

# Thematic Article on Financial Stability ——— 1/2021

Macroprudential tools for the insurance sector

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Czech National Bank ——— Thematic article on financial stability ——— 1/2021

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# MACROPRUDENTIAL TOOLS FOR THE INSURANCE SECTOR

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*The insurance sector's systemic dimension, its contribution to risks to financial stability, and the choice of a suitable macroprudential framework for it have been debated within the European System of Financial Supervision for a number of years now. This article builds on the proposed changes to Solvency II in the macroprudential policy area currently under consideration at European Commission level. In its main part, the article suggests a possible design for the macroprudential policy framework in insurance. It defines the main objectives and the decision-making process for this policy and presents specific macroprudential tools in insurance. The selected tools are commented on from the perspective of the Czech National Bank as the supervisor of the Czech insurance sector and the authority responsible for the financial stability of the Czech financial system.*

## I. INTRODUCTION

This article is a loose follow-up to the thematic article *Could the Czech insurance sector be a source of systemic risk?* (Dvořák et al., 2016). It examines new and potentially implementable macroprudential tools for the European Union (EU) insurance sector. It also presents the Czech National Bank's (CNB) opinion on these tools and outlines a possible analytical approach to assessing systemic risks in insurance necessitating the activation of a particular tool. It does not set out to comprehensively assess current sources of systemic risk in the Czech insurance sector; an analytical assessment forms part of the annual Financial Stability Report. The evaluation of potential macroprudential policy tools in this article is based primarily on the CNB's experience of conducting microprudential supervision of insurance companies and applying macroprudential tools in the banking sector.

Experts regard the systemic risk associated with traditional insurance<sup>2</sup> as generally less significant than that linked with banking (see, for example, IAIS, 2011, IAIS, 2019a, and EIOPA, 2017). This is due primarily to traditional insurers' balance sheet structure (Dvořák et al., 2016), which involves lower cash flow management risk than that of banks. However, the academic literature and a number of historical experiences (such as the 2008 collapse and subsequent bailout of AIG) demonstrate that in certain highly adverse economic circumstances, the insurance sector may also be an originator or amplifier of systemic risk (EIOPA, 2017; ESRB, 2018; Jobst et al., 2014; IMF, 2016; for the Czech Republic: Dvořák et al., 2016). Especially at times of deep crisis, insurers can contribute to the materialisation of systemic risk through the failure of an important insurer that is interconnected with the rest of the financial system, or by amplifying the original shock by, for example, selling off investment assets and exacerbating the fall in their prices (Kučera and Szabo, 2020). Moreover, the contribution of insurers to systemic risk can relate not only to the spread of such risk inside the financial sector, but also to its transmission to the real economy. Restriction or complete loss of insurance cover can strongly affect the financial condition of households and non-financial corporations. Furthermore, the contribution of insurers to equity and bond price drops can make it difficult for firms and governments to raise funds on the financial markets and increase their debt service costs.

A debate about macroprudential tools in insurance has been going on in the EU since 2015 (ESRB, 2015). In 2017, this debate intensified in the context of the planned Solvency II review, which includes an assessment of how suitable this regulatory framework is for macroprudential supervision. First, the sources and significance of systemic risk in the insurance sector were discussed in the committees of the European System of Financial Supervision (ESFS; in particular the European Insurance and Occupational Pensions Authority, EIOPA, and also the European Systemic Risk Board, ESRB). A wide range of macroprudential tools were then proposed and discussed (EIOPA, 2018; EIOPA, 2019; ESRB, 2018). This discussion culminated in 2020 with the preparation by EIOPA of a section on macroprudential policy in a

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<sup>2</sup> By traditional insurance we mean the activities of insurance companies which are closely linked with the primary purposes of insurance, namely risk-sharing, intermediation of the accumulation of households' savings and investment of those savings on financial markets. Other possible "non-traditional" activities of insurance companies include lending and speculative activity in the area of derivatives transactions. For example, under-collateralised activity on the credit default swap market contributed to the collapse of AIG in 2008. These non-traditional activities can be viewed as more risky owing to the possible worse ability of insurers to assess the associated risks. Insurers in the Czech Republic are not widely involved in non-traditional activities at present.

broader opinion on the review of Solvency II sent to the European Commission (EIOPA, 2020a).<sup>3</sup> In this document, EIOPA presented a shortlist of tools partly reflecting the comments and opinions of individual Member States and the industry and also the financial market experience during the coronavirus pandemic in the first half of 2020. This moved the debate on macroprudential policy in insurance and the decision-making on the incorporation of macroprudential policy tools into revised legislation to the level of the Commission, which commenced the actual review of the relevant parts of Solvency II in 2021.

