Financial Services Observer

June 2023

Balance Sheets Matter in Insurance and New Accounting Makes Them More Relevant

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New Accounting Rules Mean Balance Sheets Will Better Reflect Economic Value

Interest rates and inflation are key drivers of insurance because rising inflation increases the cost of claims. To combat rising input costs and economic threats, central banks increase interest rates. Those increases then compress balance sheets as most insurers invest predominantly in fixed-income securities, so their present values decline. Under the previous International Financial Reporting Standards 4 accounting regime there wasn't any offset in the present value calculation for claims, which resulted in a fall in insurers' balance sheets and shareholders' equity declined. This meant that these changing conditions have led to overinflated and underinflated balance sheets, which has made it difficult for analysts and investors to assess the economic value of balance sheets. Ushering in new accounting standards will change that dynamic as the more recent IFRS 17 standards result in much closer alignment with the framework of the European Insurance and Occupational Pensions Authority's Solvency II where asset values and liability values are discounted at market rates. Meanwhile, the result adds some complexity to unwinding the liability discount and a greater proportion of asset fair value changes flowing through income, in some cases causing earnings volatility to rise. In future, balance sheets will better represent economic value and balance-sheet changes will better reflect changes under Solvency II. We think this makes sensitivity analysis of balance sheets, using the Solvency II framework and our analysis, much more relevant and increases its relevance for our assessment of a balance sheet within our Morningstar Capital Allocation Rating framework. We believe the best-capitalised insurers are going to be winners in the new environment because they can withstand greater investment and underwriting stresses while still maintaining investments that are critical to ongoing operations and, in some cases, carving out a moat. Therefore, these stocks are our top picks within the property and casualty insurance business sector that rely on moats. We take this latter stance because distributions are important to investors in financial services and this competitive shield also protects dividends that we prefer to see covered by operating capital generation. Our top pick in European insurance is Admiral followed by Hannover Re.

Financial Services Observer

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Companies Mentioned

Name/Ticker	Economic Moat	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Morningstar Rating	Market Cap (Bil)
Admiral/ADM	Narrow	Positive	GBP	30.70	21.70	Medium	★★★★	6.60
Direct Line/DLG	None	Stable	GBP	2.35	1.54	High	★★★★	2.02
Hannover Re/HNR1	Narrow	Stable	EUR	220.00	190.00	Medium	★★★	22.90
Munich Re/MUV2	None	Stable	EUR	380.00	330.00	Medium	★★★★	44.80
Scor/SCR	None	Stable	EUR	33.00	24.40	High	★★★★	4.40
Swiss Re/SREN	None	Stable	CHF	110.00	90.00	Medium	★★★★	28.00

Key Takeaways

- The profitability of personal-line insurers has been on a rollercoaster over the last few years as firms have gone from experiencing some of the best operating conditions in years to some of the worst. Balance sheets remain important and Admiral is our top pick because of this as well as its profitable growth.
- The new accounting standards mean that in future all insurers' balance sheets will be a lot less volatile and will reflect economic values better because assets and liabilities will be discounted. While there is a reduction in equity values during the transition, the change brings accounting and Solvency II in line.
- Reinsurers have been under pressure over recent years because of the rise of alternative capital and low interest rates that have inflated balance sheets. With rising losses from severe weather events, earnings and balance sheets have declined. Prices have increased because this dynamic has now changed.

Exhibit 1 Our European Insurance Coverage Has a Mix of Stocks That Are Overvalued and Undervalued

