers which was also confirmed by the EIOPA 2014 stress test.</li> </ul>
Insurance	→	Medium	<ul style="list-style-type: none"> <li>Alternative capital now accounts for about 12% of total catastrophe reinsurance capital and hence prices for reinsurance have fallen.</li> <li>In 2014 insured losses were at their lowest levels since 2009.</li> </ul>



21. The ESRB dashboard contains – besides the indicators on profitability and solvency received from EIOPA – two more indicators: a time series of insurance sector contributions to overall systemic risks (Figure 3) and a time series of counterparties of insurance companies.

Figure 3  
Charts ESRB risk dashboard (March 2015)



22. The ESRB heat map, complementing the dashboard, contains several sectoral indicators for insurance. Based on the discussion in the IEG, the indicators listed in Annex 1 are a starting point for further discussion.
23. The IAIS proposes a set of high-level macroprudential indicators that can be applied to insurance markets:
- Insurance penetration;
  - Insurance density;
  - Relative capital;
  - Capital to premium;
  - Reinsurance retention (cession) rate;
  - Combined ratio;
  - Insurer concentration;
  - Equity share;
  - Debt share.



### 3.2. Current policy measures (under Solvency I) with financial-stability implications

24. The IEG asked its members about the tools and measures which are currently in place, or were used in the past, and which have financial-stability impacts (whether an explicit objective or not). The members from Germany, Italy, Cyprus, Portugal, France, Finland and Belgium responded. The measures can be categorised as follows:
- (a) Restrictions on activities (borrowing, non-insurance activities) and assets portfolio (concentration limits, loans);
  - (b) Prohibition on paying out dividends;
  - (c) Obligatory provisioning and restriction of profit-sharing related to low interest rates;
  - (d) Maximum guaranteed returns;
  - (e) Ceiling on or reduction in discount rates;
  - (f) Intensified reporting and supervision in times of stress;
  - (g) Change in valuation method (historic costs instead of market value);
  - (h) Transfer of portfolios;
  - (i) Increase in minimum capital requirement;
  - (j) Requirement for own credit-risk assessment, so as to avoid overreliance on credit rating agencies.
25. These tools are partly/mostly microprudential in nature, but may also have a financial-stability impact. It should be noted that with the introduction of Solvency II some of these tools, in particular a, c, e, g, and i, will either no longer be relevant or will take different forms, since these tools will be replaced by Solvency II, a set of maximum harmonised rules (Pillar 2 measures in Solvency II will address j)<sup>9</sup>.

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<sup>9</sup> Some countries can choose to keep the current system of "provisions build-up due to interest rate risk" (see Table 3) alive under their local GAAP, still serving the prudential goals of a prudential supervisory system.



26. The table below summarises the measures taken to prevent fire sales.

**Table 3**  
**Summary of use of regulatory flexibility for insurers**

Measure	Countries where measure was used							Reason given
	Denmark	Italy	Netherlands	Sweden	Switzerland	UK	US	
Changes to solvency requirements					2013	2001–2004; 2008–2009	2007–2009	To avoid the sale of assets and manage temporary volatility in capital resources (UK); to mitigate the impacts of crisis on insurers and policyholders (US); to manage low rates and reduce competitive disadvantages in the European market (Switzerland).
Changes to valuation methods		2013–2016				2001–2004	2007–2009	To reduce the sale of equities (UK); to mitigate impacts of crisis on insurers and policyholders (US); optional measure to cope with portfolio artificial volatility in the market (Italy).
Changes to discount rates	2008; 2012		2012	2001–2012		2001–2004		To reduce the sale of equities (UK); to prevent large-scale sales of mortgage bonds and alleviate pressure on government bonds (DK, 2008); to manage low rates (DK, 2012); to ease the burden of low rates (Sweden); to reduce fluctuations in solvency positions (NL).
Extension of solvency restoration plan				2011				To reduce the impact of low rates and falling equity prices on asset allocation.

Source: Bank of England

27. According to the EIOPA 2104 low interest-rate environment stock-taking exercise, two thirds of supervisors have the power to amend the level of required solvency margin or request the establishment of special provisions for interest-rate risk and a few (two and six respectively) have done so in recent years. In addition, two thirds have the power to change insurers' investment policy/mix and four have done so.

### 3.3. Tools in Solvency II which may have financial-stability impacts

28. S2 states that the main objective of insurance and reinsurance regulation and supervision is the adequate protection of policyholders and beneficiaries. Financial stability and fair and stable markets are other objectives of insurance and reinsurance regulation and supervision which should also be taken into account but should not undermine the main objective. Having this as a milestone, provisions included in the directive made reference to financial stability when dealing with different aspects to be regulated. Furthermore, later revisions (via Omnibus 2, (O2)) did consider issues relevant for financial stability to a greater degree than the original. To this end, some additional measures have been introduced via the



Long-Term Guarantees (LTG) package. These measures are largely designed to tackle procyclicality in periods of stress. This is consistent with evidence on regulatory flexibility applied in stresses which appears likely to have been successful in staving off fire sales in the past.

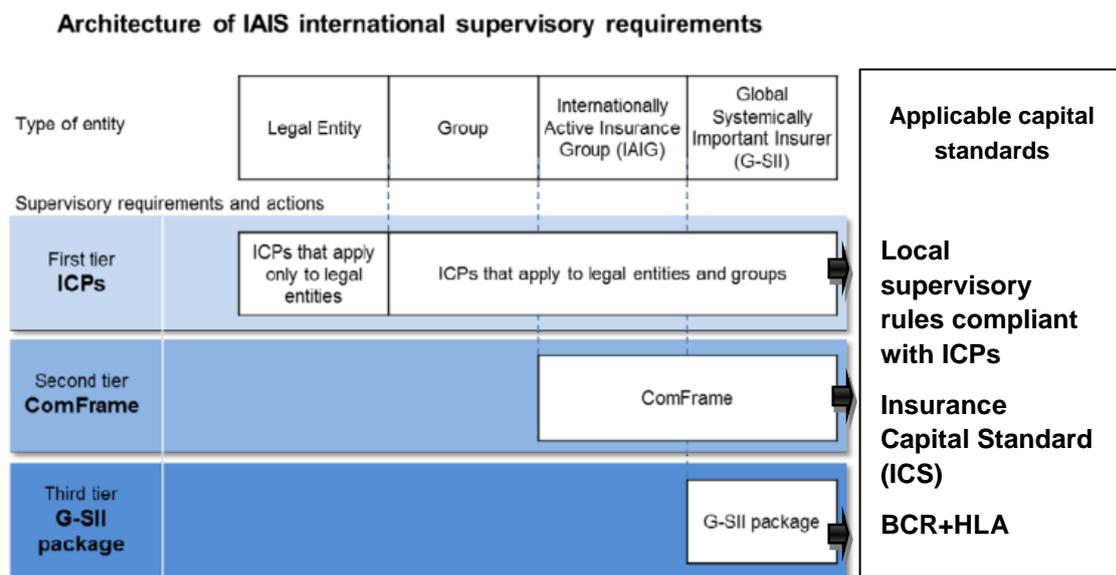
29. The IEG identified the following tools/measures/elements in S2 which may have a more pronounced impact on the financial-stability objective (in some cases intentional, in others as a by-product), as they were conceived to mitigate undue effects of the volatility in the financial system via the stabilisation of the insurer's balance sheet. Some are described in detail and assessed in the note on prudential regulation:
  - (a) Volatility adjustment;
  - (b) Matching adjustment;
  - (c) Symmetric adjustment in equity-capital charge;
  - (d) Extension of recovery period;
  - (e) SCR module for interest-rate risk;
  - (f) SCR module for concentration risk;
  - (g) Reporting of concentrations and large exposures within groups;
  - (h) Transitional measures.
30. It should be emphasised, however, that the effects of these tools which will apply to the vast majority of European insurers cannot be known for sure until S2 has been implemented. Therefore, their impact on stabilising the financial system can only be supposed at present. Nevertheless, the ESRB acknowledges the positive effect of these measures on addressing the volatility of balance sheets of insurers as well as their ability to protect long-term insurers against temporary, short-term economic stress.
31. As has been pointed out, with regard to financial stability Solvency II should enable the insurance sector to hold sufficient capital at all times as well as ensure transparency with regard to the impact of long-term guarantee measures.

#### **3.4. Measures adopted by the IAIS on a global scale**

32. There are a number of different layers of measures which apply to EU insurers, all of which address macroprudential risks to a different extent. While the G-SII measures, like capital surcharges, do this quite directly, other layers contribute to reducing systemic risks arising from activities spread across many small and medium-sized insurers.
33. The IAIS regulatory framework is based on a three-tiered framework: The first tier, so-called Insurance Core Principles (ICPs), consists of standards which apply to all insurers and insurance groups, regardless of size, materiality on international business or systemic importance. The second tier, "ComFrame", is a set of international supervisory requirements focusing on the effective group-wide supervision of Internationally Active Insurance Groups (IAIGs). The third tier, the G-SIIs package, contains measures which apply only to designated G-SIIs.



Figure 4



34. ICPs and S2 have in common the intervention ladder with two different levels of capital requirements (SCR and MCR) and their focus on governance, risk management and group-wide supervision. A separation and/or restriction of NTNI activities is not included in S2. Instead, S2 relies on the “prudent-person principle” and the Own Risk and Solvency Assessment (ORSA). This ORSA and the reporting of S2 should allow supervisors to monitor NTNI activities.
35. The IAIS work on Global Systemically Important Insurers (G-SIIs)<sup>10</sup> has a different focus than that of the ESRB/IEG, which aims at the systemic risks posed by all the insurers in the EU. The IAIS analysis of systemic risk has so far mostly focused on the designation and treatment of Global Systemically Important Insurers (G-SII).
36. The IAIS has developed an assessment methodology for insurance entities whose distress or disorderly failure, because of their size, complexity and interconnectedness, would cause significant disruption to the global financial system and economic activity. Under this methodology, nine insurers (five of which are EU insurance groups) were designated as G-SIIs for the second year in a row. The decision on the G-SII status of reinsurers has been postponed pending the revision of the methodology.
37. The IAIS measures will be applicable to G-SIIs in Europe (currently five). The IAIS has proposed the measures below.
- Enhanced supervision: G-SIIs should compile a systemic risk management plan (SRMP) and have enhanced liquidity planning and management, including a liquidity risk management plan (LRMP). It is proposed that the supervisors should be able to require the G-SII to conduct an effective separation of NTNI activities or impose restrictions and prohibitions on systemically risky activities.