As the authority responsible for maintaining financial stability in the Czech Republic, and as a member of EIOPA and ESRB committees, the CNB has been advocating four principles for the incorporation of macroprudential tools into Solvency II: (i) respect for the current Solvency II principle based on encouraging the industry to sufficiently manage the risks it undertakes, not on enforcing quantitative regulatory limits (which was more typical of Solvency I); (ii) preservation of national discretion and flexibility in setting macroprudential tools for insurers other than global systemically important ones; (iii) comprehensive cost-benefit analysis of the macroprudential tools under consideration, and the related (iv) use of existing microprudential tools to mitigate the systemic risk arising from insurance where they are more efficient and effective. These principles have been sufficiently emphasised in the materials submitted to the Commission by EIOPA (2020a), the ESRB (2020) and the CNB.

This article contains two main parts. The first part briefly sets out the definition of systemic risk in insurance, the channels of transmission of that risk, and the related objectives of macroprudential policy. The second part discusses the CNB's view of the shortlist of macroprudential tools in insurance submitted to the Commission by EIOPA. This part is supplemented with an appendix presenting the longer list of tools originally considered along with explanations of why some of them were not shortlisted.

## II. SYSTEMIC RISK AND MACROPRUDENTIAL POLICY IN INSURANCE

Traditional insurance is not generally regarded as a major source of systemic risk.<sup>4</sup> In certain circumstances, however, insurance can act as an originator of such risk or amplify the impact of adverse shocks at the systemic level. The definition of systemic risk in insurance serves as the basis for defining the objectives of macroprudential policy in insurance (MAPI), which are then to be achieved using suitable macroprudential tools.

### II.1 DEFINITION OF SYSTEMIC RISK

The mode of action of systemic risk in insurance can be summarised into roughly three phases (see [Figure 1](#)): (i) build-up of a risk in insurance having the potential to take on systemic dimensions, (ii) materialisation of the risk through the triggering of an event that has a negative impact on insurance companies, and (iii) transfer of the risk inside and/or outside the insurance sector via transmission channels. The potential negative externalities generated by the transfer of the risk via transmission channels can have an adverse impact on other financial institutions and the real sector, thereby disrupting the stability of the financial system and negatively affecting economic growth.

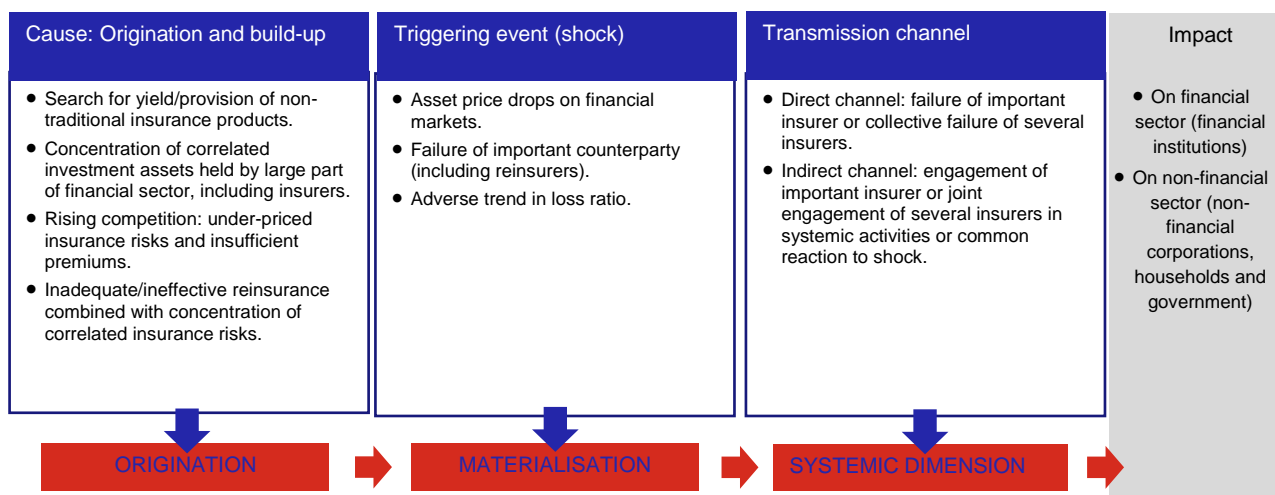
The basis for the origination and build-up of systemic risk in insurance is the risk profile of insurers, which arises from their activities. The insurance sector as a whole has long faced unfavourable financial conditions and heightened competition. Any higher risk tolerance on the part of insurers is linked mainly with financial market developments. In an environment of very low to negative yields on high-quality assets, insurers move their investments into risky assets. Regardless of the phase of the financial or business cycle, insurers' increased demand for such assets helps drive up prices to overvalued levels and increases concentration risk in the financial system. Risk also builds up in insurers' balance sheets through the under-pricing of insurance risks, with consequences in the form of insufficient premiums, technical provisions and own funds, which, under certain conditions, can also be fostered by rising competition in the sector. Adverse developments can also potentially be caused by inadequate or ineffective reinsurance, especially when combined with concentration of correlated insurance risks (flooding risk, for example). Lastly, under-pricing of the risk of concentration in the provision of insurance products and of risks associated with the provision of non-traditional insurance products (such as lending and the sale of financial derivatives) also contributes to the build-up of systemic risk.

