

Covid-19 crisis: Assessing the impact of market volatility on European insurers

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IN BRIEF

- The market movements in the first quarter of 2020 have impacted European insurers in different ways. Some of the differences are linked to the type of insurance company (life versus non-life) while others are intrinsic to the type of liabilities and level of guarantees commonly underwritten in an individual insurer's market.
- Across Europe, solvency ratios have decreased by about 25% with the volatility adjustment (VA) applied and 50% without the VA. Most of the decrease is due to own fund movements resulting from mark-to-market changes in asset prices—some of which is compensated by the VA. As the crisis unfolds, downgrades and defaults in the corporate bond portfolio may lead to further increases in market risk, putting additional strain on the insurers' solvency ratios.
- However, short-, medium- and long-term investment opportunities are now emerging across a range of fixed income and alternative asset classes.

INTRODUCTION

The impact of the Covid-19 pandemic has been far reaching. Alongside the considerable human costs and anxiety, the virus outbreak has also caused increased market volatility, which has put the insurance sector under further stress.

Against this challenging backdrop, we estimate the impact of the Covid-19 market movements on European solvency ratios across life and non-life companies. We also consider the potential for further balance sheet deterioration as the crisis unfolds through a series of stress tests, and provide some considerations for insurers looking to implement defensive allocations in capital constrained portfolios, while maintaining sufficient exposure to the eventual recovery in markets.

THE SITUATION AT THE END OF 2019

Over the course of 2019, insurers experienced solvency ratio volatility. **EXHIBIT 1** shows how negative yielding government bonds led to an increase in the cost guarantees covered by life insurers, putting pressure on ratios in most European countries. While the short duration positioning of insurers' portfolios contributed to this decrease, the convexity of liabilities was the primary cause of concern—leading to the implementation of interest rate hedges. In some markets, insurers reduced their allocation to equities in order to restore their ratios. Notable outliers were Italy and Spain, where insurers benefited from the gains on their government bond portfolios.

When assessing the European insurance investment landscape, it's important to understand the differences in asset allocation by country. As **EXHIBIT 2** shows, allocations are quite varied across the region.

AUTHORS

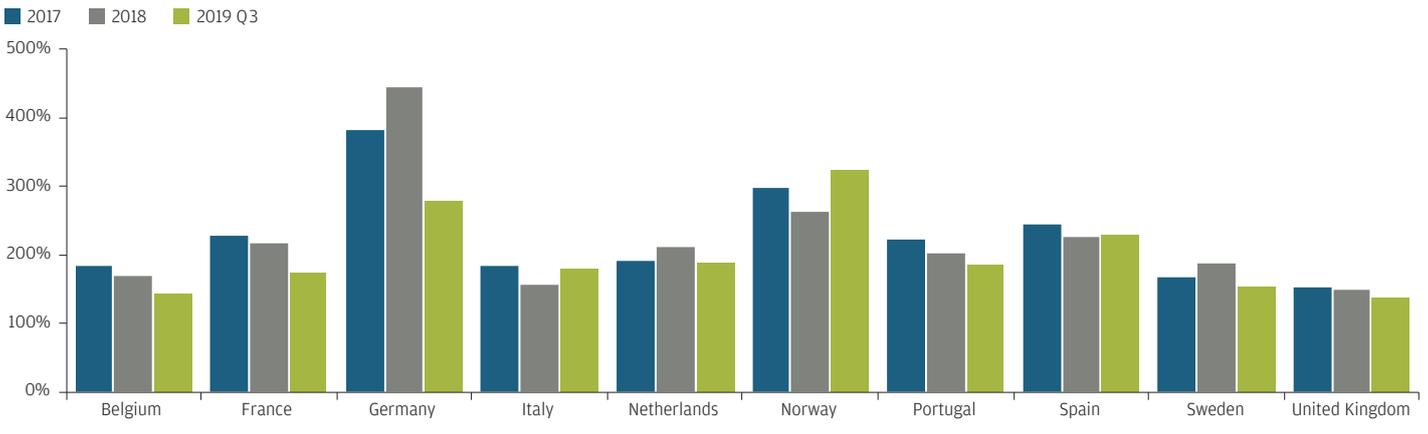


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EXHIBIT 1: REPORTED SOLVENCY II RATIOS (WITH TRANSITIONAL MEASURES)



Source: EIOPA, as of January 2020.