<sup>10</sup> IAIS – “Global systemically important insurers: policy measures”, 18 July 2013



- Effective Resolution: the authorities who supervise G-SIIs and the G-SIIs themselves should comply with the Key Attributes as published by the FSB.
  - Loss Absorption: as concluded by the FSB, systemically risky institutions should have higher capital levels to reflect the greater risks that they pose to the global economy. The first step towards the implementation of Higher Loss Absorption Capacity (HLA) for G-SIIs was the creation of a suitable, globally comparable foundation for such a capital add-on. In 2014, the IAIS designed a Basic Capital Requirement (BCR) that is applicable to all G-SIIs. In 2015, the IAIS published the HLA requirement for G-SIIs. Currently, the IAIS is working on a risk-based Insurance Capital Standard (ICS) to replace the BCR as a foundation for HLA. The HLA standard will be revised before its implementation in 2019 to reflect further work by the IAIS on the G-SII assessment methodology and insurance capital requirements.
38. The IAIS analysis is based on the assumption that the insurance business in itself is not likely to be a source of systemic risk, i.e. in light of the AIG experience. Therefore, the methodology and measures focus predominantly on the non-traditional, non-insurance activities (NTNI) and interconnectedness of insurance groups. The case is less clear for other risk factors like size and global activity which can also contribute to better diversification. This is reflected in the relatively low weighting of these categories in the IAIS methodology to designate GSIIIs. Similar considerations apply to the category of substitutability, which is not as great an issue in insurance as it is in other sectors.
39. In conclusion, the G-SII package of the IAIS represents a clear step towards reducing the negative incentives related to “too big to fail”. Once in place, these measures will reduce the systemic risks which stem from G-SIIs headquartered or active in the EU. However, an overall reduction of risks can only be achieved through the consistent implementation of these measures on a global scale. Otherwise, the regulatory community risks exacerbating the possibilities for regulatory arbitrage, thus increasing, rather than decreasing, the global systemic risks. With the G-SII framework, the IAIS addresses only one aspect of macro-prudential concerns. The IAIS does not analyse insurers which are systemically relevant at national or regional level, nor has it finalised its work on macro-prudential instruments, which may address pro-cyclical behaviour and substitutability in specific markets.
40. The IAIS is also working on the development of a risk-based group-wide global insurance capital standard (ICS). The BCR will be applied to G-SIIs, while the ICS will be applied not only to this restricted number of insurance groups but also to all Internationally Active Insurance Groups (IAIGs) from 2019. When finalised, the ICS will replace the BCR in its role as the foundation for HLA.

### 3.5. Other possible instruments

41. Besides existing national measures, instruments in Solvency II and instruments developed by the IAIS, the experience of the banking sector with the following macroprudential instruments can inform the discussion in the insurance sector. However, analogies should be drawn considering the specific characteristics of each sector
42. **Time-varying capital buffers** are a tool applied in the banking sector to reduce the volatility of business and financial cycles. The purpose of these cyclical capital buffers is first to build up resilience in cyclical upswings from which it can draw during downswings, so that financial institutions can continue to fulfil their functions throughout the entire cycle; second, it may help dampen excessive growth during the upturn (“leaning against the wind”). In banking



regulation, the countercyclical capital buffer is obligatory from 2016 and will be between 0% and 2.5% of risk-weighted assets.

43. An **SIFI buffer** targeted at institutions which are systemically important domestically (O-SIIs). In the CRD the O-SII buffer is discretionary, between 0 and 2%, and can be applied from 1 January 2016. The objective is to enhance resilience for these institutions and thereby account for the externalities related to their size, complexity, interconnectedness and cross-border activities. In the insurance sector, global systemically important insurers have been designated but there has been no designation of domestically important insurers so far. For example, the Dutch state was forced to provide state aid to Aegon at the height of the financial crisis, although Aegon was not on the list of G-SIIs; apparently the Dutch government considered Aegon nevertheless too big to fail.
44. **A structural capital buffer for certain exposures** The CRD contains an equivalent Systemic Risk Buffer. This buffer can be temporary and change over time depending on the assessment of the systemic risks implied by the exposures targeted. It can target the entire sector or a subset of institutions.
45. A Pillar II firm-specific capital add-on In Pillar II, the CRD creates the possibility for authorities to apply firm-specific add-ons (not only capital) to address systemic risks. For instance, this could be applied should the supervisor consider that the pricing of products deemed vital to the real economy is not prudent or sustainable. Currently a capital add-on can only be applied in Solvency II in the event that the risk profile of the insurer deviates significantly from the assumptions underlying the standard formula. Although this is ambiguous wording, it is widely believed that this only means that a capital add-on can be applied if an insurer runs risks which are not sufficiently captured by the standard formula, not in the event that an insurer poses systemic risks<sup>11</sup>.
46. **A capital back stop** In the banking sector a leverage ratio (a non-risk-sensitive requirement for capital/total assets) is applied to ensure a minimum level of capital compared with total assets. It is now also being introduced as a macroprudential tool to prevent and mitigate excessive credit growth and leverage. If it is believed that S2 might lead to excessively low capital requirements from a macroprudential perspective, a non-risk-sensitive back stop would reduce the risk of undercapitalisation.

#### 4. Applicability of measures to identify risks

47. This section describes measures which could be applied to address specific systemic risks identified by the IEG. The analysis is not based on empirical data and is qualitative only. It can be expanded by a quantitative analysis to substantiate the possible effectiveness of these measures. Since the measures are supposed to address risks which are typically not daily risks but tail-end risks, the analysis has a somewhat speculative character, relying heavily on assumptions which by nature have not yet been tested in practice.
48. All measures should take into account their impact beyond the insurance sector. It is important that there is consistency of measures across all financial sectors to achieve the ultimate goal of the respective instrument.

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<sup>11</sup> In other words, Solvency II explicitly captures only the risks that the insurer is exposed to and not risks that the insurer itself creates for other market participants or the entire market. Since the Solvency II directive does not even attempt to cover the latter risks in the SCR, it is questionable whether the supervisor can represent them as a "deviation of the actual risk profile" and impose a capital add-on on that basis.



#### 4.1. NTNI

49. The potential for systemic risk within the insurance sector has been considered prominent where insurers deviate from the traditional insurance business model and more particularly where they enter into non-traditional or some types of non-insurance (NTNI) activities. This is because, among other things, the longer time frame over which “traditional” insurance liabilities can normally be managed may not be present when dealing with NTNI activities. As described in the chapter related to the source of systemic risk, the IAIS worked on a definition of NTNI activities and provides a broad “principle-based” description which takes into account the involvement of financial features (i.e. leverage, liquidity and maturity transformation, or credit guarantees), the “financial complexity” of the products (compared with that of traditional insurance products) or those where the liabilities are significantly correlated with financial market performance (such as stock prices and the business cycle).

##### 4.1.1. Existing measures (including those currently under development)

50. Since non-traditional, non-insurance activities pose one of the key risks for insurers on a global scale as well, a number of measures have been recommended and are in the process of being implemented on a global scale.
51. **Systematic monitoring of the NTNI activities** of EU insurers is much enhanced under S2. This helps the systemic risk assessment. Data collection by the ESRB in 2014 showed many large data gaps with NSAs, possibly also due to differences in the application of the NTNI definition. No specific monitoring and analysis is currently required by EU legislation. However, the overall level of NTNI activities in the EU insurance market and their distribution across companies are direct drivers of systemic risk.
52. **The proposed G-SII package (IAIS)** aims to mitigate the risks arising from the involvement of insurers in NTNI activities. These measures allow qualitative measures such as limitations, restrictions and separation of NTNI activities. The quantitative requirement (higher loss-absorption capacity) is targeted to an extent directly at these activities. The notion of “effective separation” of NTNI activities from traditional insurance business was present in the initial G-SII measures package, but was subsequently discarded in the final HLA requirement. This set of measures enables the supervisors to address the systemic risks posed by NTNI activities to a certain extent in a targeted manner.
53. **The Prudent-Person Principle (S2)** sets principle-based requirements which have the power to limit the spectrum of possible investments for an insurance undertaking (likely discouraging exposure to NTNI investment activities). Assets and instruments are allowed only if underlying risks can properly be identified, measured, monitored, managed, controlled and reported by the insurers – characteristics which are not always evident in NTNI activities often marked by opaqueness and complexity. Furthermore, for some specific classes of investments and instruments such as derivatives and instruments not admitted to trading on a regulated financial market, use is possible only if they contribute to a reduction in risks or facilitate efficient portfolio management and only to a prudent level.
54. **The Own Risk and Solvency Assessment (S2)** including stress-testing is aimed at appropriate management of business, which could be used to limit inappropriate pursuit of risky activities (although fixed limits cannot be imposed).
55. **Governance requirements (S2)** as spelled out in EIOPA’s recently published Guidelines on System of Governance include the identification of the risks arising from the undertaking’s insurance obligations, including embedded options and guaranteed surrender values in its products.



56. **Appropriate recovery & resolution tools**, as set out in the FSB Key Attributes, could ensure orderly resolution but these tools have not yet been implemented in a consistent manner across the EU. Resolution tools are applied to legal entities and not solely to the NTNI activities being undertaken within the legal entity. Recovery and resolution tools for non-G-SIIs are discussed further for other risks below.

#### 4.1.2. Other possible measures

57. **Restrictions and prohibitions** are listed in the IAIS G-SII package as a measure that can be applied by supervisors to limit the systemic risks of NTNI and interconnectedness.<sup>12</sup> They address the sources of systemic risk directly and are flexible enough to be applied on a group or legal-entity basis. The spectrum of specific tools includes:

- (i) Direct prohibition or limitation of the systemically important activity;
- (ii) Requirements for prior approval of transactions that fund or support systemically important activities;
- (iii) Requirements for spreading or dispersing risks relating to systemically important activities; and
- (iv) Limiting or restricting diversification benefits between traditional insurance business and other businesses. This measure improves the overall capital position and hence provides HLA capacity. In practical terms, it could either be applied at ultimate parent level or at the NTNI sub-holding or entity level.

We note that a systemically important activity can be deemed economically necessary or unavoidable, in which case restrictions may play less of a role when compared with structural measures (e.g. segregation or separation) and HLA capacity.

58. **Enhanced liquidity supervision:** Liquidity risk management plans are foreseen only for the G-SIIs. Under S2, insurers which apply MA and VA need to compose a liquidity plan for those liabilities that fall under these measures. Liquidity monitoring and supervision could be a valuable tool to be extended to all insurers which engage in NTNI activities<sup>13</sup>, for example, the possibility of NSAs to require the submission of:

- a statement of policy containing the insurer's risk tolerance as regards NTNI activities, including an inventory of the insurer's funding and liquidity needs (relative to NTNI activities);
- a description of the corporate governance that is responsible for the process (with exact allocation of responsibilities);
- a regular gap analysis of the liquidity risks and of the adequacy of available liquidity resources under normal and stressed conditions (associated with NTNI activities).

59. **Strengthen the S2 requirement** as regards risk management and proper allocation of responsibilities when dealing with NTNI activities (require specific board decision, due process). Within the policy for the forward-looking assessment of own risks (based on the

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<sup>12</sup> "Global Systemically Important Insurers: Policy Measures", IAIS, p. 24

<sup>13</sup> The National Bank of Belgium already applies intensified monitoring of liquidity to life insurers.



ORSA principles), specific emphasis could be put on macro stress tests to be performed specifically on NTNI activities.

60. Any measures taken against systemic risks stemming from NTNI activities at national level – either in terms of market-wide measures or in terms of specific companies (O-SIIs) – will reduce the overall risk for the EU market.