Ticker	Company	Industry	Market Cap	Market Cap	Moat Rating	Moat Trend	Capital Allocation	Uncertainty Rating	Star Rating
LON: DLG	Direct Line	Insurance - Personal	2b GBP	3b EUR	None	Stable	Poor	Medium	★★★★
LON: ADM	Admiral	Insurance - Personal	6b GBP	7b EUR	Narrow	Positive	Exemplary	Medium	★★★★
	U.K. Personal Lines								
SWX: SLHN	Swiss Life	Insurance - Life	13b CHF	14b EUR	None	Stable	Standard	Low	★★★★
LON: PRU	Prudential plc	Insurance - Life	25b GBP	28b EUR	None	Stable	Standard	Medium	★★★★
	European Life								
PAR: SCR	Scor	Insurance - Reinsurance	3b EUR	3b EUR	None	Stable	Standard	Medium	★★★★
ETR: HNR1	Hannover Re	Insurance - Reinsurance	19b EUR	19b EUR	Narrow	Stable	Exemplary	Medium	★★★
SWX: SREN	Swiss Re	Insurance - Reinsurance	22b USD	22b EUR	None	Stable	Standard	Medium	★★★★
ETR: MUV2	Munich Re	Insurance - Reinsurance	35b EUR	35b EUR	None	Stable	Exemplary	Medium	★★★★
	European Reinsurance								
AMS: AGN	Aegon	Insurance - Diversified	8b EUR	8b EUR	None	Stable	Poor	Medium	★★★★
BRU: AGS	Ageas	Insurance - Diversified	7b EUR	7b EUR	None	Stable	Standard	Medium	★★★
AMS: NN	Nationale Nederlanden	Insurance - Diversified	12b EUR	12b EUR	None	Stable	Standard	Medium	★★★★★
	Benelux								
LON: AV.	Aviva	Insurance - Diversified	11b GBP	12b EUR	None	Stable	Standard	Medium	★★★★
MIL: G	Generali	Insurance - Diversified	22b EUR	22b EUR	None	Stable	Standard	Low	★★★★
PAR: CS	AXA	Insurance - Diversified	52b EUR	52b EUR	None	Stable	Exemplary	Medium	★★★
ETR: ALV	Allianz	Insurance - Diversified	66b EUR	66b EUR	None	Stable	Exemplary	Medium	★★★★
SWX: ZURN	Zurich	Insurance - Diversified	59b CHF	61b EUR	Narrow	Stable	Standard	Low	★★★★
	European Multilines								

Source: Morningstar, PitchBook. Data as of June 19, 2023.

Converging Factors Put Pressure on Personal-Line Insurers

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Conditions Have Changed Quickly and Dramatically for Insurers, Particularly in Personal Lines
In 2020 and 2021 some insurers were experiencing some of the best operating conditions they have had in a while and others were experiencing some of the worst. When the world was plunged into a 1-in-200-year coronavirus pandemic, personal-line property and casualty insurers experienced a huge tailwind. That was because many people globally were unable to travel and leave their homes, so the number of incidents that would usually result in a policyholder filing a claim dropped substantially. People did not travel for work or leisure. And while many stayed at home, their ability to keep an eye on their residences and ward off burglaries and theft as well as be better placed to deal with water leaks and frozen pipes, all meant that companies insuring consumers for auto, home, and travel, experienced boom times as the level of claims dropped. This was particularly true for personal-line insurers under our coverage.

As the number of coronavirus cases increased so did the number of mortalities and claims within life insurance. As businesses were forced to close they lost the ability to fulfill orders and started claiming for interruptions to their operations. As the number of coronavirus cases rose so too did the number of hospitalisations and claims within health insurance. There was a huge tailwind in the form of lower claims for personal-line property and casualty insurers and there was a huge headwind in the form of higher claims for life and health insurers. The accompanying financial market turmoil added to the pressures during this period.

Fast forward a year or two and we examine the reversal. While consumers weren't allowed to drive or fly during the pandemic and then resumed travelling as the world emerged from lockdowns, workers that had been laid off at travel hubs didn't return to work and this resulted in substantial staff shortages at these locations. Frequency was on the rise within personal-line insurance and as consumers started to drive again and leave their homes and stop fully remote working, motorists had accidents and there were more water leaks and burglaries at people's homes. The conditions coming out of the pandemic meant the frequency of claims was inevitably going to rise again for personal-line insurers. Their profitability has been hit and share prices have dropped.

Exhibit 2 In an Inflationary Environment With Rising Interest Rates, Personal-Line Insurers Have Performed Poorly, but Reinsurers Have Performed Well