Nordic countries generally maintain higher allocations to equities and alternatives, while southern European countries have more exposure to government bonds. Dutch (and to some extent Belgian) insurers allocate to mortgages, whose capital is calculated using the counterparty risk module (and therefore benefits from lower capital charges).

Insurers' allocations to government bonds deserves a chart of its own. In **EXHIBIT 3**, we focus on the allocation to government bonds as a percentage of total investments. The hashed section highlights the local exposure, and therefore local bias, of insurers. It is clear that insurance companies in Spain and Italy will be more sensitive to movements in their local government bond spreads.

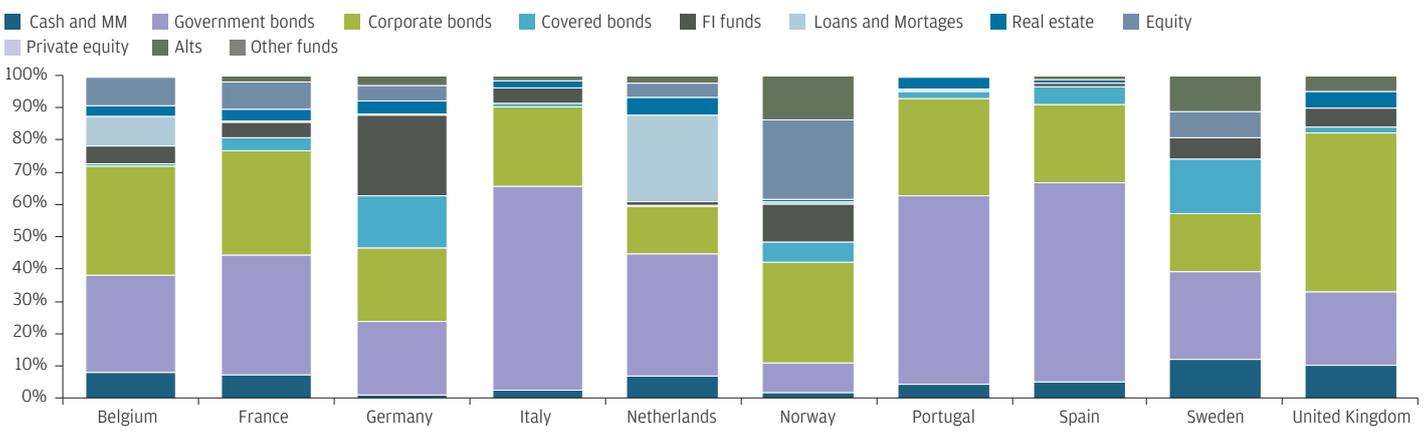
THE IMPACT OF FIRST-QUARTER MARKET MOVEMENTS ON SOLVENCY RATIOS

Life insurers

The absolute change in the life insurer solvency ratio by country in the first quarter of 2020 is shown in **EXHIBIT 4**. On average, a drop of about 25% was observed across Europe. However, there are some big discrepancies between companies and countries, which can be accounted for in three ways:

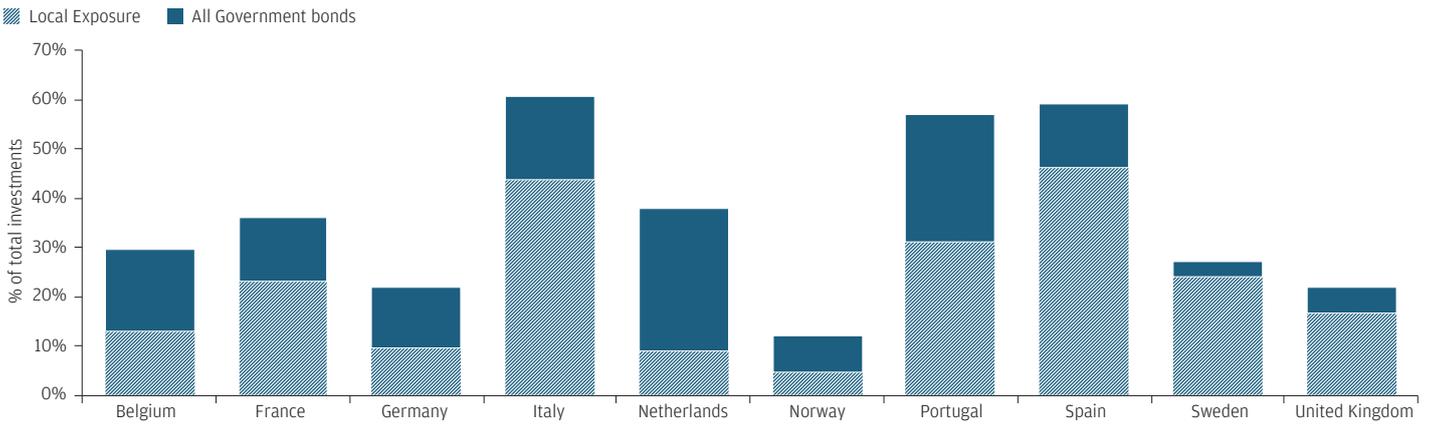
- Volatility adjustment (VA):** Insurers not applying the VA could have suffered a fall in their solvency ratios as high as 80%. The average fall in ratios across Europe without applying the VA is estimated to be 50%.
- Type of liability:** Countries with high guarantees have seen a larger degradation in their solvency ratio - but also benefit from loss absorbency of technical provisions.
- Asset allocation:** Broadly, there was no perfect or immune asset allocation during the first quarter. However, portfolios with high allocations to equities (unprotected) suffered the most.