#### 4.1.3. Analysis of effectiveness of tools

61. The effectiveness of proper monitoring depends on various aspects such as timely access to information, a system of early warning indicators and a structured, risk-based approach to supervision which allows for the identification, analysis, and assessment of risks. It also depends on the actions that could be and are taken following the monitoring outcome.
62. Additional capital needed to mitigate/reduce systemic risks posed by G-SIIs can be an effective tool which can reduce the probability of default of a systemically risky insurer and the impact of default.
63. However, this tool is rather blunt given that it is to an extent applied on a group-wide basis. Thus, it does not prevent an insurer from engaging in risky activities but rather reduces the resulting risks ex-post. In fact, the opposite is the case. NTNI activities are particularly lucrative for insurers, since their true costs are actually borne by the taxpayers (externalities). This is where systemically risky insurers (e.g. AIG) were making profits before the crisis. Thus, if a capital add-on is applied to the entire insurance group, the NTNI activities will be the last ones which the insurer would reduce. The possibility of targeting capital surcharges on NTNI activities in particular would increase their effectiveness given that it would better internalise the external costs, thereby raising the costs for conducting such activities and discouraging insurers from engaging in them.
64. It is foreseen in the IAIS Policy Measures paper that the calculation and location of HLA may depend upon whether the designated entities demonstrate effective separation of NTNI activities from traditional insurance activities.
65. When analysing the possibility of extending the measures of the G-SIIs framework to more insurers, one should consider that HLA was deemed necessary to reflect the higher risks (compared with non-G-SIIs) that these defined entities pose to financial stability. This means that systemic relevance is not only the consequence of pursuing NTNI activities (and interconnectedness) but also a function of the circumstances under which NTNI activities are carried out (e.g. by *“insurers, whose scope, nature of their business and position in the financial system is such that their distress or disorderly failure would cause significant disruption to the global financial system and economic activity”*). The circumstances that all NTNI activities pursued by all insurers could be material enough to create systemic risk are something which is yet to be analysed. Regarding this aspect, however, several considerations should be taken into account.
66. First, the risks posed by the concentration of these activities within potential systemic entities is different than having them dispersed within different players in the market: the latter could reduce the risks to the extent that the failure of a smaller insurer would not impair market confidence but could also increase the risk if its dispersion results in less appropriate risk management. However, the simultaneous impact on the balance sheets of many insurers might in total have a significant effect, e.g. when considered in the scenario of sector-wide procyclicality.
67. Second, the great heterogeneity of business mix from one insurer to another and the diversification effects within the same. If the share of NTNI activities in the balance sheet of



each individual insurer is small enough, the simultaneous negative impact during a financial market crisis might to an extent be offset by the rest of its business (e.g. natural catastrophe insurance), which can be rather uncorrelated with business cycles.

68. Third, some of the products identified as NTNI by the IAIS are currently rarely provided in Europe and in fact examples of products which have led to material liquidity pressure on insurers are mainly related to American and Japanese life insurers (in Europe only Ethias has experienced a run-type liquidity pressure in the recent past).
69. Among investment activities the IAIS broadly identified as possible NTNI are those businesses that can increase leverage, liquidity transformation, risk of speculation, opaqueness and those that make insurers more reliant on the trading and funding liquidity of the capital market. Based on information at hand (see also note on “Interconnectedness of the EU insurance sector”) it seems that at European level the volume outstanding is manageable at the moment given that:
  - The most common types of securitisations that some European insurers invest in are mortgage-backed securities (MBS) and highly rated asset-backed securities (ABS; e.g. securitisations backed by auto loans and consumer credit). It is unclear to what extent insurers invest in collateralised debt obligations (CDOs). The securitised assets are issued in most cases by institutions (SIVs/SPEs) closely linked to (investment) banks and often have a specific credit rating. Data for insurers’ holdings of securitisations are not available at present.
  - Insurance-linked securities have increased over the last few years, with innovative products being introduced; however, the stock outstanding is relatively modest.
  - European insurers typically use derivatives to hedge against a wide variety of insurance and asset risks. Even though insurers are usually prohibited by statutory law from speculating in derivatives, there have been prominent examples where speculation has nonetheless occurred. Life insurers typically use derivatives to hedge against balance-sheet risks. According to ECB data, market-value positions in derivatives on balance sheet are very low (1% on average); it has to be noted, however, that this number is a strong underestimation given that ECB data do not include off-balance-sheet positions, positions of holding companies or other non-regulated entities.
  - Currently there is a great lack of available data for security-financing transactions (SFTs). The ESRB expert group on shadow banking task force on SFTs has carried out a one-off data collection on the reuse of cash and non-cash collateral among major banks and agent lenders. The largest EU clients to the agent lenders in terms of assets available for securities lending are insurers and pension funds (around 35 % of the assets owned by EU clients).
70. The limitation and separation of NTNI activities may well be an effective instrument because they directly address the root cause of systemic risks: insurance groups undertaking NTNI activities and contagion of risks from NTNI activities to other parts of the group. They can be implemented as rules for different groups of insurers (akin to the current rules for separation of life and property and casualty LoBs in some jurisdictions) or similar rules in banking (Volcker rule or Liikanen in the EU).
71. The limitations are harder to apply to investment or centralised risk management activities (e.g. derivatives usage), as these can support both traditional business or be classified as NTNI in their own right due to their speculative purpose, for example. However, in this case



the limitation or prohibition can be formulated as concerning a particular usage of such an activity (e.g. on speculative derivatives),

72. It is a policy option whether these instruments are used on a market level (e.g. limit or restrict an activity to an overall market level) or concerning specific groups of insurers due to their distinct risk characteristics.

## 4.2. Procyclicality in asset allocation during upturns and downturns

### 4.2.1. Existing measures

73. The issue of procyclicality is well recognised in S2. It contains a number of instruments that (by design, or otherwise) may help tackle it in times of stress. These work by addressing some of the features of market consistency which may incentivise procyclical behaviour.
74. First, the **“matching adjustment” (MA)**, which is calculated as a risk-adjusted spread – reflecting the non-credit risk portion of asset spreads. The MA is not designed to tackle procyclicality but to reflect that MA-eligible assets held do not face (non-credit) market risk. Nonetheless, its underlying tenet that assets can be held to maturity should in itself preclude procyclicality to a certain degree and have the effect of smoothing some procyclical movement of own funds.
75. Second, the **“volatility adjustment” (VA)** is based on a representative portfolio and is 65% of risk-adjusted spreads. Unlike the MA, its explicit aim is to prevent procyclical investment behaviour by mitigating the effect of exaggerations of bond spreads and it can be applied without eligibility requirements, ensuring the ability to hold assets to maturity. By reducing the valuation of liabilities in stresses, the VA eases the reduction in own funds that would occur under “pure” market-consistent valuation – with the intention of reducing incentives to sell risky assets to preserve capital.
76. Third, the **“symmetric adjustment mechanism” adjusts the equity SCR symmetrically** (around an assumed return of 8% over 18 month), i.e. decreasing in downturns and increasing in upturns. It is automated and capped at +/- 10% either side of the “standard equity charge”. This mechanism may reduce incentives for procyclicality in two ways – first by making equities more expensive in upturns and cheaper in downturns. Second, the reduction in capital requirements as prices fall also relieves solvency pressures on firms; this may reduce incentives to undertake fire sales. Further, building resilience when equity prices are high may mean that firms can better withstand subsequent falls without selling assets.
77. Fourth, the **two-tier capital requirement and recovery periods**: The two-tier capital requirement for Solvency II (SCR and MCR) is designed to provide supervisors with a so-called “supervisory ladder of intervention”. This ensures the supervisory response is tailored to the specific situation of the firm and represents a major cultural shift from the current regime. Supervisors will treat the breach of the higher capital threshold, the Solvency Capital Requirement (SCR), as an indication that the financial soundness of the undertaking is deteriorating and take appropriate action. The insurance or reinsurance undertaking concerned shall submit a realistic recovery plan for approval by the supervisory authority, and should take the necessary steps to achieve the re-establishment compliance with the SCR.
78. Fifth, supervisors can **extend the period in which firms are in breach of their SCR to up to seven years**, conditional on the declaration of exceptional circumstances by EIOPA – of which unforeseen, sharp and steep falls in financial markets and persistent low interest rates



are two. Like the VA, an intention is to ease solvency pressures in stresses, which could reduce incentives to sell risky assets.

79. Sixth, by encouraging greater duration-matching, the **interest-rate risk charge** in S2 may indirectly reduce sensitivity to solvency pressures arising from falls in the risk-free rate in stresses (but not from changes in spreads) and so reduce incentives for fire sales should rates fall.
80. Finally, there are a number of non-quantitative tools that could help to constrain procyclicality, such as **ORSA, the Solvency and Financial Condition Report (SFCR)<sup>14</sup> and risk-management requirements**, although – due to the microprudential nature of Solvency II – they only refer to risks which the insurance companies are exposed to, not to the risks the insurance companies may pose to the financial system, e.g. by investing in a procyclical fashion.

#### 4.2.2. Other possible measures

81. There are a number of other additional measures to those existing in S2 that could be explored in order to tackle procyclicality, as complements or alternatives. Note that this section does not assess the appropriateness or effectiveness of such measures: it just outlines how they could in principle be used to tackle procyclicality.
82. First, the **flexibility to require firms to build resilience in upturns** may ensure that firms have sufficient loss absorbency in stresses, reducing incentives to undertake fire sales. Targeted tightening of requirements for risky assets may also help lean against incentives to behave procyclically in upturns (which can exacerbate incentives to sell in stresses).
83. Second, **the ability to loosen requirements on a targeted basis** might allow for more effective mitigation of possible incentives for procyclical sales of particular assets, by both reducing solvency pressures and making those assets relatively cheaper.
84. Third, **additional liquidity buffers** might require insurers to hold a larger amount of liquid assets, if due to the PPP and in light of the systemic risks caused the amount is deemed insufficient; these could be released in stresses. This might reduce incentives for other asset sales in stresses.

#### 4.2.3. Analysis of effectiveness of tools

85. The extension of the recovery period can be a powerful tool in crisis periods, showing how time can be used, via management and supervisory action, to the benefit of both policyholders and financial stability. At the same time, to ensure that the right incentives are embedded, time cannot be seen as an excuse to postpone action by undertakings in order to restore the situation. As is the case within Pillar 2-related action, not only capital but other measures can be part of the agreed way forward.
86. In avoiding fire sales, an important question is whether the measures taken should be automatic (as in the case of the VA if applied) or discretionary. Automatic measures may

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<sup>14</sup> The SFCR is part of public disclosure by insurance undertakings; Article 51 of the Solvency II Directive specifies its contents which include a description, separately for each category of risk, of the risk exposure, concentration, mitigation and sensitivity.



avoid triggering challenges where e.g. the implicit recognition that markets are in a temporary and exceptional stressed situation may result in a self-fulfilling prophecy, thus causing problems that the measure intended to prevent in the first place. However, automatic measures may also allow insurers to price in the effects and may not prevent them from unduly increasing their risk appetite more generally.

