

## Analyses of the importance of the insurance industry for financial stability

*A hallmark of a stable and efficient financial system is its ability to fulfil its key economic functions at all times. Insurers offer enterprises, financial institutions, households and public sector entities cover against financial risks and thus perform a crucial function within the financial system. Failure to perform this crucial function would have a direct impact on the real economy. At the same time, insurers are highly interconnected with other financial intermediaries; solvency problems in the banking sector can spill over to insurance companies, for example. It is also conceivable, however, that insurers themselves could transmit risks to the rest of the financial system. This article presents empirical analyses conducted by the Deutsche Bundesbank on the transmission of risks from insurers to the financial system and the real economy.*

*The prevailing low interest rates are a source of risk for the life insurance segment. German legislators have passed a package of reforms (the Life Insurance Reform Act (Lebensversicherungsreformgesetz)) to address these risks. Notably, policyholders' participation in the hidden reserves of fixed-income investments (valuation reserves) has been amended. Under previous legislation, no allowance was made for hidden losses on the liabilities side of life insurers' balance sheets – which have increased sharply as a result of the very low interest rates at present – when determining the policyholders' share.*

*The Bundesbank has used a scenario analysis to assess the impact of the Life Insurance Reform Act on both the solvency of life insurance companies and financial stability. In a stress scenario where the low-interest-rate environment takes stronger effect, making allowance for hidden losses when determining policyholders' participation in the valuation reserves reduces the number of insurers which would no longer be able to fulfil the own funds requirements under the Solvency I regime by 2023. In this simulation, and based on its underlying assumptions, the market share held by these impaired companies, measured in terms of their premium revenue, comes to just under 17% by 2023, compared with around 43% in the original analysis. All in all, the package of reforms may help to improve the stability of German life insurers in a persistent low-interest-rate environment.*

## ■ Functions of insurers

*Pooling and transfer of risks shields economic agents from risk*

In a modern economy, the insurance industry performs a variety of economic functions. Insurance policies shield individuals from risk through the transfer and pooling of risks. Non-financial corporations, financial institutions, households and public sector entities can insure themselves against financial risks, which gives them greater certainty in their forward planning and more entrepreneurial freedom. This lessens uncertainty in consumption and investment behaviour.

*Properly functioning insurance sector has positive impact on risk allocation, economic growth and information efficiency*

An insurance sector that functions properly can thus both help to ensure that specific risks are allocated efficiently and contribute to economic growth. Empirical studies reveal a positive correlation between insurance services and economic growth.<sup>1</sup> These two factors are mostly found to be mutually dependent, as stronger economic growth also goes hand in hand with a higher demand for insurance. As part of their business operations, insurers gather and analyse data, thus helping to ensure that risks are assessed adequately. Consequently, information efficiency is greater in economic areas with a comprehensive supply of insurance products.<sup>2</sup> Insurers can also pass risks on to reinsurers, which enables them to diversify risks.

*Insurers are both financial intermediaries and asset managers*

Besides purely providing risk assurance, the private insurance sector also offers products which – as in the case of traditional endowment policies or annuities – are not solely of a specific insurance nature but combine elements of insurance with private asset formation. Savings are thus accumulated with insurance companies, making them both financial intermediaries and asset managers.<sup>3</sup> In their role as asset managers, insurers operate alongside other providers, such as banks or investment funds. Their specific contribution to the financial system is to provide risk assurance, however.

Insurers thus play a key role in the financial markets. Like banks, they invest in the financial

system and the real economy. Unlike banks, however, their original business activities reduce investor risk, thus making certain investments possible in the first place. This is primarily true of non-life insurers and reinsurers. Insurers obtain the majority of their funding through premium payments.<sup>4</sup> Their funding is, therefore, less volatile than that of banks, whose assets typically have longer maturities than their liabilities.

*Insurers' funding is less volatile than that of banks*

As life and health insurers provide long-term insurance cover, there is often a maturity mismatch between their assets and liabilities.<sup>5</sup> If they guarantee future benefits, life and health insurers are exposed to capital market risk and biometric risk, whereas non-life insurers primarily face the risk of loss.

## ■ Close feedback effects between insurers and financial markets

The functions performed by insurers in risk and capital allocation mean that they are closely interconnected with other economic sectors and the financial market. The first point to address is, therefore, the question of how (portfolio) decisions within the insurance sector can affect financial stability.