EXHIBIT 2: ASSET ALLOCATION OF LIFE INSURERS ACROSS EUROPE



Source: EIOPA, as of January 2020.

EXHIBIT 3: GOVERNMENT BOND EXPOSURE FOR LIFE INSURERS



Source: EIOPA, as of January 2020.

METHODOLOGY

Before looking at the results of our research, it is important to understand the assumptions and methodology used. The aim of our model is to approximate the change in Solvency II ratios by country and type of insurer. We rely on publicly available data in solvency and financial condition reports (SFCRs) as well as EIOPA (European Insurance and Occupational Pensions Authority) exposure information gathered from Quantitative reporting templates (QRTs). Our analysis is also available upon request at the company level for individual peer groups.

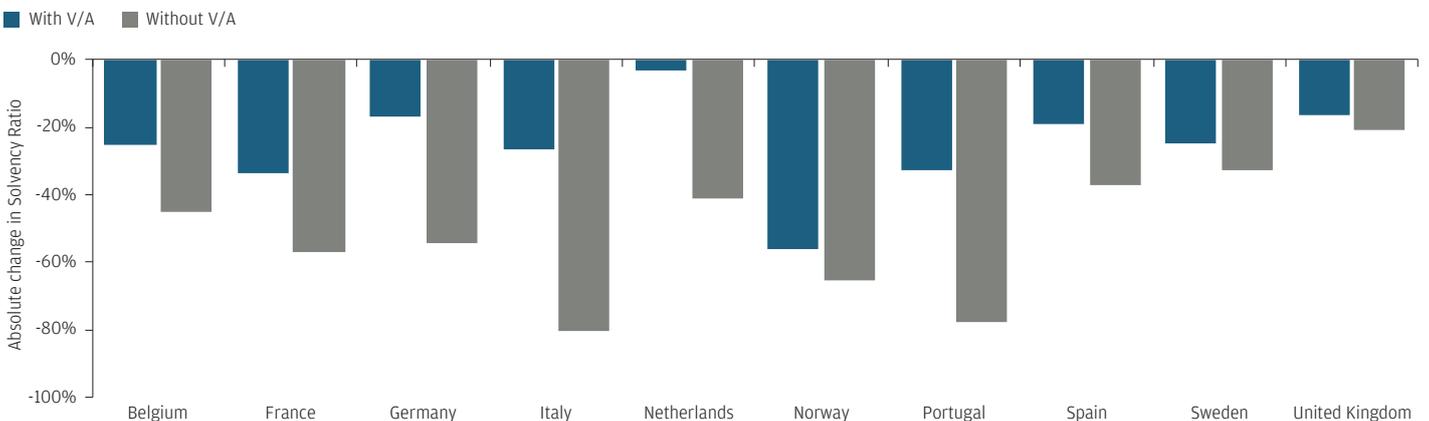
• **Own funds**

Based on an average asset allocation by country and type of insurer, we estimate the impact of the market movements observed in the first quarter of 2020 on liquid assets as recorded on balance sheets. Separately, using standard liability cash flow profiles by region, we look at the change in liability values stemming from the discount curve movement (with and without volatility adjustment). Asset value movements and liability changes will have an impact on own funds, accounting for average loss absorption capacity of technical provisions (LACTP).