87. In many ways Solvency II strikes a balance between automatic and discretionary measures, as the Pillar 1 measures could be automatic but Pillar 2 measures would be more discretionary. This seems to be a balance where different elements of the regulation could work to reach a desired outcome by making sure the different elements complement each other.
88. However, as has been noted before, the LTG measures may also have unintended consequences which potentially might increase risks. Therefore, EIOPA is required to report on an annual basis and until 1 January 2021 to the European Parliament, Council and Commission about the impact of the application of the LTG elements (more precisely Articles 77a to 77e and 106, Article 138(4) and Articles 304, 308c and 308d, including the delegated or implementing acts adopted pursuant thereto) in regular reviews of the long-term guarantee measures and measures on equity risk.
89. For this purpose, NSAs are required to report to EIOPA, among other things, the effect of the matching adjustment, the volatility adjustment, the symmetric adjustment mechanism to the equity-capital charge and the duration-based equity-risk sub-module on the investment behaviour of insurance and reinsurance undertakings and whether they provide undue capital relief.
90. Finally, EIOPA shall, where appropriate after consulting the ESRB and conducting a public consultation, submit to the Commission an opinion on the assessment of (among other things) the application of the LTG elements. That assessment shall be made in relation to the availability of long-term guarantees in insurance products, the behaviour of insurance and reinsurance undertakings as long-term investors and, more generally, financial stability. Based on the opinion submitted by EIOPA, the Commission shall submit a report to the European Parliament and to the Council by 1 January 2021.
91. Building resilience in upturns or increasing overall capital requirements can result in a better capitalisation position if stresses crystallise. This may help address concerns about insufficient loss absorbency in stresses, which could incentivise fire sales (or risk multiple failures which could also pose systemic risks). Insufficient loss absorbency in stresses (discussed separately in this report) may arise in certain cases where loosening only (without the ability to tighten above the SCR using the RFR) could lead to concerns about reductions in capitalisation which could leave firms vulnerable to other shocks, stresses and forced sales (where the argument is that the closer a firm operates to its regulatory capital requirement, the higher the risk of disruptive action).<sup>15</sup> From a macroprudential point of view, firm failures due to vulnerability to other shocks would only be a concern if these led to costs to society above those considered from a microprudential point of view.
92. These risks may only arise in some cases, particularly those where there is a greater risk of forced sales of assets at a loss to meet liabilities. The greater the degree of loosening and the

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<sup>15</sup> Such concerns about insufficient loss absorbency in stresses following loosening can arise where there is a risk that insurers may have to sell assets at a loss to meet liabilities, and/or where there is a risk that firms may face further shocks and stresses during the period of loosening. Clearly there is a level of loosening at which firms may not be able to meet their liabilities as they fall due, but we do not contemplate that here.



longer the period for which it is applied, the greater the risks. Very preliminary proxy analysis suggests that the application of the VA would result in sizeable reductions in capitalisation compared with that obtained with the purely constructed risk-free rate in stressed periods.<sup>16</sup>

93. However, it is important to note that the purely constructed risk-free rate is not a clearly existing and observable economic variable. It is based on a large set of assumptions and constructed on a currency-wide basis. It is based on markets for swaps and therefore will reflect market factors other than the pure risk-free rate (as all such factors cannot be separated out in its construction). It is therefore a priori not certain that the purely constructed risk-free rate is the most appropriate for every individual insurer for the purpose of discounting liabilities (as we note, using a discount rate higher than the risk-free rate may only create insufficient loss absorption in some cases). These shortcomings of the risk-free rate were important reasons for the introduction of the VA. Therefore, the group notes that it is not in a position to assess the “right” overall level of capital but can only talk about effects on the margin (i.e. on the margin, more capital would be less risky).
94. The EIOPA 2014 stress test noted that the application of the VA increased pre-stress SCR coverage ratios by 30% (for both major scenario types tested). For the LTG as a whole, in the first scenario EIOPA noted that (after loss-absorbing capacity of liabilities was applied) the excess of assets over liabilities fell by 68% without LTG, and by 37% with.<sup>17</sup> Such a sizeable effect could be seen as required to effectively hinder fire sales.
95. As discussed in Annex 5, there are many measures that supervisors can use to assess and identify the risk of insufficient loss absorbency arising from LTG measures. These may be useful in encouraging firms to manage risks, but they cannot compel firms to build quantitative resilience except in specific cases (and unlikely in upturns). If LTG measures are desirable to tackle fire sales, and if there are concerns about insufficient loss absorbency when these are applied, increasing capitalisation in upturns, before loosening, may be useful.
96. S2 does contain provision for tightening standard-formula capital requirements above the “standard equity charge”, which should prove valuable in building resilience in upturns. However, such a measure is not available for other assets. Further, the automated nature of the adjustment and caps on its size may place limits on its effectiveness (but the automated nature may also have benefits in terms). The VA and MA can in principle become negative. However, proxy analysis based on the EIOPA technical document on the calculation of the risk-free rate suggests that would happen very rarely and to an insignificant degree (see note on “Incentives in prudential regulation”).
97. Flexibility to raise capital resilience in upturns (above the SCR) ahead of stresses may therefore help to address concerns about procyclicality stemming from insufficient loss absorbency in stresses, should these arise. This might take the form of general increases in capitalisation requirements or more specific increases in capital requirements targeted at particular, riskier assets where greater resilience might be more needed in stresses. However, further work is needed to explore this option, in particular to further assess the cases in which

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<sup>16</sup> Very preliminary analysis of a simple proxy for the VA (based on published EIOPA consultation documents) suggests that over the period 2009-12 it would have averaged around 1%. For liabilities with a duration of ten (eight) years this would very roughly suggest around a 10% (8%) reduction in liability value (relative to valuation without the VA) during that period. Note that this analysis is for the euro area only – country-specific VAs would be higher. This analysis suggests too that the VA would increase liability valuation (relative to valuation without the VA) for around one year over a 15-year period to a maximum of 0.1% – 1% for ten-year liabilities. Roughly, the calibration of the VA and MA means that spreads would need to fall below 30% of their long-term average for governments and 35% for non-government securities.

<sup>17</sup> See p. 52 and p. 59, “EIOPA Insurance stress test 2014”.



insufficient loss absorbency might arise. Work would also be needed on the appropriate form of such a measure should it be needed, including an assessment of the extent to which existing capital add-ons can be applied for this purpose. The macroprudential cost of such a measure would also need to be assessed; any increase in capital requirements, albeit temporary, would impose additional costs on firms.

98. Finally, the interest-rate risk charge in S2 may also indirectly help to pre-emptively reduce solvency pressures in stresses. Where firms are duration-mismatched with assets shorter than liabilities (as is typical), any decrease in the risk-free rate will all else being equal mean that liabilities increase in value by more than assets. The VA (and MA) in principle address the pressure on own funds arising from changes in asset value relative to the risk-free rate (since they are based on spreads), but not the underlying risk-free rate itself. The interest-rate risk charge, by encouraging firms to improve their duration matching, could therefore over time structurally reduce vulnerability to such solvency pressures in stresses (to the extent that risk-free rates fall) and so reduce one source of incentives for asset sales. It will not, of course, address the pressures on own funds arising from spread risk.
99. The ability to lean against upside procyclicality can help tackle the systemic risks created by such behaviour. These can arise in a number of ways. First, if insurers take on more asset risk in upturns they may be more vulnerable to incentives to carry out fire sales in stresses.<sup>18</sup> Second, procyclical behaviour in upturns may contribute to the build-up of system-wide risk, underpricing of assets and potential exaggeration of the credit cycle (if insurers engage in lending). Third, if procyclical behaviour is incentivised by and frustrates attempts to reduce systemic risk in the banking sector.<sup>19</sup>
100. Theoretically, incentives to behave procyclically arise from the increase in capital resources relative to requirements in upturns. There is some evidence that insurers may behave in this way, although it is weaker than the evidence on procyclical behaviour in downturns (see note on “Sources of systemic risks”). Recent evidence on search for yield suggests that insurers could have the capacity to increase riskier investments and activities in upturns.<sup>20</sup> Second, if insurers move into more of the types of credit activity typically undertaken by banks (either directly or indirectly by risk transfer), movements in capital resources may be more sensitive to the credit cycle. Third, procyclicality by insurers in upturns might increase in response to attempts to dampen it down on the banking side, should activity move from banks to insurers in response. This is discussed further in Section X.
101. Procyclicality in upturns might also be encouraged by application of LTG measures (relative to the case where they are not applied or where the size of these increases). If firms know that the fall in own funds in stresses will be eased, they may be more willing to take on riskier assets in upturns. This is consistent with capitalisation being lowered over the cycle.<sup>21,22</sup>

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<sup>18</sup> This is partly because the prices of riskier assets are more likely to fall, and by more, in stresses – imposing greater losses on firms. Riskier assets also have higher capital charges under Solvency II and so firms may be able to reduce capital requirements (and therefore solvency pressures) more effectively by selling riskier assets.

<sup>19</sup> Migration of lending to insurers may be a problem if it frustrates attempts to reduce systemic risk in the banking sector. On the other hand, if a basis for use of macroprudential tools is concerns about system-wide maturity/liquidity mismatch, or particular vulnerabilities in the banking sector, then migration to insurers may in fact be a desirable way to reduce systemic risks and maintain lending activities.

<sup>20</sup> It may be that insurers undertake less search for yield in cases where they believe that low rates are unlikely to persist for long, which may be a feature of future upturns versus the current period of low rates.

<sup>21</sup> This might be exacerbated should the reference portfolio for LTG calculation (where relevant) shift composition to reflect riskier portfolios.



102. Broadly, upside procyclicality might be tackled by targeted measures that make riskier assets relatively more expensive in regulatory terms in upturns (relative to less risky assets and relative to their own price in downturns). This could in principle disincentivise their purchase. General tightening may indirectly help tackle upside behaviour by reducing the amount of surplus capital resources relative to requirements available to invest in more capital-intensive risky assets in upturns. It cannot tackle specific incentives to take on more risk (unless it is tied in some way to risk-taking).
103. Measures which increase capitalisation requirements could be used to tighten both for specific assets and more generally. Capital requirements may be preferable to measures which increase reserves (e.g. discount rate tools) as these would more easily enable asset-specific changes, and are more transparent.<sup>23</sup>
104. In terms of general tightening measures, it could be argued that as the size of those LTG measures (that vary with spreads) is reduced as spreads narrow, this is a form of tightening, i.e. over the cycle, increases and decreases in loosening relative to capitalisation requirements evaluated with a risk-free rate and 99.5% confidence could alternatively be seen as tightening and loosening above and below a lower confidence level of capitalisation (potential concerns about this leading to further procyclicality in some cases are discussed separately above). The design of LTG measures mean that they will not fully absorb changes in own funds (at least where insurers are fully duration-matched) arising from the asset side.<sup>24</sup> The remaining procyclical movement in own funds might still incentivise some procyclical behaviour in upturns – if so, some ability to tighten further might be useful.
105. In terms of asset-specific measures to tighten, Solvency II does impose higher capital requirements as a proportion of asset value (under the standard formula) for riskier assets. But this proportion is constant – meaning that the increase in capital requirements in upturns will not absorb the full increase in own funds arising from increases in asset values in upturns. Increasing capital requirements in upturns could offset more of this increase and so more effectively deter purchase. However, the reason for increasing capital requirements over time (instead of just setting a permanently higher requirement) must be that a certain type of risk-taking is a problem sometimes, e.g. if a market was seen to be overheating or risk was underpriced, for example because of search for yield, but not at others (where there may be underpricing of risk and in fact investment here could be encouraged (or at least more acceptable)).
106. S2 does already have one tool that operates along these lines – the symmetric adjustment mechanism applied to the equity capital requirement. However, it only applies to equities. The automated nature might also mean that it cannot be effectively applied pre-emptively as risks start to build, and the cap might limit its effectiveness. The ability to raise capital requirements for other assets could be valuable and should be investigated further. As for the flexibility to tighten capital requirements to build resilience, the macroprudential cost of increasing requirements (albeit temporarily) would need to be assessed against the benefits.