Ticker	Company	Industry	Last Close	Fair Value Estimate	P/FVE	P/E	EV/EBIT	Dividend Yield	YTD Return
LON: DLG	Direct Line	Insurance - Personal	1.54	2.35	0.65	9.7x	-193.4x	5.5%	-51.8%
LON: ADM	Admiral	Insurance - Personal	21.75	30.70	0.71	17.7x	18.4x	5.4%	-25.2%
	U.K. Personal Lines				**0.69**	**15.3x**	**-45.2x**	**5.4%**	**-33.1%**
SWX: SLHN	Swiss Life	Insurance - Life	537.8	6.3	0.85	10.6x	18.0x	6.0%	+30.4%
LON: PRU	Prudential plc	Insurance - Life	11.25	14.65	0.77	9.9x	26.9x	1.8%	-13.9%
	European Life				**0.80**	**10.1x**	**23.9x**	**3.2%**	**+0.8%**
PAR: SCR	Scor	Insurance - Reinsurance	24.54	0.33	0.74	6.0x	7379.0x	7.2%	-7.1%
ETR: HNR1	Hannover Re	Insurance - Reinsurance	190.8	1.8	1.06	13.0x	9.6x	3.5%	+46.4%
SWX: SREN	Swiss Re	Insurance - Reinsurance	99.02	1.1	0.80	8.7x	40.2x	7.1%	+5.1%
ETR: MUV2	Munich Re	Insurance - Reinsurance	329.9	3.8	0.87	10.8x	8.4x	3.8%	+35.9%
	European Reinsurance				**0.89**	**10.5x**	**297.4x**	**4.8%**	**+28.2%**
AMS: AGN	Aegon	Insurance - Diversified	4.42	0.06	0.79	10.7x	-10.0x	6.8%	+36.8%
BRU: AGS	Ageas	Insurance - Diversified	37.30	0.37	1.02	6.8x	8.5x	8.5%	-14.4%
AMS: NN	Nationale Nederlanden	Insurance - Diversified	32.73	0.55	0.60	6.7x	28.0x	9.1%	-7.9%
	Benelux				**0.76**	**7.9x**	**11.7x**	**8.3%**	**+3.7%**
LON: AV.	Aviva	Insurance - Diversified	3.96	4.80	0.83	7.1x	-10.8x	8.4%	-7.5%
MIL: G	Generali	Insurance - Diversified	18.70	0.21	0.89	9.1x	8.8x	6.6%	+31.1%
PAR: CS	AXA	Insurance - Diversified	26.40	0.30	0.89	7.8x	13.0x	7.0%	+35.3%
ETR: ALV	Allianz	Insurance - Diversified	210.3	2.5	0.84	8.7x	5.0x	5.8%	+4.8%
SWX: ZURN	Zurich	Insurance - Diversified	428.7	4.8	0.89	11.0x	14.3x	6.6%	+14.8%
	European Multilines				**0.87**	**9.1x**	**9.1x**	**6.6%**	**+17.1%**

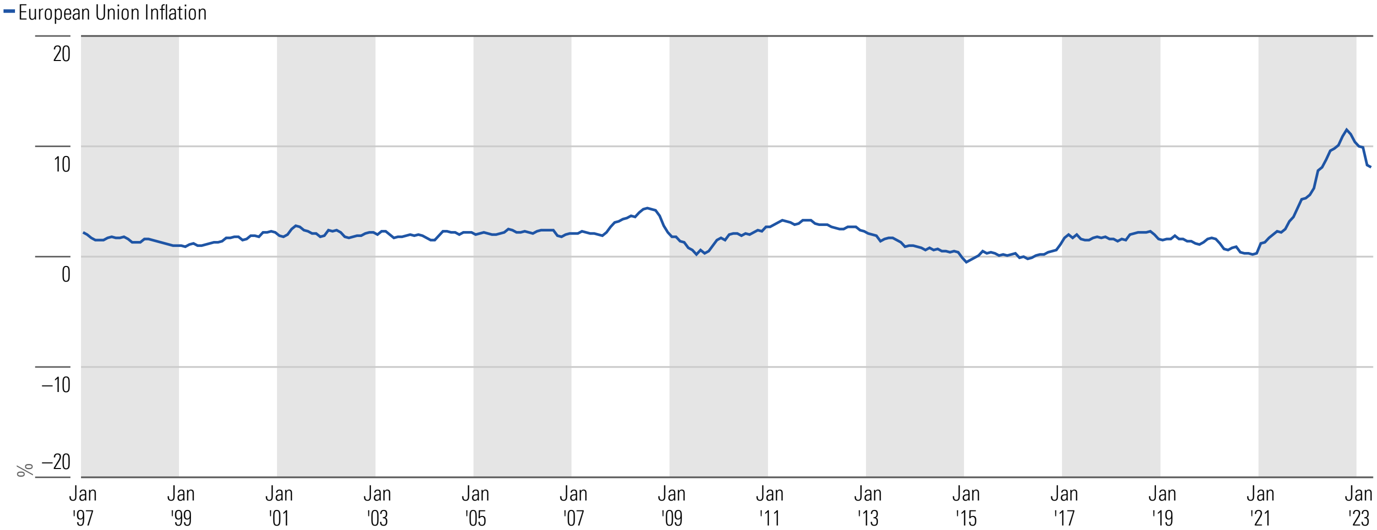
Source: Morningstar, PitchBook. Data as of June 19, 2023.