• **Solvency capital ratios (SCRs)**

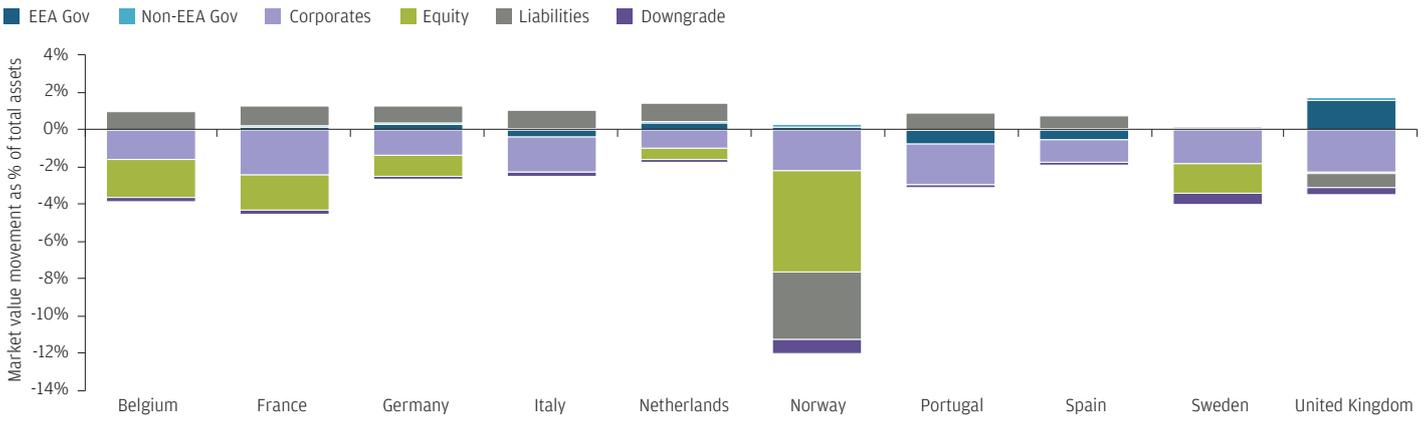
For each country and type of company, we use weighted average components of the SCR (market risk, underwriting risk, counterparty risk) but also LACTP. After shocking the assets based on market information, we recalculate the market risk SCR. We assume all other components of the SCR are constant and re-compute the SCR.

EXHIBIT 4: ESTIMATED ABSOLUTE CHANGE IN LIFE INSURER SOLVENCY RATIOS IN THE FIRST QUARTER OF 2020



Source: J.P. Morgan Asset Management Analysis, as of April 2020.

EXHIBIT 5: DECOMPOSITION OF MARKET VALUE MOVEMENT OF ASSETS ESTIMATED FOR FIRST QUARTER 2020



Source: J.P. Morgan Asset Management Analysis, as of April 2020.

The use of long-term guarantee packages from EIOPA, such as the VA and matching adjustment, have provided a cushion to spread widening through a higher liability discount rate—but have sometimes “overshot”. Some Dutch insurers, for example, saw their solvency II ratio increase in the first quarter as a result of the VA and the fact that their portfolios are quite different from the VA basket. Since the end of March, the value of the VA has fallen—sometimes faster than insurers’ portfolio credit spreads—resulting in an additional strain on solvency ratios. It is understandable that the VA is at the core of the Solvency II review proposed by EIOPA.

The second source of discrepancy between countries is the type of liability and guarantee embedded in the policies underwritten. Our model does not capture the increased cost of the guarantee that is linked to falling interest rates. This cost can be quite significant—for example, in the summer of 2019, over half of the drop in French insurers’ solvency ratios was linked to liability convexity.

In our model, we rely on typical liability cashflows by country and also allow for some duration mismatch. Furthermore, the loss absorption capacity of technical provisions varies from none (non-life insurance, but also life policies in Spain, Portugal and the Netherlands) to almost perfect for matching adjustment annuities in the UK.

In this study, we assumed that the LACTP would be a good approximation for the ratio of net-to-gross solvency capital ratios and an indication of absorption of market movement by insurers’ own funds.

Finally, asset allocation is another big driver of the change in own funds. The liquid asset classes that performed worse in the first quarter of 2020 were equity markets, which were down around 20%-25%, followed by corporate bonds, which fell around 5%-10%. These falls were counterbalanced by positive performance in government bond markets (A rated and above).