<sup>22</sup> Naturally, this group is not in a position to assess the right level of risk-taking. Therefore, these arguments must be understood as marginal effects all else being constant (*ceteris paribus*). However, if it is assumed that Solvency II sets the right incentives from a microprudential point of view, but that there are additional macroprudential effects (externalities) which would stem from a realisation of a certain risk, there could be arguments for targeting that additional risk.

<sup>23</sup> Note that in cases of loosening, capital requirements may simply be too small a portion of the balance sheet to enable effective loosening – changing discount rates has significantly more power in easing solvency pressures.

<sup>24</sup> If insurers' liabilities are much longer dated than their assets then in principle any reduction in liability value could be a larger proportion of the reduction in asset value and could even be equal to or greater than the reduction in asset value (this will not be relevant where assets and liabilities are duration-matched).



107. Other non-quantitative measures present in Solvency II may provide useful additional sources of discipline for insurers. In particular, the prudent-person principle and the ORSA should encourage firms to properly assess the risks of assets, including those more likely to arise in upturns – that they might be overvalued and more susceptible to loss of value in stresses. However, these measures cannot be used to require firms to consider the impacts on the system of their investment – the key element of this systemic risk. Neither can they be used by supervisors to directly require changes in asset allocation.

### 4.3. Procyclicality in some types of insurance provision

#### 4.3.1. Existing measures

108. Insurance provision underlies freedom of business whereby insurers are not bound to offer coverage. Therefore, the provision of certain insurance services is above all dependent on the degree of willingness of insurance undertakings to provide protection against “insurable” risks. Additionally, procyclicality in insurance provision is largely a function influenced by external variables (i.e. market conditions set by third parties) and consequently is a response to these.

109. As mentioned, insurers can act in a procyclical way via the provision of coverage for certain risks (e.g. trade credit insurance, since losses will be correlated to financial and economic conditions) and thus insurers’ liabilities might experience (more severe) difficulties due to this procyclical behaviour. However, there are several measures preventing insurers from the unintended consequences associated with procyclical provisioning. Amongst them are:

*Applicable in general:*

- **Diversification requirements** – whereby the risk insured is generally claimed to be manifold and not restricted to single (law of large numbers) policyholders but groups of policyholders. Consequently, the materialisation of the risk insured by means of diversification will not result in mass claims endangering the fulfilment of contractual obligations.
- **Risk management and governance requirements** - IUs take a long-term perspective and more sophisticated approach to risk management to ensure a good assessment of risk. As regards microprudential supervision, all IUs are required to have effective risk management by means of risk-based capital requirements and to maintain an own risk and solvency assessment (ORSA).
- **Less rapid claims settlement** – though unlikely to become relevant for macroprudential reasons, a more flexible settlement of claims allows IUs to actively keep control of capital flows and thereby manage liquidity needs (e.g. in a stylised example where diversification requirements turn out to be inefficient)

*For property and casualty (P&C) insurance:*

- **Intensified supervision** – gives a powerful measure to the supervisor on a micro level in order to decide on tolerance levels for investment risk and underwriting under stressed conditions.
- **Equalisation provision** – requires insurers to additionally build up reserves in order to prevent a rapid depletion of technical provisions.
- **Premium adjustments** – In some jurisdictions the insurer is entitled (or even obliged) to modify the level of premium charged in the event of the actual level of claims materialising being substantially different to that estimated.



- **General limitation of contract duration (cancellation policies)** – In general, the duration of a contract may not be longer than three years in P&C; additionally, in the case of a claim occurring both parties do have the right to cancel the contract within one month.

*For life business:*

- **Asset-liability management requirements** – An ALM approach aims to match assets and liabilities so that a long-term investor can invest in assets that mature when cash is needed, thus minimising financial risks and avoiding procyclical behaviour. Managing liquidity is an integral part of ALM modelling.
- **Adjustments to the maximum guaranteed interest rate** – enable IUs to adapt their business model and the interest rate to changing market conditions (in some jurisdictions this is even possible for existing long-term guarantees)
- **Adjustments to the mortality life tables** – enable IUs to correct actuarial expectations for mortality.
- **Imposition of penalties on lapse/surrender** – the level of lapse/surrender penalties can be a decisive means of stabilising IUs liquidity by disincentivising lapses.
- **Add-ons to the reserving requirements** in a low interest-rate environment (e.g. additional interest provision (*Zinszusatzreserve*) in Germany).
- **Participation of policyholders** in the valuation reserves.

#### 4.3.2. Other possible measures

110. As already stated, due to the constitutional freedom of business, companies are not bound to offer a service. Therefore, measures at company level would probably be inefficient. During the past crisis, governments stepped into the market for credit insurance provision but in some instances at least these programmes were not used by the industry. In order for it to be effective, any measure would have to be powerful enough to entice credit insurers into wilfully taking correlated risks on their books, while the correlated tail losses are materialising.
111. In the event that the failure of an insurer has a procyclical impact, for instance in cases where companies would no longer have short-term availability of credit insurance, an **adequate resolution regime**, ensuring the continuation of critical functions, could cushion these impacts.

#### 4.3.3. Assessment of effectiveness of measures

112. So far, the measures listed above have served to limit unintended consequences of procyclical insurance provision.

#### 4.4. Double hit

113. The scenario of a double hit refers to the situation in which insurers suffer on their asset side from a sharp fall in asset prices and simultaneously suffer on their liability side from a period of prolonged risk-free rates. To become a systemic risk event, the double hit would either have to be caused by an external event which affects a very significant portion of insurance companies (the combined effect of which could have systemic implication), or affect a



systemically important insurance company. Since the IAIS is working on the measures that should be applied to globally systemic insurance companies, the focus of this paper should be on possible external systemic events affecting a significant share of insurers, or on problems affecting a domestic systemic insurance company.

#### 4.4.1. Existing measures

114. While S2 aims for a proper capitalisation from a microprudential point of view (i.e. the capitalisation is calibrated with a microprudential mandate and aim, considering only the institution involved), the focus here is on any possible additional effects outside the institutions involved (i.e. externalities) and the potential need to limit those if they represent an unacceptable cost to society or other stakeholders. The next section considers measures in this regard.
115. In addition, 12 out of 26 supervisors in the EU have the power to reduce the maximum guarantees on new life policies and four have actually done so the last 2-3 years.<sup>25</sup> Under S2 this power will continue to be applied.
116. Life insurers in Germany have since 2011 been obliged to build enhanced provisions to premium reserves (*Zinszusatzreserve*) in order to strengthen their premium reserve. The aggregate amount of additional interest provisions is expected to have reached some EUR 20 billion at end-2014.

#### 4.4.2. Other measures

117. Seen in isolation, any instrument which a) reduces the sensitivity (impact) of a double hit or b) increases the capability of the sector to withstand the shock should be considered. All else being equal, the higher the risk profile of the insurance company (i.e. lower the asset quality and higher the exposure to insurance or financial risks on the liabilities side) or lower the capitalisation, the higher the potential probability of a materialisation of a double hit. Since the shock is assumed to be exogenous, it is difficult to construct an efficient instrument applied for the insurance sector affecting the probability of a double-hit scenario occurring.
118. From a Pillar 1 perspective, instruments in category b), which is also considered for globally systemically important insurers, might be **higher loss-absorption capacity**, which would reduce the impact should a double-hit shock scenario materialise. This could be reached by increased resilience and could also include requirements which fluctuate according to the economic cycle (i.e. build-up during economic upturns, to increase resilience during downturns). However, the potential mitigating effects of a higher loss-absorption capacity would depend on available capital and not on the exact formulation of how this capital is built up.
119. The EIOPA 2014 low-yield exercise shows that a number of insurers are confronted with net cash outflows in 8-11 years under the baseline scenario. This could call for **enhanced liquidity monitoring**, as insurers do not receive sufficient premiums to pay out policyholders and they therefore need to sell their assets. Lapses and surrenders can aggravate this situation of shrinking the balance sheet. Due to the special situation in Belgium, the NBB has already implemented enhanced liquidity monitoring.

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<sup>25</sup> EIOPA, "Low interest-rate environment stock-taking exercise 2014", 28 November 2014.



120. **Recovery and resolution:** As noted in the sources of systemic risk paper, the insurance guarantee schemes and recovery and resolution arrangements in place might not be fit to handle all of the double-hit scenarios. An orderly resolution could minimise impact on financial stability, ensure the continuity of critical functions, and avoid exposing taxpayers to loss. SII does not incorporate rules or powers on recovery and resolution and compensation schemes, and there is currently no Europe-wide recovery and resolution framework for insurers (although the Commission is currently considering policy in this area). Due to the heterogeneity of the European insurance market, powers and schemes currently vary between countries and in many cases face shortcomings which could be remedied by adoption of a resolution framework for insurers that is compliant with the FSB's Key Attributes<sup>26</sup>. An insurance recovery and resolution directive and an insurance guarantee scheme directive (IGSD) negotiated alongside each other might represent a complete framework for dealing with systemic insurers' failure. The application of a resolution regime should be proportionate and more intrusive tools (such as bail-in tools) should only be used in a situation where ordinary winding-up procedures (such as run-off or portfolio transfers) cannot achieve the resolution objectives.

#### 4.4.3. Assessment of effectiveness of measures

121. Higher loss-absorption capacity must be seen in relation to the increased loss-absorption capacity for systemic insurers proposed by the IAIS. Such a buffer will be put in place for large and systemically important insurers to increase their ability to withstand shocks, as their failure could have external effects and impose costs on the financial system as a whole (i.e. this is the argument for increased capacity compared with what would stem from a pure microprudential focus). This HLA will naturally also influence such insurers' ability to withstand a double hit. Therefore, if additional capacity were to be proposed above that, it would be likely to concern insurers which are not systemic on their own but which share a certain set of characteristics concerning their risk profile and response to a double-hit scenario, such as guaranteed returns and maturity mismatches. Higher loss-absorption capacity can also be seen in relation to the LTG package. While the LTG package takes into account that insurance companies are long-term investors which are usually able to withstand short-term shocks on financial markets and aims to limit the effect of a shock on own funds, it would also imply a reduction in overall loss-absorption capacity should further shocks occur or, in an extreme scenario, a failure of the company if it is forced to sell a significant portion of its assets at depressed valuations to pay for claims (to the extent that these cannot be met by cash inflows from sources other than asset sales) (see Note on Incentives in prudential regulation).

122. Nevertheless, under Solvency II, if an undertaking were to risk being in breach of the SCR without the LTG elements, the undertaking would need to submit to the competent authority an analysis of the measures it could apply in such a situation in order to re-establish the level of eligible own funds covering the SCR or to reduce its risk profile to restore compliance with the SCR.<sup>27</sup> However, the NSA might not have room to require this restoration or increase capital requirements due to macroprudential risks. As such, the introduction of more flexibility should be considered.

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<sup>26</sup> Such a toolkit could include: portfolio transfer, restructuring of liabilities (i.e. bail-in), run-off (as an early intervention tool), power to temporarily suspend termination rights.