Rebound in Frequency Has Been Stoked by Inflation and That Has Been Bad for Most Insurers

The rebound in frequency has not been the only issue. As workers were laid off at travel hubs during the pandemic it didn't only have an impact on consumers' holiday plans. There were also substantial delays in shipping goods around the world as there weren't enough workers to process moving stock. Further layoffs also hit the transportation of these goods and this was all exacerbated by longer lockdowns in China. The world had lost its biggest global goods manufacturer and supplier. So, as consumers and workers resumed their lives after the lockdowns with shorter remote working hours, and as they wanted to travel, go out, buy products, and celebrate, demand for goods and services rose, but supplies fell short. Together with the war in Ukraine and its impact on energy prices, inflation reached new highs.

The low levels of claims frequency during the pandemic were a boon for personal-line insurers and then became a drag. As that frequency rebounded it was then coupled with an unprecedented rise in claims severity. The higher levels of inflation have had an impact on nearly all insurers, but no more so than those that insure the goods of consumers. Pricing power tends to be stronger within business-to-business agreements. Pricing power also tends to be stronger within certain strata of consumers and it can be dependent on insurance competitive landscapes and accompanying regulations.

Exhibit 3 Inflation Levels in the EU Have Risen To Some of the Highest They Have Been in the Last 25 Years



Source: Eurostat. Data as of April 30, 2023.

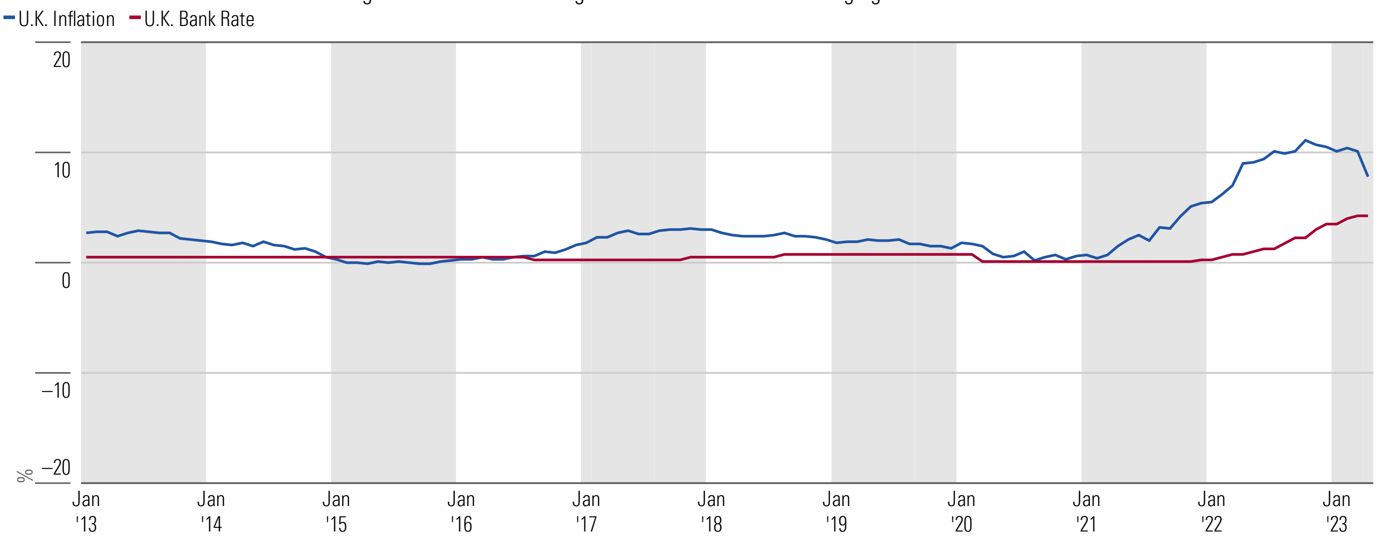
Rising Inflation Has Driven Interest Rates Higher and That Has Been Bad for All Insurers

As the frequency of claims rebounded in the more physical lines of personal insurance and inflation has run through claims, hitting nearly all insurers and no more so than for personal-line insurers there has also been a third headwind.

As inflation peaked by more than double digits in many parts of the world during 2022, central bankers had to take action. High inflation is not conducive because it devalues currencies and can lead to reduced economic growth as a result of consumers' fear of spending. So central bankers in the European Union, as well as in the United Kingdom and United States, increased interest rates markedly to tackle these ever-increasing risks.