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<sup>3</sup> EIOPA is a significant partner of the Commission in the preparation of the review of Solvency II. The Commission submitted a [formal request](#) to EIOPA for this opinion (technical advice) in February 2019.

<sup>4</sup> Systemic risk in insurance and its main components and channels are described in more detail by EIOPA and the ESRB in their key documents on this issue – EIOPA (2017) and ESRB (2018) – and also by the CNB for the Czech environment in Dvořák et al. (2016).

Figure 1 Systemic risk in insurance and its transmission channels



Source: CNB

An insurance company with a riskier profile and lower resilience is generally more vulnerable to adverse events. The potential triggering events for the materialisation of risks include a sharp drop or increased volatility in the market prices of assets. This can lead to immediate realisation of market losses, since insurers measure their investment portfolios at fair market value. Another potential adverse shock for traditional insurers is a sudden deterioration in the loss ratio in the life or non-life insurance segment, especially when there are inadequate technical provisions in the insurance sector due to aggressive competition. Failure of an important counterparty, such as a reinsurer, can also undermine an insurer’s resilience and cause systemic risks to materialise.

Insurers’ reactions to shocks can exacerbate adverse developments on financial markets and cause them to spread throughout the financial system via the direct or indirect transmission channel, with knock-on effects on the real sector (see Table 1). The *direct channel* of risk transmission is associated with the failure of an important insurer (or group of similar insurers forming a systemically important part of the sector). Such failures can cause insurers’ creditors and owners – usually other financial institutions linked via financial groups, funding providers or shareholders – to incur excessive losses (a domino effect; IMF, 2016). The failure of a systemically important insurer or group of insurers can also affect the balance sheet liquidity of a bank if the insurer is an important depositor with it. If, due to their failure, insurers are unable to settle claims, a shock predominantly of a liquidity nature will spread to households and non-financial corporations. A disturbance to the stability of the insurance sector caused by the failure of an important insurer or group of insurers will have a direct effect on primary securities markets, as insurers are major providers of long-term funding.<sup>5</sup> Lastly, the failure of an important insurer or group of insurers can also lead directly to a need for public sector intervention, with a potential impact in the form of growth in public debt.

Table 1 Channels of transmission of systemic risk in insurance

<b>Direct channel</b>	Materialisation: Failure of important insurer or group of insurers	
	Systemic result: <i>For financial sector</i>	<ul style="list-style-type: none"> <li>- loss incurred by insurer’s creditors</li> <li>- loss of insurance coverage (e.g. repayment insurance)</li> <li>- reputational risk, deterioration in market sentiment</li> <li>- loss incurred by holders of common assets sold off by insurer</li> <li>- run on banking sector</li> </ul>
		<i>For non-financial sector</i>
		<ul style="list-style-type: none"> <li>- loss of insurance coverage</li> <li>- potential growth in public budget expenditure</li> </ul>
<b>Indirect channel</b>	Materialisation: Insurers as amplifiers of other risks	
	Systemic result: <i>For financial sector</i>	<ul style="list-style-type: none"> <li>- regulatory arbitrage, especially in relation to banking</li> <li>- amplification of asset price drops (fire sales) causing other financial institutions holding assets concerned to incur losses</li> </ul>
		<i>For non-financial sector</i>
		<ul style="list-style-type: none"> <li>- decrease or volatility of household wealth (unit-linked life insurance)</li> <li>- amplification of asset price drops (fire sales), making it difficult for firms and governments to raise funds on financial markets and increasing their debt service costs</li> </ul>

Source: CNB

<sup>5</sup> As of 30 June 2020, insurers in the EU held EUR 2.5 trillion of government bonds, EUR 2.3 trillion of corporate bonds, EUR 1.4 trillion of equities and EUR 3.6 trillion of shares in investment funds.