*Insurers are closely interconnected with other economic sectors and the financial market*

<sup>1</sup> See M Arena (2008), Does Insurance Market Activity Promote Economic Growth? A Cross-Country Study for Industrialized and Developing Countries, *The Journal of Risk and Insurance*, Vol 75, Issue 4, pp 921-946.

<sup>2</sup> However, some risks are uninsurable, eg where it is impossible to assess the likelihood of loss or limit the maximum loss.

<sup>3</sup> See Deutsche Bundesbank, The insurance sector as a financial intermediary, *Monthly Report*, December 2004, pp 31-42.

<sup>4</sup> Life insurers obtain almost all of their funding through customers' premium payments. In balance sheet terms, customer claims are reflected in the insurance technical reserves, for which official statistics are currently available up to 2012. At the end of 2012, the insurance technical reserves came to just under €813 billion and thus accounted for slightly more than 92% of total assets.

<sup>5</sup> See R Della Croce, F Stewart and J Yermo (2011), Promoting Longer-Term Investment by Institutional Investors: Selected Issues and Policies, *OECD Journal: Financial Market Trends*, Issue 1.

Overview of contagion effects emanating from insurers	
Contagion from the financial distress of (several) insurers	Contagion from insurers' current operations
<ul style="list-style-type: none"> <li>– Liquidation channel: shocks on the assets and liabilities sides of insurers' balance sheets may lead to the liquidation of investments</li> <li>– Insurers affect the funding of the banking sector through their investments</li> <li>– Confidence channel, eg if the financial distress of insurers casts doubt on the stability of banks</li> <li>– Direct effects of insurers' financial distress on their creditors</li> </ul>	<ul style="list-style-type: none"> <li>– Effects of an inadequate assessment of risk, eg in a search for yield</li> <li>– "Doom loop" between insurers and governments, eg if the state assumes liability when insurers encounter financial distress</li> </ul>
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Contagion can occur via various channels of transmission, which fall into two categories. The first is contagion from insurers' financial distress and the second is contagion from insurers' current operations (see the table above).

### Contagion from insurers' financial distress

*Negative price spirals are possible*

Problems in the insurance sector triggered, for example, by market shocks such as rating downgrades of securities in insurers' portfolios may induce insurers to liquidate investments on a substantial scale.<sup>6</sup> These "fire sales" can have adverse market price effects and trigger negative price spirals.<sup>7</sup> This scenario is conceivable, above all, if other investors subsequently also offload securities. In addition, contagion between the individual asset classes cannot be ruled out. Faced with a liquidity bottleneck, investors typically first shed assets with a high degree of market liquidity (which are thus likely to have more minor price effects).<sup>8</sup> In particular, this liquidation channel can harbour contagion risks for investors holding similar assets to insurers (common exposure).

As the German insurance sector invests heavily in the banking system, banks could be particularly vulnerable to financial distress in the insur-

ance sector. Measured at market values, investments with banks accounted for 41% (just over €474 billion) of all investments undertaken by individual insurance companies (excluding Pensionskassen) up to the end of the first quarter of 2014. At around 42% (just over €300 billion in total), they made up a slightly larger share of life insurers' investment portfolios. Although insurance companies' investments do not appear to be overly concentrated at individual banks, Pfandbrief banks feature prominently in their portfolios. The claims of the insurance sector correspond to around 5.5% of the German banking sector's total liabilities.

*Insurers are closely interconnected with the banking sector in particular*

The transmission of risk between insurers, banks and non-financial corporations can be analysed using market price data (see the box on pages 72 and 73). The degree of risk transmission from insurers to the banking system is found to be significantly smaller than transmission in the opposite direction. However, this relationship is not constant over time and risk

<sup>6</sup> See A Ellul, C Jotikasthira and C T Lundblad (2011), Regulatory Pressure and Fire Sales in the Corporate Bond Market, *Journal of Financial Economics*, Vol 101, No 3, pp 596-620.

<sup>7</sup> See A Shleifer and R Vishny (2011), Fire Sales in Finance and Macroeconomics, *Journal of Economic Perspectives*, Vol 25, No 1, pp 29-48.

<sup>8</sup> See M K Brunnermeier (2009), Deciphering the Liquidity and Credit Crunch 2007-2008, *Journal of Economic Perspectives*, Vol 23, No 1, pp 77-100.