On the one hand, many may think this is good for insurers because higher rates mean higher available returns on current securities. However, higher inflation and interest rates by and large lead to a double impact for insurers. As they pay out a higher number of claims as frequency rebounds, and they pay out higher amounts for claims as severity rises, the rise in interest rates that is meant to cool inflation deflates their balance sheets. The fundamentals of an insurance company are simple, though often mistaken: sell policies to customers and invest the premiums, then firms pay out claims they receive from customers and this leaves a technical margin. After they have invested the premiums in assets, they also pocket the investment returns in the interim. However, this raises the question: what does the insurer hold as assets?

Exhibit 4 Inflation Remains at All-Time High Since the 1970s Though Peak Interest Rates Are Bringing It Under Control



Source: Bank of England. Data as of March 31, 2023.

Under IFRS 4 Accounting Standards, Interest-Rate Rises Uneconomically Compress Balance Sheets.

Most sensible insurers invest in fixed-income securities and that is because their values tend to be a lot more stable than other asset classes. Insurers need to hold enough liquid assets and/or cash to meet their payments for claims. The problem for nearly all insurers in a period of rising interest rates that have been used to combat unprecedented levels of inflation, is that as rates rise so do the rates used to discount the securities' cash flow back to the present value. This means that as interest rates start to rise the present value of these securities falls and the riskier the security the higher the drop in value. That riskiness is essentially embedded in risk premiums and this is highlighted in a simple example in Exhibit 5.

Bond 1 is our steady-state bond and bond 2 shows the impact that a 100-basis-point rise in its discount rate has on its present value. This change could be applied to a low-risk government bond, for example. In bond 3 we start in the same steady state, but this time the bond is riskier, so as interest rates rise so too does its total discount rate, which includes this risk premium. Therefore, Bond 3 falls more in value and this could be applied to a corporate bond, for example.

Exhibit 5 Lower Credit Quality Bonds Will Devalue More During Times of Stress Than Those of Higher Quality

Bond 1

Par Value	1000	Year	1	2	3	4	5	6	7	8	9	10
YTM	**4.1%**	Spot rate	2.00%	2.25%	2.50%	2.75%	3.00%	3.25%	3.50%	3.75%	4.00%	4.25%
Periods	10	Coupon Present Value	39.7	38.7	37.6	36.3	34.9	33.4	31.8	30.2	28.4	24.3
Annual Coupon	4.0%	Annual Coupon	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
PV Par	659.5											
PV Coupons	335.3											
Present Value	**994.9**											
Change in PV	**0.0%**											

Bond 2

Par Value	1000	Year	1	2	3	4	5	6	7	8	9	10
YTM	**5.1%**	Spot rate	3.00%	3.25%	3.50%	3.75%	4.00%	4.25%	4.50%	4.75%	5.00%	5.25%
Periods	10	Coupon Present Value	39.3	38.0	36.5	34.9	33.3	31.5	29.7	27.9	26.1	24.3
Annual Coupon	4.0%	Annual Coupon	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
PV Par	599.5											
PV Coupons	321.6											
Present Value	**921.0**											
Change in PV	**-7.4%**											