<sup>27</sup> Omnibus 2, Article 2(10b).



123. It is important to note that while higher loss-absorption capacity might reduce the impact of a shock, such a measure comes with clear costs which the IEG is not in a position to assess. Therefore, any cost-benefit analysis is outside the scope of this note. There is currently no empirical evidence available to assess the necessity (or not) of demanding more capital above what is established in SII.
124. Enhanced liquidity monitoring has the advantage of an increased awareness at the insurer and the supervisor of possible liquidity pressure following low yields, maturity mismatches, guaranteed returns issued and lapses. This monitoring would be more effective if it were to include derivatives positions and other important financial transactions which could add to liquidity pressure.
125. Effective recovery and resolution regimes cannot tackle the risk of a double hit occurring, but should reduce the impact should it occur by ensuring the continuity of critical functions; prevent contagion to other markets (including counterparties)<sup>28</sup> by ensuring orderly resolution, and by maintaining market discipline. Adequate compensation schemes can complement these regimes by minimising losses for policyholders should failure occur and assisting with continuity of cover in some cases. There are naturally some limits to what recovery and resolution regimes can do. It may not be possible for a compensation scheme to deal with material sector-wide losses (the level of contributions that would enable this may make it uneconomic). Further, recovery and resolution and compensation regimes could directly address the otherwise material reduction in new provision following correlated distress, by enabling a resolved insurer to continue writing new business. Particular recovery and resolution tools such as the ability to restructure liabilities and the ability to transfer liabilities may be sufficient to encourage insurers to take on existing liabilities. Where the market is ultimately profitable, run-off might be able to preserve continuity of cover as a stop gap until new entry occurs.

#### 4.5. Concentration issues due to underpricing and material disruption to particular classes of commercial insurance

##### 4.5.1. Existing measures

126. Since some markets (e.g. motor insurance and private health insurance) are very competitive, a number of measures have already been taken to prevent concentration issues to particular classes of commercial insurance in the EU. One way to tackle this issue is to permanently **monitor the financial performance of the undertakings, e.g. by monitoring combined ratios and other ratios**. With this close monitoring, supervisors can act.
127. In addition to the permanent monitoring of financial performance, cross-subsidisation between different lines of business is hindered in some parts of the EU by the **obligatory separation of insurance lines of business** (see § 8 para. 1a of the German Insurance Supervision Act (VAG)). This can reduce the ability to start price wars and underpricing in particular classes of insurance, financed by another insurance line of business.

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<sup>28</sup> It should be noted too that EMIR should reduce the impacts of insurer failure on some counterparties by requiring certain transactions to be centrally cleared. Appropriate collateralisation should also help to reduce impacts of failure on other markets.



128. The **S2 valuation of technical provisions and capital requirement** should ensure sufficient reserving by insurers, which in principle makes it harder for insurers to underprice insurance products.

#### 4.5.2. Other possible measures and assessment of effectiveness of measures

129. The prevention of concentration risk requires early detection of aggressive pricing strategies. Even though companies usually cannot be ordered to change their prices due to legal impediments, supervisors can engage in **more intensive monitoring** including comparisons between insurance undertakings. This would first imply that supervisors assess whether the pricing strategy of a company can be considered aggressive. To this end, supervisors would need to conduct a sectoral analysis of pricing policies of insurers to determine whether, for example, the company concerned is requiring premia at a level below sector average or is offering overly high annuities. Next, supervisors would need to determine whether such pricing strategy can be considered excessive from a microprudential perspective. This would include an assessment of whether the level and characteristics of assets, liabilities and capital on the balance sheet of the company are adequate considering the risks deriving from its behaviour. Last, supervisors would need to conduct a sectoral analysis to determine whether the behaviour of such company is so attractive to customers that it can exclude or is excluding competitors from the market. Supervisors could then require an increase in the reserves or capitalisation for the relevant company. This would make aggressive pricing more costly and thereby reduce the competitive advantage associated with it, which could lead the company concerned to modify its business strategy. If that does not help, the licence of a company can be withdrawn to prevent it from writing further business.
130. Furthermore, powers already used by some jurisdictions in the field of **consumer protection** could inspire new measures aiming at limiting aggressive pricing: As a first example, supervisors could identify and disclose individual best practices, define such best practices on their own initiative or require industry associations to provide them with some proposals. Such tool would raise customer awareness about aggressive pricing strategies and make them less easily seduced by attractive offers. This would also create incentives among insurance companies as regards their business strategy, as deviating from the identified best practices would expose a company to reputational risk. The fact that the practices identified already exist or are suggested by the industry would enhance their credibility and enhance moral commitment. Supervisors could also issue recommendations on a specific topic addressed to all supervised entities. Such tool would be particularly relevant if it proved difficult to identify best practices in the industry, which would call for prescriptive, forward-looking recommendations. Deviating from such practices or recommendations would expose insurers to administrative measures such as a warning. In the field of consumer protection, the public disclosure of nominative warnings – or the mere threat thereof – has proved an efficient incentive for the entities concerned to quickly change their behaviour given the reputational damage and the loss of customers such disclosure can generate. Eventually, the non-observance of a warning could lead to disciplinary sanctions. Beyond the fact that disciplinary sanctions could consist of prohibiting the exercising of some activities or of the withdrawal of the licence of a company, the potential use of this tool by supervisors would make the very disclosure of best practices or recommendations more of a deterrent for all supervised entities.
131. Supervisors could also examine the **code of conduct** of an industry association, the approval of which would render it mandatory for all of its members, such as any other prudential regulation. The violation of such code of conduct by an entity would allow the supervisor to order it to take any measure necessary to achieve compliance with the code within a set



timeframe. Such order could also be made public and nominative, which could create strong incentives for a company to change its behaviour. Here again, the non-observance of such order could motivate a disciplinary procedure, with the same effects as above. If appropriate, such measures could be made public, which would create strong disincentives for other insurers to further develop aggressive pricing strategies.

132. In general terms, if there is a good substitutability in the markets, the failure of an individual insurer would not be a problem. Thus, **monitoring market concentration** and ensuring that no monopolies are building up are key in preventing this risk.
133. **Effective recovery and resolution regimes** could help reduce the impact on real economic activity of a failure of a commercial insurer by ensuring the continuity of critical functions with orderly resolution. When deemed necessary, compensation schemes can complement these regimes in order to minimise losses for policyholders should failure occur and assist with continuity of cover in some cases. As noted above, there is no Europe-wide recovery and resolution framework for insurers due to the heterogeneity of the European insurance market. Whilst helping to reduce the impact of the failure of a commercial insurer, recovery and resolution regimes and compensation schemes could directly address the otherwise fundamental lack of substitutability by enabling a resolved insurer to continue writing new business. Particular recovery and resolution tools such as the ability to restructure liabilities and make transfers may be sufficient to encourage insurers from other sectors to take on existing liabilities and, where the market is ultimately profitable, run-off might be able to preserve continuity of cover as a stop gap until new entry occurs. The application of a resolution regime should be proportionate and more intrusive tools (such as bail-in tools) should only be used in a situation where ordinary winding-up procedures (such as run-off or portfolio transfers) cannot achieve the resolution objectives.

## 4.6. Reinsurance

### 4.6.1. Existing measures

134. The presence of large reinsurers in the EU is addressed by **requirements in S2 for provisioning and capital levels to cover the exposures to the wide variety of tail-end risks**, such as catastrophe risks.
135. The presence of reinsurers in offshore centres is partly addressed by the **equivalence regime in S2**: a critical assessment of regulatory regimes in countries outside the EEA. The reduction of risk, provisioning and capital requirement at an EU insurer following a reinsurance contract with such a reinsurer should reflect the degree of equivalence of the prudential reinsurance regime in those countries with Solvency II.
136. The risk of arbitrage through the use of captives can be mitigated through **group supervision and equal requirements between insurers and reinsurers in S2**.

### 4.6.2. Other possible measures

137. As reinsurers may in general become systemic for the same reasons as primary insurers, some reinsurers may be considered as **G-SIIs** by the IAIS and therefore subject to a **capital surcharge**. However, the IAIS, FSB and national supervisors are still investigating whether this is appropriate.



138. The emerging **ART** may call for additional **disclosure requirements** so that the scale of these transactions and the interlinkages are known to supervisors and investors.
139. **Recovery and resolution regimes** could ensure orderly resolution, limit contagion and maintain continuity of cover and payment for policyholders. As above, more thorough analysis is needed in this area.

#### 4.6.3. Assessment of effectiveness of measures

140. Originally S2 prescribed a rigorous equivalence assessment of regimes in countries outside the EEA. EIOPA advises the EC after public consultation and the EC decides. Because equivalence assessments have proven to be cumbersome, and because it was feared that EU insurance firms would be harmed vis-à-vis their global competitors, the equivalence regime has been changed in O2, effectively creating three tiers of equivalence:
141. Full equivalence assessment: So far, EIOPA has assessed the regimes of Bermuda, Japan and Switzerland. The regime of Bermuda is assessed as largely equivalent with a few exceptions.<sup>29</sup> The regime of Japan (only the reinsurance supervision regime) is assessed as largely equivalent with certain caveats.<sup>30</sup> In addition, the Swiss regime is assessed as equivalent with certain caveats as well.<sup>31</sup>
142. Transitional equivalence for a period of five years for those countries that have not yet been assessed as equivalent but, among some other conditions, commit to the EU to adopt and apply a regime that is capable of being assessed as equivalent and to engage in an equivalence assessment process in the future. To date, eight countries have expressed their interest in “temporary equivalence”: Australia, Chile, China, Hong Kong, Israel, Mexico, Singapore and South Africa.
143. Provisional group supervision regime equivalence for a period of ten years for those countries, such as the US and Canada, which can demonstrate that their existing solvency regime would be capable of meeting full equivalence criteria if such assessment were carried out.
144. In conclusion, in theory equivalence assessment is well-established in S2. In addition, some important countries such as the US benefit from provisional equivalence of the group supervision regime, which allows EU insurers to move risks to subsidiaries in the US and potentially benefit from more lenient requirements.
145. Within the EU it is by definition not possible to receive a more lenient regulatory treatment than primary insurers as the requirements are the same. On top of that, group supervision requires groups to recalculate their solvency requirement based on all risks of all undertakings.
146. Currently ART is only monitored by market analysts, not by supervisors.
147. The case for G-SII measures for reinsurance is similar to the case for primary insurers. The point was made that reinsurance groups can be systemically risky for the same reasons as

<sup>29</sup> Available at: <https://eiopa.europa.eu/Publications/Consultations/EIOPA-CP-14-042%20-%20EIOPA%20Advice%20-%20Bermuda.pdf>

<sup>30</sup> Available at: <https://eiopa.europa.eu/Publications/Consultations/EIOPA-CP-14-043%20-%20EIOPA%20Advice%20-%20Japan.pdf>

<sup>31</sup> Available at: <https://eiopa.europa.eu/Publications/Consultations/EIOPA-CP-14-041%20-%20EIOPA%20Advice%20-%20Switzerland.pdf>



primary insurers (e.g. if both engage in NTNI activities). To the extent that similar risks can lead to a classification, the measures applied should also be similar. That said, we note that no reinsurer has so far been classified as a G-SII and there is an ongoing revision of the IAIS G-SII designation methodology which also covers the reflection of reinsurance groups in the scoring. A more thorough analysis of adequate measures can be conducted once it is clear if there is a designation of a reinsurer as a G-SII and what factors lead to it.