*Problems in the insurance sector can jeopardise confidence in the financial system*

transmission depends on the level of stress. Banks are, therefore, more important to overall financial stability than insurers.

Problems in the insurance sector may jeopardise confidence in the financial system as a whole and impair its stability. For instance, high solvency risk in the insurance sector might cause households and institutional investors to doubt the stability of the banking system. If insurers were to fall into financial distress, their creditors would face the risk of a default on their claims. In Germany, this would primarily affect households; as policyholders, they hold around 76% (€1,623 billion) of the insurance sector's balance-sheet liabilities as net equity in reserve funds. This corresponds to 36% of the country's household financial wealth. By contrast, other domestic sectors (€110 billion, or 5% in total) and non-residents (€91 billion, or 4%) hold relatively little net equity in the reserve funds of German insurance companies.

## Contagion from insurers' current operations

*Inadequate assessment of risk can contribute to instability*

Insurers can also compromise financial stability if they contribute to an inadequate assessment of risk. The excesses in the market for credit default swaps (CDS) prior to the financial crisis are a case in point. The fact that insurers (especially in the United States) underestimated the risks involved probably contributed to the excessive growth in lending and the destabilisation of the financial system. The sale of CDS plays a fairly minor role in German insurers' business, however. The largest German insurers hold a nominal volume of credit protection sold amounting to less than 1% of their total assets. This figure is low compared with banks; the nominal volume of derivatives, which include CDS, held by the largest German banks is greater than their total assets – as much as 30 times greater in some cases.<sup>9</sup>

Traditional insurance business can also be a source of risks caused by overly optimistic as-

sumptions in the assessment of risk. This is true of many life insurers, for example. They have sold long-term policies with high guaranteed returns, thus taking on risks which are very difficult to hedge in the financial market. The risks that remain with life insurers are highly correlated given the similarity between business models in the insurance industry and could have a procyclical impact.

German insurers can still be regarded as having a conservative investment policy. At 11.4%, the risk asset ratio recorded for 2013 remained well below the maximum level permitted by law.<sup>10</sup> However, German insurers have stepped up their investment in infrastructure projects and real estate financing. In addition, they expanded their holdings of corporate bonds from €41 billion to €90.1 billion between 2009 and 2013; the share of corporate bonds in insurers' total investment rose from 3.4% to 6.5%.

In some instances, insurers' substantial investment in government bonds has forged a close link between insurers and governments, with the associated risk of contagion effects. The sovereign debt portfolio of the largest German insurance groups came to just under €476 billion at the end of the first quarter of 2014,<sup>11</sup> which was 27% of their total investment. Much like banks, insurers do not hold diversified gov-

*Risks in traditional business should not be disregarded*

*High investment in government bonds but low diversification*

<sup>9</sup> The low percentage recorded for insurers is also partly due to the regulatory framework; in the area of investment, insurers are permitted to use these instruments only to reduce investment risks or facilitate efficient portfolio management. See Directive 2002/83/EC of the European Parliament and of the Council of 5 November 2002 concerning life assurance, published in the Official Journal of the European Communities, 19 December 2002.

<sup>10</sup> Under section 3 (3) sentence 1 of the Investment Regulation (Anlageverordnung), insurers can place up to 35% of their bound assets in investments carrying a higher level of risk. In particular, these risk investments include directly or indirectly held equities, profit participation rights and subordinated debt assets, as well as hedge funds and investments linked to commodity risks. In addition to high-yield bonds and investments in default status, the risk asset ratio also includes certain fund investments that are risky or cannot be clearly assigned to other investment types. See Federal Financial Supervisory Authority (BaFin), Annual Report 2013, May 2014.

<sup>11</sup> BaFin's survey of enterprises' investment exposures in the EU and other selected countries includes the largest insurance groups and has more than 80% market coverage.

ernment bond portfolios. Just over 38% of their sovereign debt holdings (€179 billion) were accounted for by public authorities in Germany.

## Repercussions of bank bail-ins for insurers

*Insurers affected by bank resolutions*

Alongside the possible effects that insurers could have on financial stability, another matter to consider is the impact of distress in other parts of the financial system on insurers. Given the extent of their investment with banks, risks to insurers emanating from bank resolutions are also relevant. The Bank Recovery and Resolution Directive (BRRD) and the Regulation establishing a Single Resolution Mechanism (SRM) have created a legal framework for restructuring and resolving credit institutions within the EU.<sup>12</sup> A bail-in can take one of two forms: either the claims of the bank's creditors are written down or debt instruments are converted into equity. As a general rule, the bail-in tool is to be applied to all of the institution's liabilities. This means that insurers' unsecured claims on banks essentially fall within the scope of the bail-in tool.