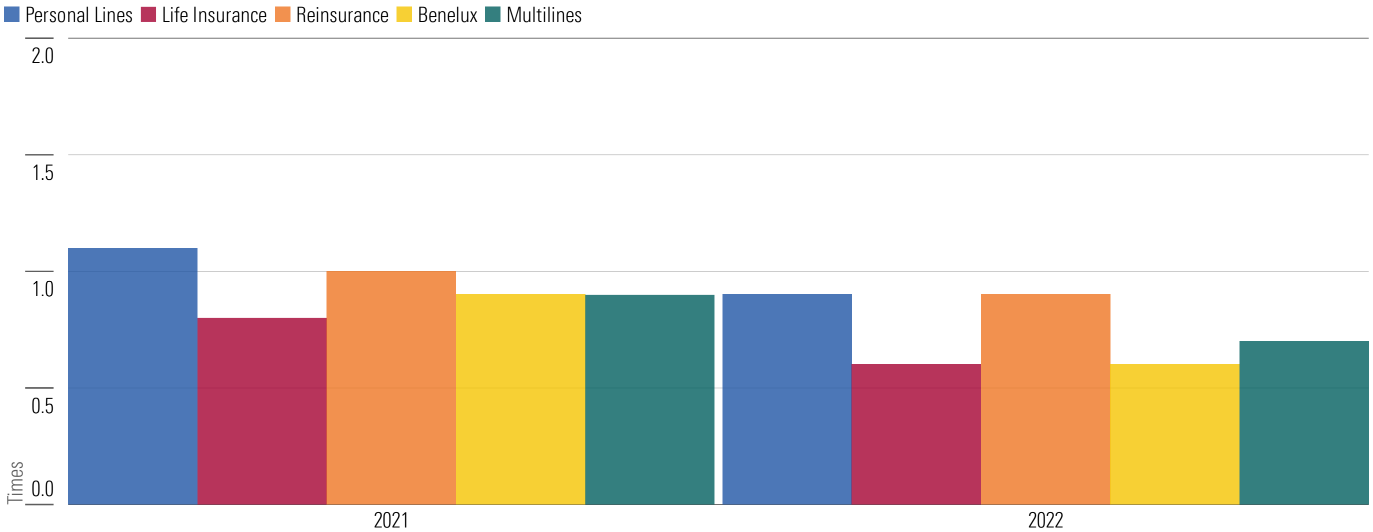
Bond 3

Par Value	1000	Year	1	2	3	4	5	6	7	8	9	10
YTM	**6.1%**	Spot rate	4.00%	4.25%	4.50%	4.75%	5.00%	5.25%	5.50%	5.75%	6.00%	6.25%
Periods	10	Coupon Present Value	38.9	37.2	35.5	33.6	31.7	29.8	27.8	25.9	24.0	22.1
Annual Coupon	4.0%	Annual Coupon	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
PV Par	545.4											
PV Coupons	306.5											
Present Value	**851.9**											
Change in PV	**-14.4%**											

Source: Morningstar Research Services. Data as of Dec. 31, 2022. Note:

This makes the credit quality of an investment portfolio crucially important because the lower the credit quality the higher the drop in present value. And while insurers intend to hold most of their fixed-income securities until maturity because they have matched their cash flow with that of their anticipated claims liabilities, the rises in inflation that we have seen coupled with rises in interest rates that have led to falls in bond values have left insurers in an unenviable position. Should the value of the claims they need to pay rise above the value of their matched securities, they will need to liquidate other assets to fulfill payments for claims. Those assets will need to be liquidated before maturity and with a rise in rates and a fall in present value, insurance firms will need to realise unrealised losses within their investment portfolios.

Exhibit 6 Fall in the Value of Fixed-Income Portfolios Indexed in 2020 To 1 Times



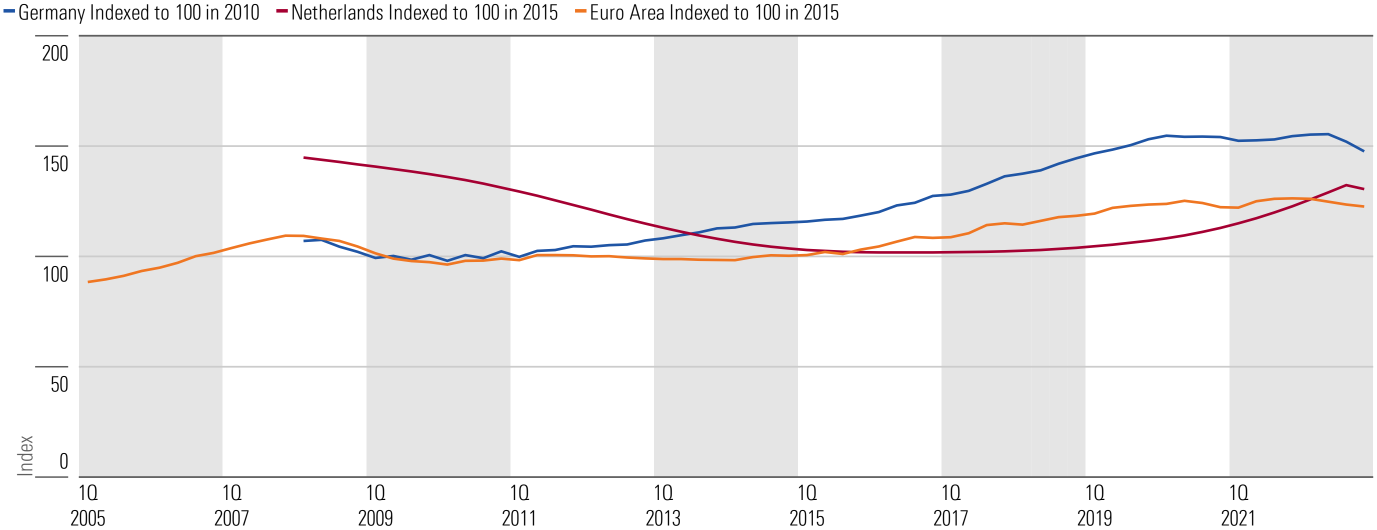
Source: Company reports and Morningstar Research Services. Data as of Dec. 31, 2022.