The impact on balance sheet performance has therefore been driven by the asset allocation exposures to equities and corporate bonds versus government bonds, as highlighted in **EXHIBIT 5**.

It should be noted that the full impact of the first-quarter market stress is still working its way into insurance company results, as we are expecting some bond issuers to be downgraded later in the year. These downgrades will have an impact on the capital charges under Solvency II (and hence worsen the solvency ratios).

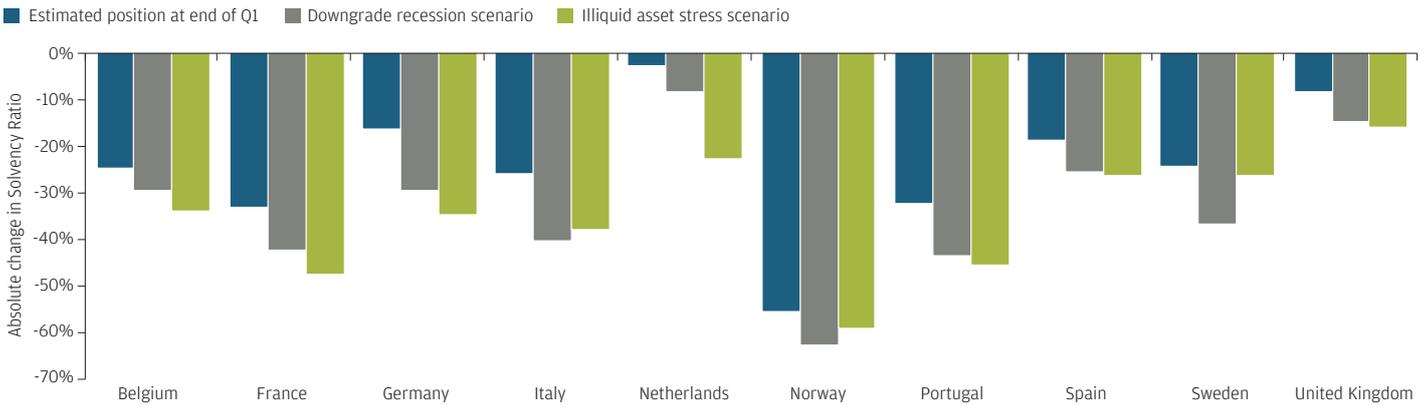
Furthermore, the repricing of illiquid investments has yet to be reflected as a result of the (potentially) changed market environment. In **EXHIBIT 6**, we look at the impact of downgrades (grey bars) and illiquid investments (green bars) on the Solvency ratio. Downgrades are estimated using the Moody’s “recession” transition matrix (recession periods include all cohorts formed such that their rating transition horizon ends six months after the start of a recession period defined by US National Bureau of Economic Research and before the end of the recession period) and this is then applied to insurers’ fixed income portfolios with an average A rating.

While the impact of defaults on insurers’ own funds would be quite small (see **EXHIBIT 5**), the increase in market risk solvency capital ratios would lead to an additional drop in the solvency ratio of 10%-20%. Our estimate for the fall in illiquid asset values is based on the observed drawdown during the global financial crisis, which would lead to a further worsening of the ratio of 10 to 20%.

Non-life insurers

For non-life insurers, the picture is quite different. Since 2017, primary insurers have benefitted from neutral underwriting conditions and combined ratios and therefore have been relatively stable. However, specialty insurers and reinsurers had tougher underwriting conditions.

EXHIBIT 6: ESTIMATED IMPACT ON LIFE INSURER SOLVENCY RATIOS FROM DOWNGRADES AND ILLIQUID ASSET VALUATIONS



Source: J.P. Morgan Asset Management Analysis, as of April 2020. Recession periods include all cohorts formed such that their rating transition horizons ends six months after the start of a recession period defined by NBER and before the end of the recession period

In the first quarter of 2020, the impact on non-life solvency ratios was more moderate, ranging from -10% to -35% for countries where insurers have a higher exposure to equities (see EXHIBIT 7). Non-life insurers that are using the VA have benefited the most, as the duration of their portfolios is much lower than the benchmark portfolio used in the VA construction (note: most non-life insurers do not use the VA).

Although the market movements in the first quarter were less detrimental for non-life insurers, a key concern for the year ahead is Covid-related claims across all business lines: health, travel, business interruptions, credit.