*Most of insurers' investments with banks are secured*

Around 70% of insurers' investments with banks are secured and, therefore, fall outside the scope of the bail-in tool. If a bail-in involves a write-down of liabilities, the resolution authority will decide which liabilities are affected and stipulate the write-down percentage. Should a bank resolution entail a 1% write-down on the total claims of large German insurers on major multinational German banks, the regulatory own funds ratio (coverage ratio)<sup>13</sup> of these insurers would fall, *ceteris paribus*, by an average of around 0.2 percentage point. As insurers exceeded the required coverage ratio by an average of 61 percentage points in 2013,<sup>14</sup> this decline, when viewed in isolation, appears manageable in terms of financial stability. Nevertheless, second-round effects cannot be ruled out; for instance, a bank's insolvency could trigger contagion effects at an-

other financial institution or undermine confidence in the financial system as a whole.

The impact of bail-in measures involving a conversion of debt instruments into equity depends on the overall regulatory framework. Under the Solvency I regime which is currently in force, such measures would not affect insurers' coverage ratio. However, insurers might have to sell off the instruments concerned because of investment policy restrictions. Once the Solvency II regime enters into force in 2016, insurers will have to hold more own funds against participations in banks than against debt instruments. The conversion of debt instruments into equity *per se* would reduce the coverage ratio. To avoid the higher capital charges, insurers could attempt to offload the equity instruments included in the bail-in. This could trigger price effects which increase volatility in the financial system.

*Impact of bail-in measures depends on the regulatory framework*

## Assessment of measures in the Life Insurance Reform Act

The persistent low-interest-rate environment has caused high risks to accumulate in the life insurance segment. Life insurers are finding it increasingly difficult to generate investment yields that are sufficient to cover the benefits guaranteed in policies sold in the past. At the same time, the current low interest rates are creating often substantial valuation reserves for bonds with high coupons in life insurers' portfolios. As a general rule, policyholders are entitled to a share of these reserves. Under previous legislation, life insurers were obliged to give policyholders a half share of the valuation reserves accrued when their contract ended.

*Substantial risks for life insurers*

<sup>12</sup> See Deutsche Bundesbank, Europe's new recovery and resolution regime for credit institutions, Monthly Report, June 2014, pp 31-55.

<sup>13</sup> The coverage ratio is the ratio of actual own funds to required own funds. The coverage ratio must be greater than 100% to fulfil the regulatory own funds requirements.

<sup>14</sup> See Federal Financial Supervisory Authority (2014), *op cit.*

## Empirical analyses of the transmission of risk

This article presents three ways of estimating the transmission of risk between insurers and other sectors of the economy. The common factor in all three approaches is that they use market data. A multivariate GARCH model can be used to measure the interdependence between the prices of credit default swaps (CDS) issued by big insurance companies – including large German insurers – and major banks.<sup>1</sup> The study finds a statistically significant correlation between insurers' and banks' default risk for the period from 2004 to 2011. The impact of banks on insurers is thereby more than three times as high as the impact of insurers on banks. An extension of the study with a time horizon to September 2013 suggests a further decline in the relevance of insurers for banks at the current end. In periods of heightened stress, by contrast, market prices and financial institutions' default rates, which are derived from them, increasingly move in the same direction. The transmission of risk from insurers to banks could thus pick up again as a result of a renewed stress event.

Granger-causality analyses also examine interaction in relation to the prices of CDS.<sup>2</sup> To differentiate between banks' and insurers' impact on the real economy and *vice versa*, non-financial corporations

(NFCs) are also included in the analysis. This establishes the degree to which insurers are different to real-economy enterprises in terms of their relationship with banks and thus assume a special role with regard to risk transmission.<sup>3</sup>

In the 2004 to 2007 sub-period, an increase in insurers' risk – as measured by the prices of CDS – contributes significantly to an increase in risk in the banking sector. A bidirectional Granger-causal relationship for CDS prices can be observed for around 71% of the pairs analysed. This changes as the

<sup>1</sup> See N Podlich and M Wedow (2013), Are insurers SIFIs? A MGARCH model to measure interconnectedness, *Applied Economics Letters*, Vol 20, pp 677-681. The basic idea of a multivariate GARCH model is derived from the observation that the volatility of financial market time series is frequently variable and episodes of increased volatility come in clusters.