Rising Inflation and Interest Rates Have Also Led To Turmoil in Other Asset Classes

The impact of higher inflation and rising interest rates haven't been limited to fixed-income portfolios and these higher discount rates tend to affect nearly all asset values. The value of equities also fell; sometimes these are assets held by property and casualty insurers, or life insurers, who are more comfortable with risk. And because workers have returned to offices on a nonpermanent basis, there have been ongoing questions about commercial real estate values. Residential real estate values have already fallen due to the impact of discount rates on their present value. However, as hybrid working has become the norm, many companies have reduced their office days and this has put pressure on demand during times of rising rates of borrowing and a slowdown in new building starts has ensued. Further, these conditions bring into question the viability of the debt that supports these properties, so direct investors in commercial real estate and investors in their debt have seen a drop in the present value of their assets.

Therefore, nearly all asset classes have been hit and seen a fall in value and this has severely hit insurer investment portfolio values.

Exhibit 7 Fall in the Value of Commercial Real Estate Values in the Euro Area



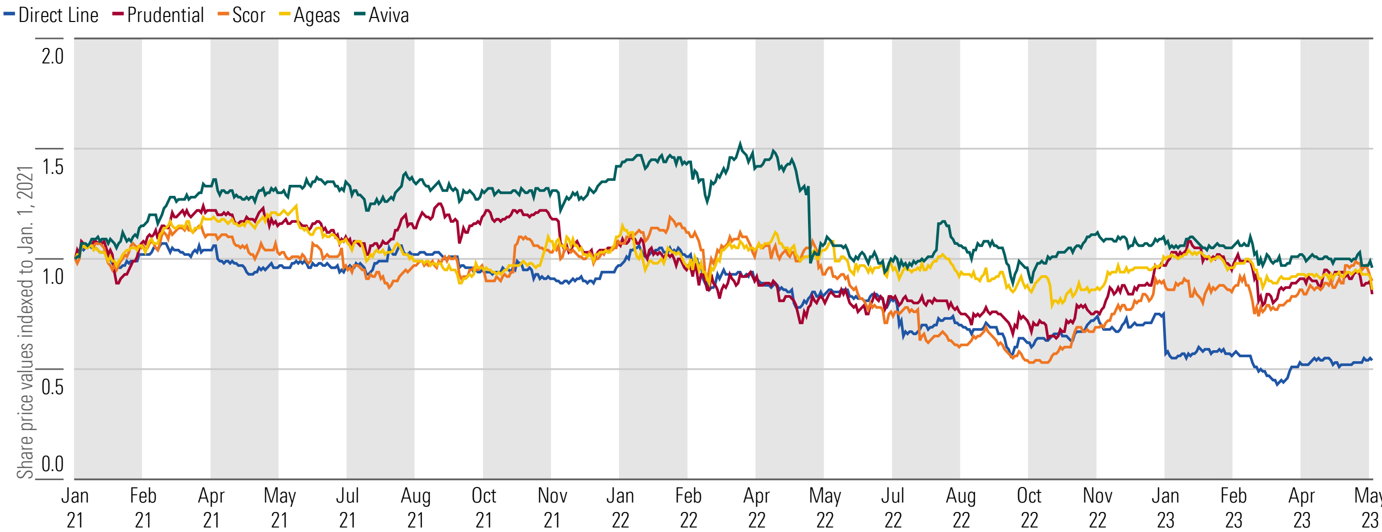
Source: Bank for International Settlements. Data as of Dec. 31, 2022.

Collapse of Silicon Valley Bank and Credit Suisse Increased Pressure on Financial Securities

One unintended consequence of the rise in these interest rates is a drop in venture capital funding levels. It has become more expensive and there is less of it available. As this money supply tightened and costs rose, venture capital firms drew on their deposits at banks, one in particular, Silicon Valley Bank. It was a commercial bank for venture capital firms, yet it implemented a risky investment strategy by investing in longer-dated securities. As deposit withdrawals from venture capital firms rose the bank was forced to liquidate securities with large unrealised losses within its investment portfolio. This ultimately led to the bank's collapse.

