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Should One Worry About Procyclicality in Insurance Investments?

The empirics behind an alleged systemic pattern

Could insurers, through their common investment behaviour, impact the prices of financial instruments so much that the collective reallocation of assets may have systemic implications? In a new report, The Geneva Association endeavours to shed light on the question of whether industry-wide procyclicality could indeed be systemically relevant.[1] Based on historical data and forward-looking stress tests, the report found the market impact of insurers' investment behaviour to be small and unlikely to cause systemically relevant distortions.

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A SHIFT IN PERSPECTIVE

The systemic relevance of the whole insurance industry is squarely on the radar screen of supervisors and bodies charged with macroprudential surveillance. In a recent report, the Bank of England found evidence of procyclicality for the time following the dotcom crash, and to a lesser degree during the recent Global Financial Crisis (GFC).[2] Similar findings were published by the European Systemic Risk Board[3] as well as by academics and central bank researchers.[4] And in the recent Global Financial Stability Report, the IMF summarily concluded 'that across advanced economies the contribution of life insurers to systemic risk has increased in recent years, although it clearly remains below that of banks'.[5]

These findings mark a shift in perspective. In the response to the GFC supervisors focused initially on identifying individual insurers of systemic importance. The bottom-up perspective has now been supplemented by a top-down view, which potentially broadens the reach of systemic regulation to include the whole sector rather than individual firms.

The GA Report does not dispute the validity of studies documenting procyclicality. There are many reasons, not the least regulatory solvency requirements, why insurers could display common, procyclical investment behaviour. But based on the insurance-specific business model, the Report questions whether such behaviour could assume systemic proportions. By virtue of their long-dated and mostly illiquid liabilities, insurers should not be susceptible to sudden cash drains caused by customer runs. In principle, and absent otherwise binding solvency constraints, insurers should rather be able to 'look through the cycle' and ride out financial market turbulences. Thus, one should expect the asset allocation of insurers to be less volatile than the allocation of other large institutional investors and consequently the price impact of industry-wide investment decisions to be small.

INSURANCE INVESTMENTS IN CONTEXT AND THEIR VARIATION OVER TIME

Although insurers are among the world's largest institutional investors, specific asset classes held by insurers comprise smaller portions of the market than those held by other large investors (***Figure 1***). According to the OECD, insurers in 2014 held USD 28.2 trillion in financial assets (with more than USD 21 trillion held by life insurers), compared to USD 33.3 trillion in the mutual funds industry and USD 28.4 trillion held by pension funds.[6]

1 The Geneva Association (2016) *Insurance sector investments and their impact on financial stability: An empirical study* (henceforth GA Report), available https://www.genevaassociation.org/media/948960/060716_investment-behavior_complete_digital.pdf.

2 In Bank of England (2014) procyclicality or herding is defined 'in the short term, as the tendency to invest in a way that exacerbates market movements and contributes to asset price volatility, which can in turn contribute to asset price feedback loops.' The Bank further examined whether insurers' investment behaviour might 'deepen the troughs and exaggerate the peaks of asset price or economic cycles in a way that is potentially detrimental to financial stability and long-term economic growth.'