<sup>2</sup> In a Granger-causality test, two stationary time series are examined to determine whether one time series has a significant impact when forecasting the other time series, and vice versa. Where one variable has predictive value in terms of the other variable, the former is called Granger-causal. However, this does not prove a causal relationship. See H Lütkepohl (2005), *New Introduction to Multiple Time Series Analysis*, Berlin.

<sup>3</sup> The sample comprises 19 banks, 8 insurers and 38 NFCs. In line with the phases of the recent financial and debt crisis, the analysis period is split into three sub-periods (September 2004 to December 2007, January 2008 to December 2010 and January 2011 to September 2013).

### Granger-causality relationships between banks, insurers and non-financial corporations\*

%

Granger-causality	2004 to 2007	2008 to 2010	2011 to 2013
Banks — Insurers	9	4	13
Banks ← Insurers	16	17	4
Banks → Insurers	4	38	49
Banks ↔ Insurers	71	41	34
Banks — NFCs	56	52	52
Banks ← NFCs	16	9	3
Banks → NFCs	12	28	37
Banks ↔ NFCs	15	11	8
Insurers — NFCs	52	46	51
Insurers ← NFCs	14	13	5
Insurers → NFCs	13	19	34
Insurers ↔ NFCs	20	22	10

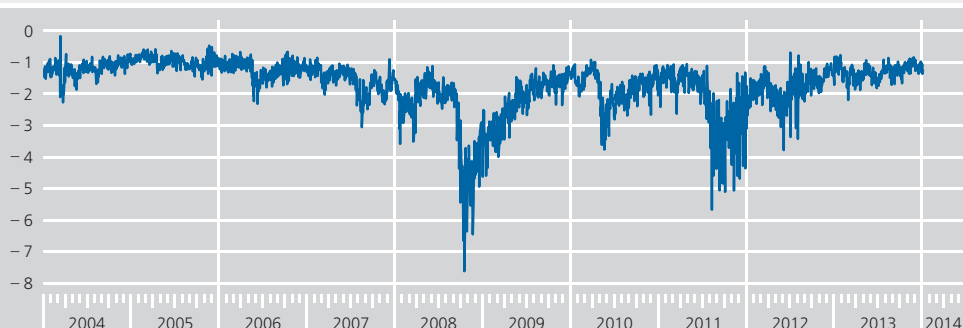
\* Percentage of pairs for which no (—), only a unidirectional (→, ←) or a bidirectional (↔) significant Granger-causality relationship was found. The total number of Granger-causal relationships for one direction is derived from the sum of the percentages of the appropriate unidirectional and bidirectional Granger-causality relationships.

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### The insurance sector's contribution to risk in the overall market\*

%, daily data



Sources: Bloomberg and Bundesbank calculations. \* The risk contribution is calculated as the difference between the estimated conditional 1% quantiles (value at risk) of the overall market yield for two different conditions in the insurance sector (stress and no stress). The calculations are based on daily data and differentiated logarithmised values. A value of -5 means that the estimated value at risk of the daily overall market yield, for instance, is roughly -8% (insurance sector under stress) instead of approximately -3% (insurance sector not under stress). Overall market here means the STOXX Europe 600.

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financial and debt crisis progresses, however, with the percentage of pairs exhibiting a bidirectional Granger-causal relationship dropping initially to 41% and finally to 34% in the third analysis sub-period. This development can be attributed mainly to a decline in insurers' influence on banks. By contrast, the Granger-causal relationship from banks to insurers remains in place and even becomes slightly stronger.<sup>4</sup>

When analysing the CDS prices for NFCs in relation to banks and insurers respectively, a Granger-causal relationship can be determined for a significantly smaller number of pairs. No Granger-causality is found for roughly half of the NFC/bank pairs and NFC/insurer pairs in all sub-periods. It is evident, particularly during the debt crisis, that a transmission of risk to NFCs emanates mainly from banks (45%) and insurers (44%). By contrast, the other direction is much less significant (11% for the direction NFCs to banks and 15% for the direction NFCs to insurers in the 2011 to 2013 sub-period).