The Lloyd’s market is expecting the cost of the pandemic to be similar to the K-R-W¹ year.² Typically, underwriting events and market scenarios are assumed to be uncorrelated in internal models, which makes this crisis unprecedented. Thus, we believe that the impact on solvency ratios for non-life insurers will likely lag and impact their 2020 results.

¹ 2005 Atlantic hurricane season: Katrina, Rita, Wilma.

² <https://www.lloyds.com/news-and-risk-insight/press-releases/2020/05/covid19-will-see-historic-losses-across-the-global-insurance-industry>

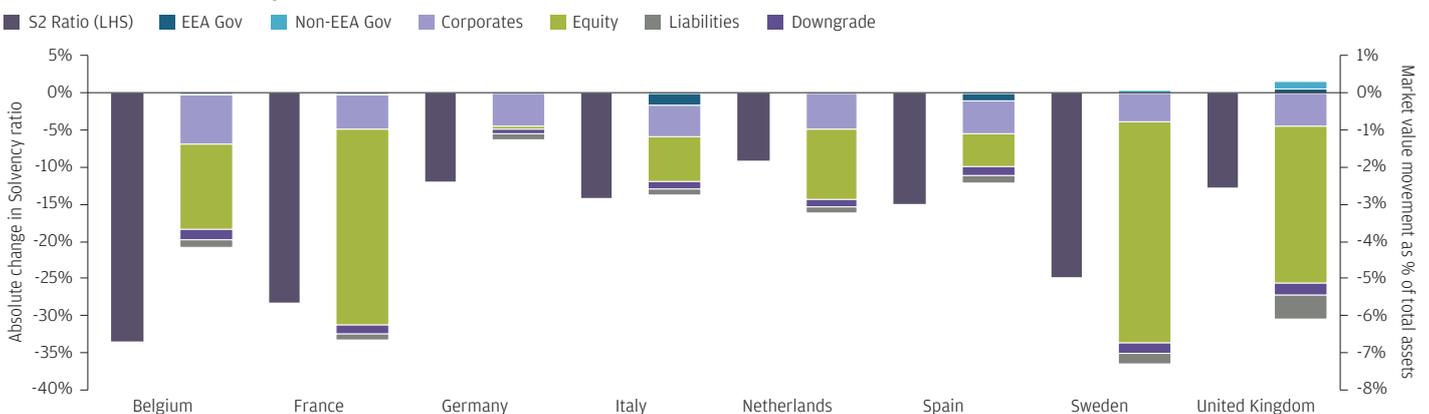
INVESTMENT IMPLICATIONS

There have been few shifts in asset allocation in the first quarter of this year. Most insurers have deployed capital into the high quality corporate credit space, taking advantage of record new issuance to lock in higher yields.

As the crisis unfolds, we see areas of concern but also opportunities for insurance investment portfolios. To support our analysis, we ran a strategic asset allocation exercise for a typical European life insurer, using updated market data, and compared these results to those obtained in December 2019 (see EXHIBIT 8).

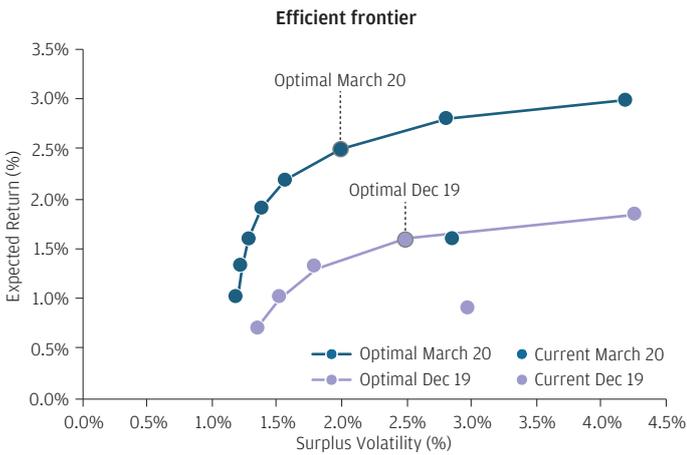
From this analysis, some clear short-, medium- and long-term trends emerge that could be implemented progressively by insurers in the wake of the Covid-19 crisis.

EXHIBIT 7: NON-LIFE INSURERS’ ESTIMATED ABSOLUTE SOLVENCY RATIO CHANGE ALONGSIDE DECOMPOSITION OF MARKET VALUE MOVEMENT OF ASSETS DURING THE FIRST QUARTER OF 2020



Source: J.P. Morgan Asset Management Analysis, as of April 2020.