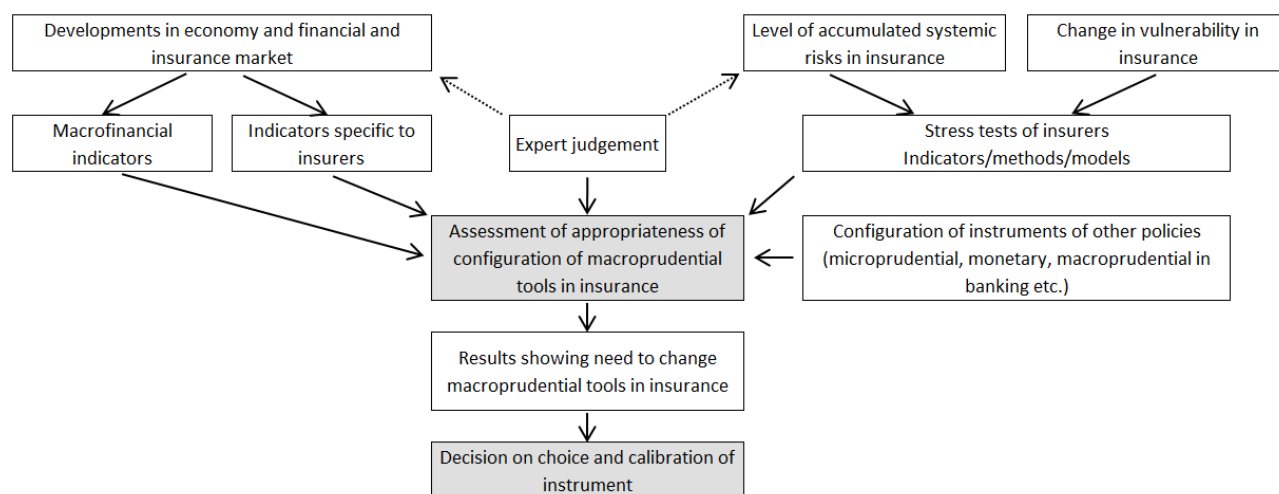
The *indirect channel* of systemic risk transmission reflects the fact that insurers can be well capitalised and resilient to shocks yet still contribute, through their common behaviour, to amplifying a shock in the financial system and hence to aggravating a crisis. Where growth in uncertainty on the financial markets is accompanied by excessive price swings and drops or by investment asset rating downgrades, insurers may resort to fire sales. Such sales will exacerbate the decline in market prices and have knock-on effects on other holders of these assets (a tsunami effect; IMF, 2016). This channel is particularly important in the case of assets with limited market liquidity and/or of low quality. Financial market developments may also cause insurers to rein in their investment demand or to focus exclusively on high-quality, highly liquid assets, thereby limiting one of the sources of financing of the real economy.<sup>5</sup> Insurers can also contribute to amplifying systemic risks by introducing financial innovations that enable financial groups to engage in regulatory arbitrage (for example by providing substitutes for bank loans in an environment of tighter regulation of the banking sector). In this way, the insurance industry can not only reduce the effectiveness of the regulation of other segments of the financial sector, but also enable risks to keep on growing in the system.

## II.2 THE ROLE OF MACROPRUDENTIAL POLICY

The importance of the insurance sector for the economy has been described in numerous articles (for example, Skipper, 1997; Arena, 2008; IAS, 2011; Geneva Association, 2012; Lee et al., 2013; Lee, 2019; ESRB, 2015, EIOPA, 2017). Safeguarding the stability of this sector as a whole is therefore a key duty for supervisory authorities. The enactment of new macroprudential tools (EIOPA, 2020a) is an important condition to the existence of the MAPI framework.

The new MAPI framework assumes three layers of objectives: ultimate, intermediate and operational. The first two are the same as those for the prudential framework of any sector of the financial system, as the ultimate objective of macroprudential policy is to achieve financial stability, and its two intermediate objectives are to reduce the likelihood and mitigate the impacts of a systemic crisis. The operational objectives are more specific and, in the case of MAPI, mainly involve ensuring sufficient own funds and technical provisions, discouraging excessive concentrations of certain exposures in insurers’ balance sheets, discouraging excessive engagement of the insurance sector in risky activities outside traditional insurance and limiting procyclicality in the insurance sector’s behaviour (EIOPA, 2017). Achieving these objectives through the activation of prudential tools requires in particular proper selection of tools, based on identifying and assessing risks in relation to the sector’s resilience, and also proper calibration of those tools (see Figure 2).

**Figure 2 The macroprudential policy decision-making process for the insurance sector**



Source: CNB

The build-up of systemic risk in insurance is continuously monitored and measured using a range of indicators at various levels of aggregation. Key indicators include measures of the composition and riskiness of insurers’ assets, profitability, capital adequacy and trends in premiums and claim settlement costs (CNB, 2020, section III.3; EIOPA, 2020b). These are complemented by indicators of the general macroeconomic environment and financial market conditions, such as global equity indices, interest rates and yields, and exchange rates (CNB, 2020, section II; EIOPA, 2020b). The quantitative measures are complemented by qualitative information shared among macroprudential and microprudential

insurance supervisors and by the use of models and regular stress tests,<sup>6</sup> which allow supervisors to conduct a more comprehensive assessment of the sensitivity of insurers' solvency and liquidity positions to various categories of shocks.

The decision on changing the parameters of macroprudential policy and the choice of a suitable macroprudential tool depend on an assessment of how resilient the insurance sector is to existing and potentially accumulating risks and of how effective the existing prudential instruments are. Based on the nature of the risks identified (source, trigger and potential transmission channel), on the resilience of individual insurers and the insurance sector as a whole, and on the type of prudential tools already in place, the supervisory authority decides whether to stop the risk forming (by targeting the cause/trigger) or to stop it growing to systemic dimensions (by targeting the transmission channels). This decision results in the selection of a tool that will either make insurers more resilient or directly restrict certain risky activities or characteristics of the insurance sector, or both (see Table 2).