A further analysis examines the mutual relationships between (sub-)markets, other financial enterprises, banks and insurers using what is known as the CoVaR (conditional value at risk) methodology.<sup>5</sup> This analysis looks at the STOXX Europe 600 equity index (as a proxy for the overall European market)

and the three sub-indices banks, insurance and financial services during the period from January 1999 to December 2013. In addition, a number of control variables are used for the regressions (eg measures of volatility, liquidity and lending rates). Based on daily or weekly changes, the respective risk level in sector Y is determined for every point in time for two different conditions in sector X (stress and no stress). The difference between the two risk values is interpreted as sector X's contribution to risk in sector Y. The chart above shows, by way of example, the insurance sector's contribution to risk in the overall market in the period from January 2004 to December 2013 as estimated on a daily basis (measured as the influence of the insurance sector on the estimated conditional 1% quantiles of the daily overall market yield). A high negative value reflects a large contribution to risk. According to this chart, the insurance sector's estimated influence peaked in autumn 2008.

<sup>4</sup> The total number of Granger-causal relationships for one direction is derived from the sum of the percentages of the appropriate unidirectional and bidirectional Granger-causality relationships.

<sup>5</sup> See T Adrian and M K Brunnermeier, CoVaR, Federal Reserve Bank of New York Staff Reports, September 2011. The basic idea of a CoVaR analysis can be expressed through the following question: how does the estimated risk of a certain sector/enterprise Y change conditional on another market/enterprise X? The appropriate empirical calculations are conducted with the help, for instance, of quantile regressions.

When determining this participation share, no allowance was made for hidden losses on the liabilities side of life insurers' balance sheets, which have also increased sharply as a result of the very low interest rates at present. This has led to outflows of funds from life insurers, a problematic development for the long-term resilience of these companies.

*Life Insurance Reform Act aims to enhance resilience*

German legislators have passed the Life Insurance Reform Act to address this situation. Under this new legislation, allowance is made for hidden losses when determining policyholders' participation in the valuation reserves. Other notable measures in the Life Insurance Reform Act include restrictions on dividend payments to shareholders and a lowering of the maximum technical interest rate from 1.75% to 1.25%. The Act also raises the minimum threshold for policyholders' participation in the risk surpluses from 75% to 90%. The aim of the Life Insurance Reform Act is to improve the resilience of life insurers and thus the stability of the life insurance segment as a whole. It therefore restricts outflows of funds, eg in the form of policyholders' participation in the valuation reserves.

*Scenario analysis reveals impact of the low-interest-rate environment on solvency*

In its 2013 *Financial Stability Review*, the Bundesbank used a scenario analysis to examine the effects of a persistent low-interest-rate environment on the solvency of German life insurers in the period from 2013 to 2023.<sup>15</sup> This analysis was based on three different scenarios projecting developments in the net return on investment. The yield on German Federal bonds (Bunds) formed the backbone of the baseline scenario. In addition, there were two stress scenarios in which the yields on Bunds were extrapolated using historical yields on Japanese government bonds in order to plot a conceivable development path during a protracted period of low interest rates, as experienced in Japan since the end of the 1990s. In the past, life insurance companies operating in Germany have often generated a return on investment that was higher than the interest paid on the government bonds under review. The net re-

turn on investment was, therefore, assumed to consist of the inferred government bond yield and an excess return. In the more severe stress scenario, the low-interest-rate environment affected other types of securities more strongly. Consequently, the excess return generated by the enterprises shrank more quickly and more significantly than in the other scenarios. It was also assumed in the scenario analysis that life insurers retain all profits after allotting policyholders their share of the valuation reserves and other surpluses as required by the legislation in force before the Life Insurance Reform Act was passed. In addition, it was assumed that life insurers renew their portfolios by replacing maturing investments with investments of the same kind but yielding the assumed lower interest rate. One important finding of this analysis was that, in the more severe stress scenario, a total of 32 of the 85 life insurers analysed, with a combined market share of around 43%, would no longer be able to fulfil the own funds requirements under the Solvency I regime by 2023.

The Bundesbank has now used this scenario analysis to examine the possible impact of the three measures in the Life Insurance Reform Act which can be considered particularly important in terms of solvency and financial stability:<sup>16</sup> the restrictions on policyholders' participation in the valuation reserves, the restrictions on dividend payments to shareholders and the higher minimum threshold for policyholders' participation in the risk surpluses.