EXHIBIT 8: LIFE INSURER OPTIMISED STRATEGIC ASSET ALLOCATION, MARCH 2020 VERSUS DECEMBER 2019



Statistics	Current Dec 19	Current March 20	Optimal Dec 19	Optimal March 20	Optimal Δ
Expected Return (%)	0.90	1.60	1.60	2.50	0.90
Asset Vol (%)	3.61	3.85	3.83	3.48	-0.35
Surplus Vol (%)	2.97	2.85	2.49	1.99	-0.50
Sharpe Ratio	0.47	0.74	0.84	1.50	0.66
FI Duration	5.23	5.21	8.11	6.40	-1.71
Avg FI Credit Rating	A+	A+	A+	A-	↓↓
Duration	4.55	4.54	7.05	5.75	-1.30
Net Duration	-2.50	-2.50	0.00	-1.28	-1.28
Default Cost (%)	0.07	0.08	0.11	0.21	0.10
FX Hedge Adjustment (%)	0.08	0.03	0.29	0.13	-0.16
MKT SCR (%)	7.47	7.49	7.16	7.68	0.52

Source: J.P. Morgan Asset Management; data as of 31 March 2020.

Asset Class	Current	Optimal Dec 19	Optimal March 20	Optimal Δ
EUR Money Mkt	3.00	3.00	3.00	
EUR A3+ Tsy	45.00	37.14	17.21	
EUR BBB Tsy	2.00	4.13	1.91	
EUR Gov Guarantee	-	13.75	6.37	
EUR Corp IG	28.00	8.96	41.41	
EUR Corp HY	1.50	-	-	
USD RMBS	-	5.00	-	
USD Taxable Munis	-	5.00	5.00	
USD Corp IG	-	-	0.09	
USD Corp HY	1.00	3.02	5.00	
USD IG EM	3.00	-	-	
Direct Lending	2.00	5.00	5.00	
Bank Loans	1.50	-	-	
Real Estate Debt	-	1.98	4.91	
Infra Equity	-	2.66	5.00	
Real Estate	4.00	-	1.67	
Leasing	-	2.50	2.50	
DM Equities	7.00	4.88	0.84	
EM Equities	0.80	0.49	0.08	
Private Equity	0.70	2.50	-	
Hedge Funds	0.50	-	-	

Short term considerations

The March 2020 efficient frontier in **EXHIBIT 8** is about 100 basis points above the December 2019 efficient frontier. The analysis in **EXHIBIT 9** suggests this rise in the efficient frontier has been driven by wider credit spreads. However, it is important to bear in mind the increased uncertainty in terms of downgrades and defaults, which is reflected in the “Default adjusted yield (stressed)”¹ assumption, where yields are adjusted using the “recession” scenario matrix from Moody’s.

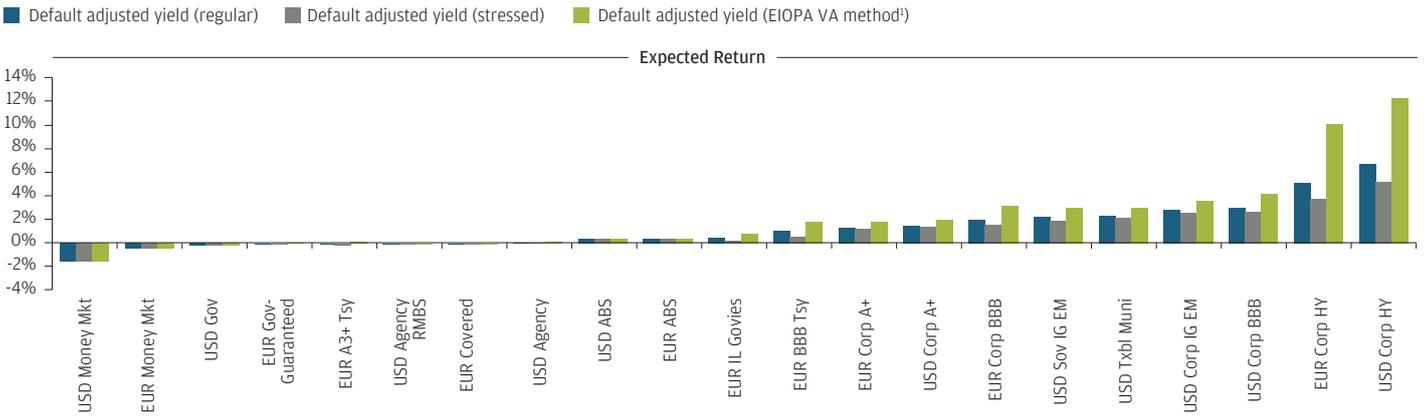
As a result, insurers have been focused on monitoring their exposures to bonds that are at risk of downgrades, with a particular focus on BBB- rated securities. To put the scale of the problem in context, in the European corporate bond market around 10% of bonds are rated BBB- and 4% of bonds are on