**Table 2 Categorisation of macroprudential tools in insurance**

<b>Tools targeted at increasing the resilience of insurers or at mitigating the consequences of their failure</b>	
Operational objective:	to increase insurers' resilience to systemic risks the materialisation of which could cause an important insurer to fail; and/or to mitigate the systemic consequences of the potential failure of an insurer
MAPI tools targeted at:	- capital adequacy - liquidity position - investment risk - creation of insurance technical provisions - second-round effects (contagion, worsening sentiment) arising from the potential failure of an insurer (resolution)
<b>Tools targeted at insurers' risky activities and their interconnectedness</b>	
Operational objective:	to mitigate the systemic risk arising from insurers' activities even if insurers themselves are not at risk from such activities
MAPI tools targeted at:	- regulatory arbitrage - cyclical behaviour (search for yield, fire sales, direct interconnectedness) - exposure concentrations (in asset holdings and in the provision of insurance products)

Source: CNB

### III. POTENTIAL MACROPRUDENTIAL TOOLS IN INSURANCE

A whole range of macroprudential tools in insurance were under consideration in the EU since 2015 (see Table A1 in the Appendix). The heterogeneity of insurers across EU countries was emphasised in the debate about introducing these tools. Insurance sectors vary in size and structure, in their role in the provision of investment products and in terms of current trends, and are also subject to different accounting standards.<sup>7</sup> The Member States agreed to the coordination of the choice of tool for a particular category of insurers or their activities across the EU, but with the option of taking national specifics into account.

This conclusion largely conforms to the four principles advocated by the CNB mentioned in the introduction.<sup>8</sup> To make its policy as efficient and effective as possible, the CNB deems it particularly important for decision-making on the activation and calibration of a macroprudential tool to be left at national level. National discretion is also necessary to freely apply the proportionality principle<sup>9</sup> and thereby maintain a balance between the efficiency of the overall macroprudential framework and the additional costs (arising, for example, from additional reporting, own funds and risk management, higher prices/lower availability of insurance products, a temporary freeze on redemption rights, and lower income on participating interests in insurers). EIOPA is to support decision-making at national level by developing accompanying guidelines recommending suitable principles and criteria for triggering, discontinuing and calculating (calibrating) individual tools.

<sup>6</sup> For the stress tests conducted by the CNB, see <https://www.cnb.cz/en/financial-stability/stress-testing/insurance-sector-and-pension-management-companies-sector/>. For the stress tests conducted by EIOPA, see [https://www.eiopa.europa.eu/topics/stress-test\\_en](https://www.eiopa.europa.eu/topics/stress-test_en).

<sup>7</sup> This difference may be reduced by the new IFRS 17 accounting standard expected to take effect on 1 January 2023, replacing the previous IFRS 4. Voluntary or mandatory compliance with IFRS 17 could foster a gradual decrease in the differences between the accounting frameworks used by insurers in individual EU countries. This would make the book values of own funds, profit and insurance technical provisions more comparable.

<sup>8</sup> Namely (i) a preference for encouraging insurers to sufficiently manage the risks they undertake over enforcing regulatory limits, (ii) preservation of national discretion and flexibility at national level, (iii) comprehensive cost-benefit analysis of the macroprudential tools under consideration, and (iv) the use of existing microprudential tools where they are more efficient and effective.

<sup>9</sup> The proportionality principle reflects the fact that the costs associated with the activation of the macroprudential framework could place a relatively heavy burden on smaller entities (insurers). Given their size, such entities do not in themselves present a risk of systemic dimensions. According to the proportionality principle, macroprudential tools should thus only affect the part of the market where the benefits of reducing systemic risk exceed the costs arising from the introduction of those tools.

Following a broad discussion with the EU Member States' supervisory authorities and with the industry, EIOPA drew up a shortlist of macroprudential tools reflecting their comments and opinions. This shortlist was part of the EIOPA technical advice requested by the Commission on the current Solvency II framework and the review thereof (EIOPA, 2020a). In its response to the Commission, EIOPA went beyond the specific areas covered by the original request.<sup>10</sup> It proposed adding a general article to the Solvency II Directive incorporating the objectives of macroprudential policy in insurance and suggested specific tools to be implemented. These tools can be divided into four categories: (i) capital-based, (ii) exposure-based, (iii) liquidity-based and (iv) resolution (pre-emptive planning).