*Quantitative assessment of measures in the Life Insurance Reform Act*

<sup>15</sup> See Deutsche Bundesbank, *Financial Stability Review 2013*, pp 71-74.

<sup>16</sup> See the statement by the Deutsche Bundesbank for the public hearing of the Financial Committee of the Bundestag on 30 June 2014 regarding the Federal Government's draft Act to safeguard stable and fair benefits for life insurance policyholders (Life Insurance Reform Act) (Stellungnahme der Deutschen Bundesbank anlässlich der öffentlichen Anhörung des Finanzausschusses des Deutschen Bundestages am 30. Juni 2014 zum Gesetzentwurf der Bundesregierung „Entwurf eines Gesetzes zur Absicherung stabiler und fairer Leistungen für Lebensversicherte (Lebensversicherungsreformgesetz – LVRG)“); Bundestags-Drucksache 242/14, [http://www.bundesbank.de/Redaktion/DE/Downloads/Presse/2014\\_06\\_30\\_stellungnahme\\_lebensversicherungsreformgesetz.pdf?\\_\\_blob=publicationFile](http://www.bundesbank.de/Redaktion/DE/Downloads/Presse/2014_06_30_stellungnahme_lebensversicherungsreformgesetz.pdf?__blob=publicationFile)



*New rules on participation in the valuation reserves may strengthen resilience*

The findings of this new analysis can be summarised as follows. In the more severe stress scenario, making allowance for the amount needed to safeguard the interests of continuing policyholders when determining the outgoing policyholders' share of the valuation reserves reduces the number of insurers which would no longer fulfil the own funds requirements under the Solvency I regime by 2023 from 32 to 13.<sup>17</sup> Measured in terms of their premium revenue, the market share of these impaired insurers comes to just under 17%, compared with 43% in the 2013 analysis. The scenario analysis already assumes a full retention of profits, ie a moratorium on dividend payments. This standard assumption thus already reflects a scenario in which the amount needed to safeguard the interests of continuing policyholders is greater than the net profit, meaning that no more dividends are paid out to shareholders. Otherwise, and if it is assumed in the model that the enterprises do not retain any profits – a phenomenon which is not seen in practice – the number of defaults would be much larger. In this unrealistic, extreme scenario, 56 of the life insurers analysed, with a market share of just under 80%, would no longer fulfil the regulatory own funds requirements under the Solvency I regime.

*Moratorium on dividend payments could retain funds at enterprises but make raising capital more difficult in future*

A moratorium on dividend payments to shareholders has two effects. The first is that more own funds are retained at the enterprises, which strengthens the resilience of individual insurers *per se*. The second effect, however, is that investments in insurers' equity instruments become less attractive, which could make it more difficult for insurance companies to raise capital in the future.

The rise from 75% to 90% in the minimum threshold for policyholders' participation in the

risk surpluses will probably have mainly distributional effects between shareholders and policyholders; its possible impact on resilience appears limited, however, and will also depend on the insurers' dividend distribution policy. If there were no profit retention whatsoever, the rise from 75% to 90% in the minimum threshold for policyholders' participation in the risk surpluses would reduce the number of defaults in the simulation from 56 to 53. However, the moratorium on dividend payments to shareholders introduced at the same time, which would probably be applied to the insurers in question, would prevent the outflow of these funds from the insurance companies anyway.

All in all, the measures considered could help to improve the stability of German life insurers in a persistent low-interest-rate environment. The restrictions on policyholders' participation in the valuation reserves are likely to play a particularly important role in practice. However, insurers' long-term guaranteed return commitments and much shorter-term investments mean that the planned measures alone will not provide a permanent solution to the problems created by a prolonged phase of low interest rates. Above all, efforts are needed from the life insurers themselves. To enable them to meet their future obligations in respect of the guaranteed returns in their outstanding policies even in a persistent low-interest-rate environment and in view of the heightened own funds requirements under the new Solvency II regime, insurers should reinforce their own funds buffers and offer a broad range of products.

*Rise in minimum participation threshold will have mainly distributional effects*

*Efforts needed from life insurers*

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<sup>17</sup> To calculate the amount needed to safeguard the interests of continuing policyholders, the premium reserve already recorded on the balance sheet is subtracted from future obligations (valued at market rates) under insurance policies with guaranteed returns. The amount needed to safeguard the interests of continuing policyholders thus takes account of hidden losses.