148. Assuming this is about loss of reinsurance capacity – a reinsurer(s) has sufficient knock-on effect to insurers and real economy via loss of capacity to justify special tools over and above recovery and resolution. IAIS analysis suggests substitutability is not likely to be an issue – although this is not definitive and would be difficult to prove beyond doubt.
149. Currently there is no EU-wide recovery and resolution regime in place for insurers. National regimes, if they exist at all, are probably not fit to deal with the default of a large reinsurer. As above for a double hit, and the failure of commercial insurers, recovery and resolution can be a useful tool for reducing the impact of the failure of a reinsurer; noting that for those sectors, recovery and resolution cannot tackle the probability of such failure, nor fundamental lack of substitutability, should it be an issue. However, we note that the business model of reinsurance companies is different from the one of primary insurance and this can have influence on the adequacy of recovery and resolution arrangements.

#### 4.7. Potential insufficient loss-absorption capacity from a macroprudential perspective arising from S2 calibrations and LTG package design

##### 4.7.1. Existing measures

150. Under S2, supervisors have a range of measures which may help counteract the build-up of risks related to possible insufficient loss-absorption capacity. These range from preventive tools such as:
- strict application of the “**prudent-person**” principle (when judging investment decisions),
  - constant monitoring of the SCR level,
  - **assessment of risk management control and in general the assessment of the ORSA,**
  - to the possibility to request a **capital add-on** in specific circumstances:
  - the risk profile of the (re)insurer deviates significantly from the assumptions underlying the Solvency Capital Requirement,
  - the system of governance deviates significantly from the standard included in the directive in a way that prevents it from being able to properly identify, measure, monitor, manage and report the risks;
  - the (re)insurer applies the matching adjustment, the volatility adjustment or the transitional measures and the supervisory authority concludes that the risk profile of that undertaking deviates significantly from the assumptions underlying these adjustments and transitional measures.
151. As capital add-ons can be used where there are deviations from the underlying assumptions of the various LTG and SCR measures, they cannot by definition be used to address concerns about insufficient loss absorbency that may arise when the underlying assumptions are met.



However, applying capital add-ons in stresses may not be feasible or desirable given possible implications for further procyclical behaviour.

152. It has to be noted that **other safeguard measures in terms of stricter risk management provisions** have been set by S2 to prevent such scenarios. Indeed, firms must assess the sensitivity of TPs and own funds to assumptions underlying calculation of VA and MA, and the effect of forced sales on eligible own funds, and ii) the effect of VA and MA being set at 0 (if this would result in a breach of SCR the firm should also submit to the supervisor an analysis of the measures it could apply in such a situation to re-establish the level of eligible own funds covering the SCR or to reduce its risk profile to restore compliance with the SCR). Additionally, where the volatility adjustment is applied, the written policy on risk management shall comprise a policy on the criteria for the application of the volatility adjustment. However, supervisors cannot use these assessments, or the liquidity plan (mentioned below), to require firms to build capitalisation above the approved SCR and the technical provisions where calculated with the current value of the LTG measures.
153. Omnibus 2 requires to separately **disclose to the public and the supervisor the impact of LTG measures** providing supplementary insight into the balance-sheet numbers. Insurers which apply the LTG measures are required to show to the public and to their supervisor solvency data, gross and net of the measures, and a description of their overall impact. The enhanced (public) disclosure has the potential to discourage any abuse of the LTG measure, as it may indirectly foster some kind of “peer” comparison by market participants.
154. Finally, the insurance undertaking has to maintain **a liquidity plan**, projecting the incoming and outgoing cash flows **in relation to the assets and liabilities subject to the matching adjustment and the volatility adjustment**; this tool should promptly inform both supervisor and entity of the possible need to hold additional capital.
155. Supervisors can also apply **supervisory approval for the VA (if transposed in their jurisdiction) and MA**.
156. S2 requires (under Article 138 S2 Directive) (re)insurance undertakings to immediately inform the supervisory authority as soon as they observe that the Solvency Capital Requirement is no longer complied with, or where there is a risk of non-compliance in the following three months (forward-looking assessment). In the case of non-compliance they have to submit within a short time frame (two months) a realistic **recovery plan** for approval by the supervisory authority. The insurance companies have six months (the supervisory authority may where appropriate extend that period by an additional three months) to put in place all necessary steps to re-establish the level of eligible own funds covering the Solvency Capital Requirement or to reduce its risk profile to ensure the SCR restoration.
157. The directive also introduces the possibility of extending the recovery period even more to a maximum of seven years<sup>32</sup> but this is linked to the occurrence of “exceptional adverse situations” affecting a significant share of the market or lines of business. The event should be declared by EIOPA in consultation with the ESRB (where appropriate).
158. The same disclosure requirement is set **in the case of a breach of the Minimum Capital Requirement** (Article 139 S2 Directive). In this case the (re)insurer shall submit, for approval by the supervisory authority, **a short-term realistic finance scheme** to restore within three

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<sup>32</sup> When defining the extension, all relevant factors including the average duration of the technical provisions shall be taken into account.



months its eligible basic own funds at least to the level of the Minimum Capital Requirement or to reduce its risk profile to ensure compliance with the Minimum Capital Requirement.

159. In the case of non-compliance with the MCR, the supervisory authority has the possibility to **restrict or prohibit the free disposal of the assets** of the (re)insurer concerned.
160. Both the plans shall at least include: i) estimates of the financial resources the insurers intended to use in order to cover the technical provisions and the SCR and the MCR ;ii) a forecast balance sheet; iii) estimates of management expenses, estimates of income and expenditure and the overall reinsurance policy.
161. When dealing with the (re)insurance undertakings in difficulty or in an irregular situation, the directive clearly states (Article 141) that in the event that the solvency position of the insurers continues to deteriorate the supervisory authorities shall **have the power to take all measures necessary to safeguard the interests of policyholders**.
162. In order to ensure harmonised application of the directive and consistent supervisory actions, EIOPA developed draft regulatory technical standards to specify the recovery plan and the finance scheme which has been submitted for public consultation.<sup>33</sup>
163. One important and innovative aspect brought by the S2 directive is the “forward-looking” nature of the measures and improved monitoring to avoid procyclical effects.
164. The actual version of the regulatory technical standards for the recovery and financial schemes stresses the circumstances that information on both the prospective SCR and prospective MCR should be provided irrespective of whether a recovery plan or finance scheme is being submitted. This forward-looking perspective even in “normal times” is per se an important tool in order to prevent crisis situations and or potential insufficient loss-absorption capacity.
165. When a recovery plan and/or financial scheme is/are submitted, they have to be “realistic” and show what are their immediate and anticipated effects are, not just in terms of the SCR or MCR but also in terms of the entire business of the undertaking concerned. Projections need to be based on realistic assumptions, both in terms of business pursued and economic scenarios.
166. Finally, the proposed measures should be suitable for addressing the problems; this means the undertaking should show that there is no material risk of another non-compliance in the short term. To this end, the insurers concerned should provide information not only as regards the financial year (year-end) in which the recovery period ends but also information about the subsequent financial year.
167. In the draft regulatory technical standard, EIOPA recognises that in some cases remedial measures included in the recovery of financial schemes could have pro-cyclical effects. To this end supervisory authorities should require the insurers to choose alternative measures.
168. When dealing with supervisory power in deteriorating financial conditions<sup>34</sup>, the technical standards recognise some room for flexibility for the national supervisory authority given that no exhaustive list of measures has been included in the draft. This is because it was recognised that it is not possible to predict precisely what situation could arise and as a

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<sup>33</sup> Consultation will end at the beginning of March 2015.

<sup>34</sup> That is to say when the financial conditions of an insurance or reinsurance undertaking that does not comply with its SCR or MCR deteriorate further after the first observance of non-compliance.



consequences which measures could be more appropriate to ensure policyholder protection. However, EIOPA named some measures that shall be taken into consideration in deteriorating circumstances. These span from measures to reduce the risk profile, to prevent reduction of financial resources, to enhanced reporting requirements (including the possibility of asking for an updated medium-term capital management plan), to reorganisation measures.

169. However, beyond this point these measures could be effective in preventing further deteriorations in capital and so are likely to be a valuable brake on further concerns about insufficient loss absorbency from building. Firms will need to inform supervisors in advance should they become concerned about the risk of non-compliance.

#### 4.7.2. Other possible measures

170. Pending the entry into force of the S2 directive by January 2016, the primary suggestion is to foster a stricter and harmonised application of the above-mentioned measures already included in the directive. To this end an important role will be played by the technical standards (and the guidelines) which have been developed by EIOPA and will be submitted to the Commission for endorsement.

171. In addition to these, other possible measures that might be considered and could be explored further when concerns about risks from insufficient loss absorbency may arise are:

- (i) to develop and submit to the supervisor a **prudential remuneration and stricter dividend distribution policy** regardless of the submission of a recovery plan;
- (ii) to **include possible alternative measures to those already included in the recovery plan and/or financial scheme**;
- (iii) **to build resilience in upturns** (e.g. when capital resources are abundant, which would result in a higher level of capitalisation) after the application of the LTG measures. Measures could be based on the existing symmetric adjustment mechanism, which could be extended to other assets, or a more general tightening or buffer-type measures.
- (iv) **Extend the requirement of a liquidity plan** which would include an arrangement on liquidity risk tolerance, liquidity management articulated at the level of a possible escalating ladder of asset disposal (based on their liquidity level), for instance a liquidity buffer.

#### 4.7.3. Assessment of effectiveness of measures

172. These measures have the potential to give additional room for manoeuvre to the supervisory authorities. The S2 Directive, with its holistic approach, sets the basis for an escalating ladder for supervisory intervention (prevention, assessment, management) which entails both a risk-sensitive prudential regulation and an active role of the supervisor. Within this context, possible additional measures could be explored when dealing with macroprudential risks if, from the application of the current set of rules, a need to improve the safeguard of the financial stability would arise.

173. To this end it is worth mentioning that:

- (i) in 2018 the Commission will have the possibility of reviewing the calibration of the standard formula parameter;



- (ii) EIOPA is required to report annually to the European Parliament/Commission/Council on the impact of the application of LTG measures, also as regards financial stability (where appropriate in consultation with the ESRB);
- (iii) EIOPA shall, where appropriate, together with the ESRB, submit to the Commission an opinion on the assessment of the application of the LTG measures. Based on the information included in the opinion, the Commission shall submit a report to the EU and to the European Council by January 2021.

#### 4.8. Potential arbitrage between insurance and banking regimes and risk migration from one sector to another

174. Regulatory regimes for financial institutions should be consistent in their objectives to avoid regulatory arbitrage possibilities and to achieve the macroprudential goal, which could be important across several financial sectors. For example, the same risk of an asset class should be treated equally in the overall capital requirements across sectors. Another example would be that if a macroprudential tool is activated in one sector to achieve a certain macroprudential goal, the risk of this migrating to the other sector should be avoided. Financial institutions in the other sector should be prohibited from, or limited in terms of their ability to take over this risk. Moreover, the regulator of the other sector should not impose a measure that would counteract the measure of the sector applying a macroprudential measure.