**Table 3 Macroprudential tools listed in EIOPA (2020a)**

<p><b>Capital surcharge for systemic risk (a capital-based tool)</b></p> <p>A universal tool for enhancing the resilience of (all or systemically important) insurers to selected systemic risks.</p>
<p><b>Additional measures to reinforce the insurer's financial position (a capital-based tool)</b></p> <p>The power for supervisory authorities to restrict dividend payments and the purchase of the insurer's own shares in the event of a systemic shock.</p>
<p><b>Soft exposure thresholds (an exposure-based tool)</b></p> <p>The power for national authorities to define thresholds on exposure concentrations.</p>
<p><b>Expansion of the use of the own risk and solvency assessment (ORSA) and the prudent person principle to include the macroprudential perspective (a capital-, liquidity- and exposure-based tool)</b></p> <p>Encouraging insurers to enhance their own risk management by considering their potential systemic dimension and solvency when assessing key risks.</p>
<p><b>Recovery and resolution plans with macroprudential application (a pre-emptive tool)</b></p> <p>Establishing a framework for resolution in insurance with a view to potentially using it for macroprudential purposes.</p>
<p><b>Plans for preventing or mitigating systemic risk (a pre-emptive tool)</b></p> <p>The power for national authorities to require systemically important insurers to draft and maintain systemic risk management plans.</p>
<p><b>Plans for the event of a deterioration in the insurer's liquidity position (a pre-emptive and liquidity-based tool)</b></p> <p>The requirement for insurers to draft liquidity risk management plans (with due regard to the application of the proportionality principle).</p>
<p><b>Liquidity risk framework (a liquidity-based tool)</b></p> <p>The power for national supervisory authorities to influence insurers' liquidity position where increased liquidity risk is identified (via liquidity risk reports or liquidity stress test results).</p>
<p><b>Temporary freeze on redemption rights (a liquidity-based tool)</b></p> <p>The power for national supervisory authorities to temporarily freeze redemption rights in emergency situations in the case of insurers affected by a significant liquidity risk.</p>

Source: EIOPA (2020a), adapted by the CNB

A capital surcharge for systemic risk has been recommended in order to enhance insurers' capital resilience to systemic risks. There are three main reasons for increasing the capital requirement: (i) to enhance the resilience of systemically important insurers and thereby reduce their probability of failure, (ii) to enhance the resilience of insurers with significant common exposures to a specific market, sector or product, for example, and (iii) to enhance insurers' resilience to risky behaviour and discourage engagement in particular risky activities (such as non-traditional insurance business). The capital surcharge for systemic risk is a macroprudential tool that has been positively assessed at the international level as well. It is a flexible way of requiring insurers to bolster their capital. In the Czech Republic, the surcharge can be expected to be applied mainly in respect of the risky characteristics of systemically important insurers or their concentrated exposures in the insurance sector to a particular market (such as the property market or the bond market) where a sudden change in trend has the potential to strongly affect other markets.

The proposal to give national supervisors the power to reinforce the capital resilience of insurers by temporarily restricting dividend payments and the purchase of an insurer's own shares is based on the experience of the negative impacts of the coronavirus pandemic on financial markets in 2020. Owing to the high uncertainty going forward and concerns of an excessive reduction in insurers' capitalisation, blanket recommendations to suspend dividend payments have been issued in the EU. The direct enactment of such powers could make it easier for national authorities to respond to extremely adverse economic or financial conditions in similar cases.

<sup>10</sup> The own risk and solvency assessment (ORSA), plans for preventing or mitigating systemic risk, the prudent person principle and pre-emptive planning.



Another recommended tool is the use of indicators of, or thresholds on, concentrations of selected exposures (an exposure-based tool). This tool is intended to define maximum possible exposures to individual types of insurance products, sectors, regions or entities. In accordance with the present Solvency II approach, this risk would be tackled by only setting soft (indicative) thresholds. The decision to apply this tool would stay at national level, since the degree, nature and implications of exposure concentration in the insurance sector differ widely across the EU Member States.<sup>11</sup> Moreover, any major risks arising from excessive concentration might be dealt with more effectively by applying capital surcharges for systemic risk.

The next recommended tools involve expanding the use of the ORSA and the prudent person principle. These tools leave the initiative in risk management (including systemic risk management) to insurers. Simplifying greatly, they require insurers to include the effect of systemic risks on their solvency in their ORSA processes. Supervisors would consider the ORSA reports submitted by insurers in the context of the potential adverse impact of changes in macroeconomic conditions, the financial market situation and the ensuing systemic risks. The purpose of expanding the prudent person principle is to encourage insurers to invest in assets and investment instruments whose risks (including systemic risk) can be properly identified, measured, monitored and managed and appropriately taken into consideration in the assessment of their overall insolvency needs, taking into account their risk profile and business strategy.

Of the pre-emptive planning tools, recovery plans and resolution plans have been selected. These are not primarily macroprudential tools. In the event of the creation and/or activation of plans, however, the systemic dimension and the existing macroprudential tools in insurance would be taken into account, as would any insurance guarantee schemes. This would help prevent a failure from having systemic consequences in the form of contagion. Given the potentially high costs of introducing and maintaining these tools, however, the proportionality principle would be applied.

The other pre-emptive planning tools recommended are systemic risk management plans (SRMPs) and liquidity risk management plans (LRMPs). SRMPs and LRMPs are targeted at increasing the preparedness and enhancing the ability of insurers to manage risks in the event of a crisis. National supervisors would have the power to require systemically important insurers whose activities or products are more prone to systemic risk to draft SRMPs. The national supervisory authority would also determine whether an individual insurer is systemically important based on criteria such as the size of its business, its interconnectedness with the financial system, the nature of its exposures and the scope and complexity of its activities. It is also proposed that LRMPs – the purpose of which is to identify liquidity problems, strengthen the existing liquidity management framework and address potential liquidity stresses – be drafted by all insurers under Solvency II. However, in accordance with the proportionality principle, national supervisors would be given the possibility to waive insurers that are not systemically important from this requirement.