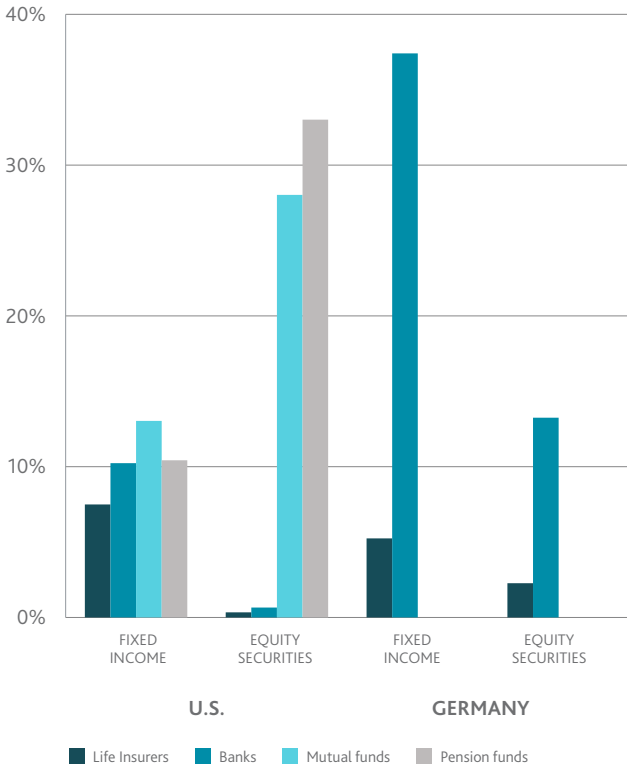
3 ESRB (2015).

4 Examples are Ellul et al. (2011), Domanski et al. (2015), and Bijlsmaa and Vermeulen (2015).

5 IMF (2016).

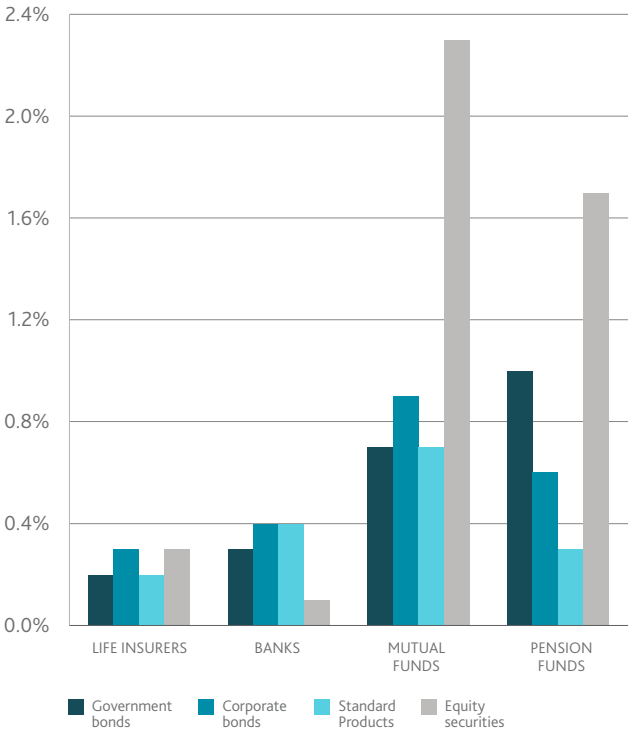
6 OECD (2015). The data refer to OECD countries plus the two non-OECD countries Russia and Latvia.

Figure 1: Correlation analysis on the investment behaviour of life insurers and banks in the U.S., Q2 2000 to Q3 2015[7]



Sources: Federal Reserve, Bundesbank, Bank for International Settlements, World Federation of Exchanges, Oliver Wyman analysis.

Figure 2: Standard deviation of quarterly changes of asset allocation; percentage-points by asset class, U.S., Q1/98 to Q3/15



Sources: Federal Reserve, Bundesbank, Bank for International Settlements, World Federation of Exchanges, Oliver Wyman analysis.

A similar finding holds for the variation in asset allocation over time. Although life insurers hold significant invested assets, their holdings represent a smaller portion of both the stock and flow of assets than other investors. A case study for the U.S. (where data is more comprehensive) revealed that, compared to banks, mutual funds and pension funds, the asset allocations of life insurers were less volatile before, during and after the Global Financial Crisis (GFC). ***Figure 2*** shows that in the years 1998 to 2015, life insurers have the lowest values for the standard deviation of quarterly changes in asset allocation across all asset classes with the exception of equity securities.