negative watch from at least one of the major rating agencies. So for a typical investor, 40% of their BBB- bonds are perceived to be at risk of downgrade. To mitigate risk, insurers may look to exit from names where credit research suggests that multiple downgrades are likely, but to hold securities where the risk of further downgrade or default is seen to be small.

Furthermore, the lower cost of hedging from US dollars to euros also offers opportunities for diversification across the US corporate space, particularly for countries where exposure to local government bonds leads to unwanted solvency ratio volatility due to the considerable basis between local government bonds in Southern European countries and the EIOPA risk free curve.

¹ https://www.moodys.com/research/Corporates-Global-Global-corporate-rating-transitions-during-recessions--PBC_1185303

EXHIBIT 9: EUR HEDGED FIXED INCOME YIELDS ADJUSTED FOR EXPECTED DEFAULTS UNDER A REGULAR AND STRESSED (RECESSION MATRIX) SCENARIO



Source: J.P. Morgan Asset Management analysis as at December 2019 and March 2020. Forecasts are not a reliable indicator of future performance.

Medium-term considerations

In the medium term, we are likely to see investment opportunities across the emerging market debt space as well as in high yield markets. Allowing space for a fallen angel bucket in your fixed income allocation would avoid being a forced seller of bonds that are not expected to be downgraded further.

Outside of fixed income, insurers are considering where there may be good entry points into risk assets across developed and emerging equity markets, as well as in more specialised alternative investments designed to seek out opportunities in a stressed market environment.

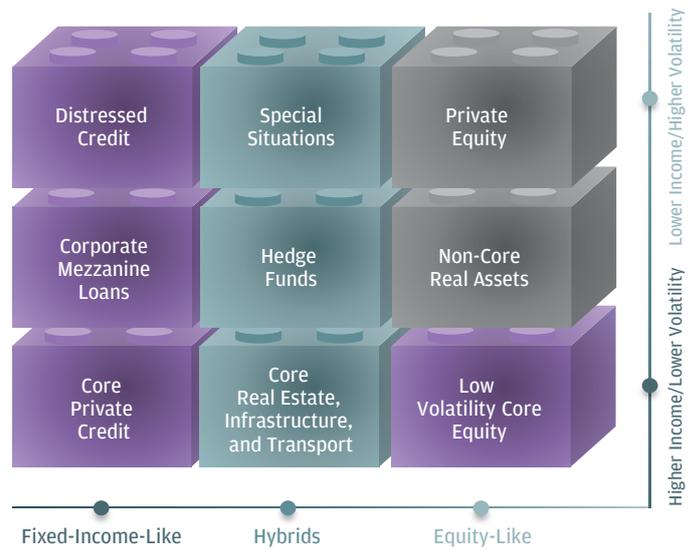
Long-term considerations

Over the past couple of years, the trend towards alternative investments has been very strong, with some insurers reaching 15%-25% exposure to real assets. The building blocks of alternative assets and their role in portfolios is illustrated in

EXHIBIT 10.

While demand for certain segments of these assets slowed in the first quarter of 2020 amid the overall squeeze on market liquidity, we expect the trend towards alternative investments to resume given the negative rate environment is likely to persist, and insurers will still need to generate investment income to support their guarantees. Core real assets in particular will likely be less impacted by the Covid-19 crisis and continue to support income while fixed-income like alternatives across a wide spectrum offer a point in time opportunity for return enhancement given the vast dislocation this segment is witnessing.

EXHIBIT 10: ALTERNATIVE ASSET BUILDING BLOCKS



Source: J.P. Morgan Asset Management. For illustrative purposes only. In purple, short term strong convictions; green medium convictions and grey low convictions.

¹ Probability of default and fundamental spread adjustment applied to volatility adjustment spread calculation by EIOPA.

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