In the liquidity area, a relatively “strong” tool in the form of a temporary freeze on redemption rights is recommended. However, its costs and benefits should be investigated further, because it could fundamentally infringe on policyholders’ rights if it were triggered. This tool would provide the national supervisor with some power to temporarily forbid lapses until a liquidity risk representing a threat to the stability of the financial system has been reduced, or to limit redemption rights on condition that the settlement of claims is not restricted in any way. If, for example, all policyholders were to lapse simultaneously, life insurers could face liquidity shortfalls. This could cause them significant losses, as they mostly hold assets with long maturities. However, introducing this tool risks reducing the incentive for insurers to manage liquidity risk prudentially themselves. It would therefore be a measure of last resort, applied only when all other options for preventing a run on insurance from having systemic consequences have failed. In the Czech Republic, the temporary freeze on redemption rights is a less relevant tool due to the existence of a three-month time limit for the payment of surrender values from the date of receipt of the redemption request.

Liquidity risk would also be taken into account in the recommended liquidity risk framework. This framework is so far defined in general terms in EIOPA (2020a) as the power for national supervisory authorities to intervene when they identify insurers with systemically important vulnerabilities in the liquidity risk area. This power could include certain elements of exposure limits (linked to the liquidity of particular asset classes) or a liquidity buffer requirement (as proposed in ESRB, 2020). Additional reporting obligations and liquidity stress testing would also be added to the liquidity risk framework, in order to strengthen national supervisors’ ability to identify this risk.

Irrespective of the specific design of this liquidity risk framework, a comprehensive assessment of all the related costs and benefits would be performed and national discretion would be preserved, as there are differences in the scope and severity of liquidity risk across the EU countries. In some countries, including the Czech Republic, this risk can be considered less systemically significant.

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<sup>11</sup> The share of government bonds in total investment assets in the EU ranged between 4.1% and 59.6% across countries as of 30 June 2020. The equivalent figures for corporate bonds and equities were 2.9%–37.4% and 0.9%–29.6% respectively.

## IV. CONCLUSION

Given its importance and the amount of assets it manages, the insurance sector can contribute to a build-up of risks to financial stability in certain circumstances. For this reason, a suitable macroprudential framework for this sector has been debated within the European System of Financial Supervision for a number of years now. This debate has intensified in connection with the Solvency II review, which includes an assessment of how suitable this regulatory framework is for macroprudential supervision. In 2020, on the basis of this broad discussion, EIOPA prepared an opinion paper on the review of Solvency II for the European Commission. This paper included a section on macroprudential policy containing a shortlist of potential macroprudential tools.

This article built on these proposed changes to Solvency II in the macroprudential policy area. In its main part, it suggested a possible design for the macroprudential policy framework in insurance. It presented the main objectives of such policy: (i) to achieve financial stability (the ultimate objective), (ii) to reduce the likelihood and mitigate the impacts of a systemic crisis (the two intermediate objectives), and (iii) to increase the resilience of insurers (especially systemically important ones) and reduce the systemic risk arising from their activities (the two main operational objectives). The article also proposed a decision-making process for the activation of suitable macroprudential tools. This process would be based on systematically monitoring the build-up and materialisation of systemic risk in insurance, on assessing the insurance sector's resilience to existing or potential risks and on evaluating the effectiveness of the existing prudential tools. The proposed process would help supervisors choose a suitable tool targeted either at enhancing insurers' resilience or at restricting some of their risky activities or characteristics.

In accordance with the principles it has long been advocating to make its policy as efficient and effective as possible, the CNB regards it as particularly important for decision-making on the activation and calibration of a macroprudential tool to be left at the national level. The CNB also considers it appropriate in justified cases to use tools that encourage insurers to manage their own risks properly rather than setting and enforcing explicit macroprudential limits. Of the wide range of tools discussed across the EU countries, the following have been shortlisted: two capital-based tools, soft exposure thresholds, tools encouraging insurers to enhance their own risk management, tools targeted at insurers' liquidity situation, and pre-emptive planning.

In the view of the CNB, the tools shortlisted in the EIOPA opinion on the review of Solvency II are sufficient to achieve the objectives of macroprudential policy in insurance across the EU countries. The CNB is meanwhile of the opinion that the use of some of these tools could give rise to large additional costs and should therefore be limited to very exceptional cases. This applies in particular to the temporary freeze on redemption rights. The benefits of this tool may be relatively small in a country such as the Czech Republic given the existing three-month time limit for the payment of surrender values. Moreover, its application could exacerbate negative sentiment, and its very existence could encourage moral hazard. In addition, the costs associated with introducing additional reporting requirements and requiring insurers to maintain liquidity risk and systemic risk management plans may be disproportionately high for small insurers, so for these tools it is vital to apply the proportionality principle. The effectiveness of exposure thresholds is also debatable. The shortlisted tools can therefore be expected to undergo further analyses and impact studies, at least at the level of the CNB as the authority responsible for maintaining financial stability in the Czech Republic.