TESTED IN ADVERSE SCENARIOS

The GA report recognises that past behaviour cannot be indicative of future performance. To investigate the range of possible outcomes under hypothetical stress scenarios we subjected the portfolios of life insurers to severe shocks. Specifically, we examined (i) credit de-risking, (ii) e-risking of equity securities, and (iii) forced sales of financial assets caused by large surrenders. We looked at Europe and the U.S. separately and considered the sale of financial assets held by life insurers only in their general account. The reader is referred to the GA Report for details on the methodology to calculate the price reactions of large asset sales. In essence, the estimates are based on observed trading histories and on a bias towards adverse price impacts.

The table on the next page summarises key findings. To ascertain whether price reactions would be systemic, they were calibrated against market circuit breakers developed after the October 1997 U.S. stock market crash. Based on

7 German data for life insurers are total global assets held. The U.S. life insurance sector comprises general accounts only. All values are market values, except for U.S. fixed-income balances, which are book value.

Table: Summary of stress test results
(Estimated implied price impact given large volume sales by asset class)

	EUROPE		UNITED STATES	
	Best estimate	Very high	Best estimate	Very high
Credit de-risking Sell 10% of corporate bonds in 21 days	-0.2%	-0.6%	-0.2%	-0.8%
Equity de-risking Sell 100% of corporate bonds in 21 days	-1.0%	-4.0%	-0.1%	-0.2%
Large surrenders				
• Equity securities		-0.1%		-0.05%
• Corporate bonds		-0.03%		-0.03%
• Agency bonds		n/a		-0.01%
• Government bonds		-0.03%		-0.25%
• Municipal bonds		n/a		-0.25%
• Structured products		n/a		-0.11%

Worse case scenario	**100th percentile price sensitivity**	
Credit de-risking	-7.1%	-8.0%
Equity de-risking	-19.2%	-1.1%

"Best estimates" are based on the 75th percentile of the historic price / volume distribution; "very high" estimates on the 95th percentile.

these circuit breakers, only price declines of more than 20% would be considered systemic.

The GA Report recognises of course that price reactions to large volume asset sales by insurers may be negative (as reported in the table above) and that the industry may display procyclicality. After all, insurers are part of the financial system; they cannot escape broad market trends. The Report found, however, the price response of large volume asset sales in the two markets of Europe and the U.S. to be small and unlikely to cause systemically relevant distortions. The only result that came close to systemic proportions was a hypothetical 100 percent equity de-risking under the assumption of a severe financial market distress similar to the one observed during the GFC.

IMPLICATIONS FOR POLICYMAKERS

In light of these findings, the GA Report offers four broad normative implications.

1. Absent regulatory requirements, the business model of insurers should not give rise to procyclical investment behaviour with systemic proportions. Consequently, there is no need for specific regulation, and in particular for the introduction of additional capital buffers, to address potential investment herding behaviour.

2. Policymakers should avoid creating incentives that weaken the ability of the insurance sector to absorb financial market distress. Their investment portfolios were less volatile before, during and after the Global Financial Crisis than the portfolios of other financial industries. Insurers functioned as shock absorbers and

they were contributing—at least at the margin—to financial stability at a time of severe market distress.

3. There is a need for further research into the implications of prudential regulatory regimes based on market adjusted valuations and whether they may influence or actually cause procyclical behaviour. The business model of insurers should not lead to procyclical behaviour, and it is important to ensure that such regulation does not create contrary incentives in this respect.

4. Policymakers should make a conscious effort to reflect about the potential for the unintended consequences of regulation. Theoretical considerations and empirical evidence point to the irony that procyclical behaviour, which has been indicated by policymakers as the key rationale for macroprudential regulation, can be triggered, and possibly exacerbated, by microprudential regulation. Although the Solvency II frame-work includes adjustment mechanisms designed to reduce procyclicality, supervisors need to walk a fine line. They should be cognisant of the fact that procyclical patterns of insurers are unlikely to be systemically relevant.

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