##### 4.8.1. Existing measures

175. The ESAs are cooperating closely in their joint committee to assess and to **monitor the equal capital treatment of risks in their regimes** (e.g. treatment of sovereign bonds; treatment of securitisation).
176. Solvency II contemplates the notion of **group supervision** (Title III of Solvency II). Under this provision, the group supervisor is allowed to look inter alia at group solvency, intragroup transactions (Article 245) and risk concentrations (Article 244). Effects from intra-group transactions are eliminated (Article 223) in order to avoid double-counting. The group supervisor has the power to impose a capital add-on to the consolidated group SCR, where the risk profile of the group is not adequately reflected (Article 232 Group capital add-on, S2 framework 2009). However, a legal or regulatory restriction of or a capital charge for intragroup transactions has not been defined (yet).
177. Moreover, the **Financial Conglomerates Directive** may also help to mitigate the effects of regulatory arbitrage. The FICOD was the first cross-sectoral legislative act in the field of prudential supervision and is supplementary to S2 and B3. The new Regulatory Technical Standards on risk concentration and intra-group transactions under Article 21a (1a) of Directive 2002/87/EC (Financial Conglomerates Directive), published 18 December 2014, harmonises and defines specific procedures. The competent authorities shall, in particular, take into account the following supervisory measures:
- (a) to require that certain intra-group transactions of the financial conglomerate are performed at arm's length or that intra-group transactions which are not performed at arm's length are reported;



- (b) to require that certain intra-group transactions of the financial conglomerate are approved through specified internal procedures with the involvement of the management body of the financial conglomerate;
- (c) to require regulated entities or mixed financial holding companies to report more frequently on significant risk concentration and significant intra-group transactions;
- (d) to define appropriate thresholds in order to identify and overview significant risk concentration and significant intra-group transactions;
- (e) to require a strengthening of the risk management processes and internal control mechanisms of the financial conglomerate;
- (f) to require regulated entities or mixed financial holding companies to present or improve plans to restore compliance with supervisory requirements and to set a deadline for implementation thereof.

#### 4.8.2. Other potential measures

178. There is a need to further explore if risks are treated equally in relative and absolute amounts across sectors. A harmonisation across sectors, in the sense of an **equal treatment of equal risks**, would be the best measure to avoid regulatory arbitrage. Further potential measures may include lending and guarantee limits or prohibitions of intra-group transactions to stop potential arbitrage possibilities within conglomerates or capital charges for internal transactions to make arbitrage less attractive. The IAIS made a similar proposal on NTNI activities for G-SIIs. A close coordination of supervisory authorities on macroprudential risks may be a first step to explore cross-sectoral consequences of any macroprudential measure. Another step could be to apply tools that have the same effect in both sectors, e.g. additional capital buffers or limits on lending in case of excessive credit growth.

#### 4.8.3. Assessment of effectiveness of measures

179. The comparison of the treatment of risks in B3 and S2 is a complex task. Different academic studies arrive at different conclusions regarding the level of capital charges for the same risk in both regimes. However, when capital charges are calibrated, in-depth impact assessments should be conducted which focus also on the comparable treatment of risks in other sectors.

180. In markets where insurers and banks can or do compete, the application of certain macroprudential tools in the banking sector could lead to banking activities migrating to the insurance sector, either directly or indirectly (e.g. via risk transfer). This behaviour could undermine the macroprudential objective of the measure in the banking sector. The ability to increase or decrease capital requirements on such specific activities or assets by insurers in response to such developments is not currently possible in S2. Such tools may help to lean against migration of activity in part by increasing their relative cost, should it occur, and should it be desirable to stop migration.

181. At present, insurers do not typically compete very intensively with banks in the same markets and there may be barriers to activity migrating between sectors. For example, insurers are not very active in direct lending at present. However, this may change – there are signs that insurers are increasing lending activities (and some international regulatory initiatives are seeking to encourage some of these activities). In addition, in some circumstances, migration of activity to insurers from banks may be desirable as the risks are transformed – tools would not be needed in such cases.



Table 4

Summary of possible systemic risks, intermediate objectives of macroprudential policy, available and possible measures

Possible systemic risks	Intermediate objective	Measures available	Macroprudential tool box, not available <sup>35</sup>
NTNI activities	Excessive credit growth and leverage Maturity mismatch and market illiquidity Direct and indirect exposure concentrations Too big to fail/moral hazard	G-SII measures Own Risk and Solvency Assessment, governance requirements, prudent-person principle in Solvency II Reporting requirements in Solvency II	Liquidity monitoring Adequate recovery and resolution as well as insurance guarantee schemes Any national measures to address NTNI (e.g. O-SII measures) Limits to and separation tools for NTNI Capital requirement for NTNI
Common vulnerability of life to double hit	Maturity mismatch and market illiquidity Direct and indirect exposure concentrations Too big to fail/moral hazard Loss of consumer confidence	Interest-rate capital requirement Long-term guarantee measures Power to cap guaranteed returns Own Risk and Solvency Assessment Stress test Additional interest rate risk provisioning (Zinszusatzreserve)	Liquidity monitoring Adequate recovery and resolution as well as insurance guarantee schemes Add-ons for macroprudential externalities
Procyclicality in asset allocation	Excessive credit growth and leverage Maturity mismatch and market illiquidity Direct and indirect exposure concentrations Too big to fail/moral hazard	Long-term guarantee measures Symmetric adjustment for equity charge Recovery periods and possibility of extension Interest-rate capital requirement	Minimum liquidity requirements (that can be released in stresses) Additional buffers in upturns and on specific assets and liabilities Loosening of capital requirements for certain assets and liabilities
Procyclicality in commercial insurance provision	Excessive credit growth and leverage	Own Risk and Solvency Assessment	Adequate recovery and resolution as well as insurance guarantee schemes
Concentration issues in commercial insurance (non-life)	Direct and indirect exposure concentrations Too big to fail/moral hazard Disruption of economic activity	Own Risk and Solvency Assessment Supervisory (prudential and conduct) monitoring	Adequate recovery and resolution as well as insurance guarantee schemes
Systemic risks in reinsurance markets	Maturity mismatch and market illiquidity Direct and indirect exposure concentrations Too big to fail/moral hazard Regulatory arbitrage	Equivalence requirements and assessment Own Risk and Solvency Assessment Stress test	G-SII (if reinsurers are designated as such) and/or O-SII measures at national level Disclosure of alternative risk transfer Adequate recovery and resolution as well as insurance guarantee schemes
Potential insufficient loss-absorption capacity arising from SII calibrations and LTG package design	Maturity mismatch and market illiquidity Direct and indirect exposure concentrations Disruption to real economy and household including confidence impacts	Own Risk and Solvency Assessment Disclosure requirements of impact of long-term guarantee measures Liquidity plan in the case of long-term guarantee measures Capital add-on under some strict circumstances Supervisory discretion on the approval of long-term guarantee measures and transitionals	Prudential remuneration and dividend distribution policy Possibility to add measures to the recovery plan and the liquidity plan Flexibility to change calibrations for macroprudential purposes Additional buffers in upturns (to enable loosening with greater resilience) Additional discretion in LTG package for macroprudential purposes
Regulatory arbitrage	Excessive credit growth and leverage Direct and indirect exposure concentration	Group supervision Reporting of intra-group transactions of financial conglomerates (FICOD)	Tightening and loosening capital requirements on specific activities/assets Equal treatment of equal risks in banking and insurance sector

<sup>35</sup> The possible macroprudential tools in this column have been put in a specific order, starting with measures which can possibly be implemented without a change to the Solvency II framework and ending with measures which would require a change of this framework.



## Addendum 1

### Sectoral insurance indicators in draft heat map

#### Objective: Excessive credit growth and leverage

	Indicator	Rationale
1c	ICPFs credit-to-GDP gap	Exuberance may be concentrated in a particular sector of the economy.
2c	ICPFs real credit growth	Exuberance may be concentrated in a particular sector of the economy.
3c	ICPFs credit-to-GDP level	Exuberance may be concentrated in a particular sector of the economy.
22	ICPFs sector leverage	Only relevant capital measure for shadow banking. Adrain & Shin (2009) and others show that shadow banking leverage was a key driver of the global financial crisis.
22a1	Size of insurance companies	See 22

#### Objective: Exposure concentration

	Indicator	Rationale
48	Exposure to sovereign	CGFS 2011 WP 44; ESRB (2013) "Regulatory Treatment of Sovereign Exposures"; IAIS 2011
48a	Exposure to risky (<BBB) sovereign	Vulnerability to sovereign credit deterioration
48b	Exposure to domestic sovereign	Assessment of home bias
48a1	Insurance companies: exposure to risky (<BBB) sovereign	See 48a
48b1	Insurance companies: exposure to sovereign	See 48
48b2	Insurance companies: exposure to domestic sovereign	See 48a
49	Exposure to banking sector	Measures contagion risk from domestic banks to insurance companies
49a	Insurance companies: exposure to domestic banking sector	See 49
50	Equity exposure	Exposure concentration to equities



**Objective: Misaligned incentives**

	Indicator	Rationale
60	Size	Indicator in IAIS G-SIIs methodology. The assessment of structural systemic risks is likely to require a broad set of indicators including size and concentration of the financial sector [ESRB HB17].
60a	<i>TP life</i>	See 60
60b	<i>GWP non-life</i>	See 60
61	Concentration/substitutability	Indicator in IAIS G-SIIs methodology. The assessment of structural systemic risks is likely to require a broad set of indicators including size and concentration of the financial sector [ESRB HB17].
61a	<i>Market footprint: total domestic bond market</i>	Vulnerability of other markets to insurance-sector developments. The assessment of structural systemic risks is likely to require a broad set of indicators including size and concentration of the financial sector [ESRB HB17].
61b	<i>Market footprint: corporate bonds</i>	Vulnerability of other markets to insurance-sector developments. The assessment of structural systemic risks is likely to require a broad set of indicators including size and concentration of the financial sector [ESRB HB17].
61c	<i>Market footprint: financial bonds</i>	Vulnerability of other markets to insurance-sector developments. The assessment of structural systemic risks is likely to require a broad set of indicators including size and concentration of the financial sector [ESRB HB17].
61d	<i>Market footprint: government bonds</i>	Vulnerability of other markets to insurance-sector developments. The assessment of structural systemic risks is likely to require a broad set of indicators including size and concentration of the financial sector [ESRB HB17].
61e	<i>Market footprint: equity</i>	Vulnerability of other markets to insurance-sector developments. The assessment of structural systemic risks is likely to require a broad set of indicators including size and concentration of the financial sector [ESRB HB17].
62	Shift from banking to insurers	See 60

**Resilience indicators: Capital adequacy ratios**

	Indicator	Rationale
2a	SCR	Solvency indicator for insurance companies
2b	<i>SCR without long-term guarantee measures</i>	Solvency indicator for insurance companies
5	Return on equity (insurers)	
5a	<i>Combined ratio – non-life insurance business</i>	
5b	<i>Gross premiums written – life insurance business</i>	
5c	<i>Gross premiums written – non-life insurance business</i>	
5d	<i>Return on assets (insurers)</i>	