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## APPENDIX

Table A1. Overview of macroprudential tools in insurance under discussion

Tool	Description	Targeted at		Shortlisted (reasons for exclusion)
		resilience, resolution	risky activities, interconnectedness	
<b>Capital and reserving-based tools</b>				
<b>Leverage ratio or other robust measure of capital adequacy</b>	Ratio of own funds to total assets or other “robust” measure of insurer’s capital adequacy. Large technical provisions must be taken into account in calculation. Can serve as lower bound on solvency capital requirement.	✓		NO (difficult to calibrate, low flexibility at national level)
<b>Countercyclical solvency measures</b>	Capital requirement analogous to bank countercyclical capital buffer (EIOPA approach) or automatic mechanisms compensating for increased financial asset price volatility (ESRB approach; analogous to volatility adjustment or symmetric adjustment for equity risk).	✓		NO (problem of identifying cycles in insurance, lack of flexibility at national level)
<b>Capital surcharge for systemic risk</b>	Universal tool for enhancing resilience of (all or systemically important) insurers to selected risks. Set: - for systemically important institutions - or on basis of risky activities	✓	✓	YES
<b>Capital surcharges targeted at specific risks</b>	- requirement preventing under-reserving or mispricing - capital buffer for runs on insurance - excessive concentration requirement	✓	✓	NO (more limited discretion than for capital surcharge, less flexibility and hence also risk of reduced proportionality)
<b>Direct intervention in formation of technical provisions</b>	Targeted at risk of under-provisioning	✓		NO (potentially high costs, insurers not incentivised – responsibility for risk management transferred to national supervisor)
<b>Restriction of dividend payments (additional measures to reinforce insurer’s financial position)</b>	To reinforce capital position – power for supervisory authorities to restrict dividend payments and purchase of insurer’s own shares in event of systemic shock.	✓		YES
<b>Liquidity-based tools</b>				
<b>Enhanced reporting and monitoring</b>	More frequent and detailed reporting in liquidity area; introduction of monitoring of key liquidity ratios.		✓	PARTIALLY (part of liquidity risk framework)
<b>Liquidity ratio limits, liquidity buffer</b>	Binding limits analogous to net stable funding requirement (NSFR) and liquidity coverage ratio (LCR), or other requirement to create liquidity buffer. Can be linked to margin calls on derivatives transactions.	✓	✓	NO (costs may be excessive given lower importance of liquidity risk in insurance than in banking)
<b>Liquidity stress testing</b>	Top-down and bottom-up stress testing to identify potential risks.		✓	PARTIALLY (part of liquidity risk framework)

<b>Temporary freeze on redemption rights</b>	Power for national supervisory authorities to temporarily freeze redemption rights in emergency situations in insurers affected by significant liquidity risk. Potentially also other penalties for lapses (e.g. provisions in insurance contracts).		✓	YES (power for national authorities)
<b>Instruments targeted at limiting exposures or activities</b>				
<b>Indicators and soft thresholds on exposure concentrations</b>	Power for national authorities to define thresholds on exposure concentrations – to sectors, regions and counterparties. Definition of indicators and setting of soft thresholds.		✓	YES
<b>Hard thresholds on investment exposures</b>	Definition of hard thresholds			NO (potentially high costs, encourages moral hazard, insurers not incentivised – responsibility for risk management, portfolio management and pricing transferred to national regulator or supervisor)
<b>Direct restriction of involvement in particular activities</b>	Restriction of involvement in non-traditional insurance activities, especially regulation of banking-type activities	✓	✓	
<b>Temporary restriction of sale of particular assets</b>	Power for national authority to temporarily prohibit sale of particular type of asset	✓		
<b>Direct intervention in prices of insurance products</b>	For example, in form of maximum guaranteed interest rate; targeted at risk of mispricing of insurance products.	✓		
<b>Macroprudential expansion of selected measures in Solvency II</b>				
<b>Expansion of ORSA</b>	Inclusion of systemic risk in insurers' ORSA processes – encouraging insurers to enhance their own risk management by considering their potential systemic dimension when assessing key risks.	✓	✓	YES
<b>Expansion of prudent person principle</b>	Inclusion of systemic risk and monitoring of exposure risk – encouraging insurers to enhance their own risk management by considering the potential impact of events or trends of systemic dimension when making investment strategy decisions.	✓	✓	YES
<b>Expansion of certain reporting obligations</b>	New information covering other areas of systemic risk (reserving rates and reserve adequacy, concentration ratios)		✓	NO (potentially high additional data costs, especially given existing extensive reporting obligation under Solvency II)
<b>Pre-emptive planning</b>				
(macroprudential application)	Recovery plans, resolution plans, systemic risk management plans, liquidity risk management plans. Configuration of these plans with due regard to their potential use for macroprudential purposes.  Power for national authorities to require systemically important insurers to draft and maintain systemic risk management plans.  Requirement for insurers to draft liquidity risk management plans (with due regard to application of proportionality principle).	✓		YES

Source: EIOPA (2018), EIOPA (2019), ESRB (2018), ESRB (2020) and IAIS (2019b)



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