Add to this failure of Swiss national banking giant Credit Suisse and confidence in financial markets reached an all-time low. The demise of Credit Suisse has been a slow-moving train wreck. The bank's list of scandals includes money laundering by drug dealers, corruption in Mozambique, spying on former employees, and client data leaks. Exposure to the collapsed Archegos Capital Management hedge fund and collapsed finance firm Greensill Capital are other blunders it made. The final scandals included an announcement of material weakness in financial reporting and Saudi National Bank stopped further investment. This ultimately led to unprecedented levels of customer outflows that started after the turmoil in Silicon Valley Bank and read-across for depressed bond values. Confidence in lower-quality financial securities reached an all-time low.

Exhibit 8 Confidence in Low-Quality Financial Securities Reached an All-Time Low



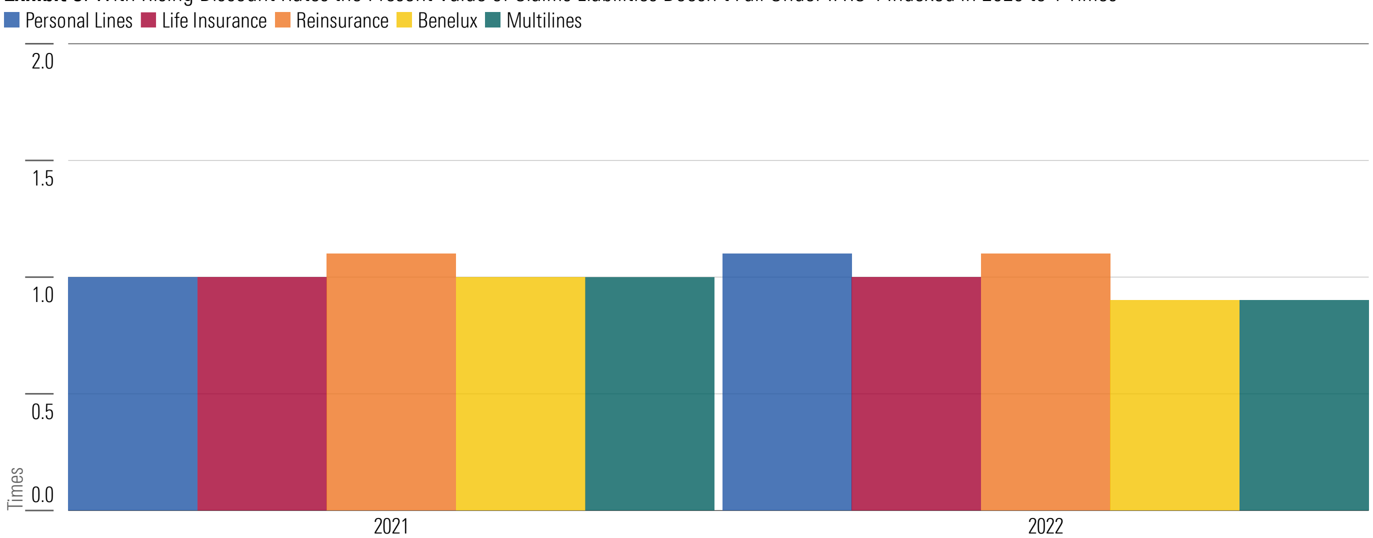
Source: Morningstar, PitchBook. Data as of May 31, 2023.

IFRS 4 Accounting Means Not All Balance-Sheet Items Were Treated Equally

The prior accounting framework has not helped insurers and that is because assets and liabilities have not been treated equally. As interest rates have risen and these businesses have seen a drop in the value of their fixed-income portfolios as well as other assets, the present value of claims they have set aside has not seen an equivalent fall. That is because assets are discounted at market rates (their value is live) under IFRS 4. However, the value of short- and long-term claims liabilities has been locked. Under this accounting standard, short-term claims have not been discounted back and long-term claims have been discounted back to the present value using rates that are locked in. This means that as interest rates rise the present value of assets falls. Yet, the present value of claims liabilities stays the same as when these were booked. As unrealised gains and losses on assets, held for sale, flows through other comprehensive income there is no offsetting change in the value of claims liabilities, and shareholders' equity has fallen and been volatile. Insurers can go from looking reasonably well capitalised to severely undercapitalised within a year under IFRS 4.

In an inflationary environment amid rising interest rates and financial market turmoil, this makes balance sheets and credit quality critical.

Exhibit 9. With Rising Discount Rates the Present Value of Claims Liabilities Doesn't Fall Under IFRS 4 Indexed in 2020 to 1 Times



Source: Company reports. Data as of Dec. 31, 2022.

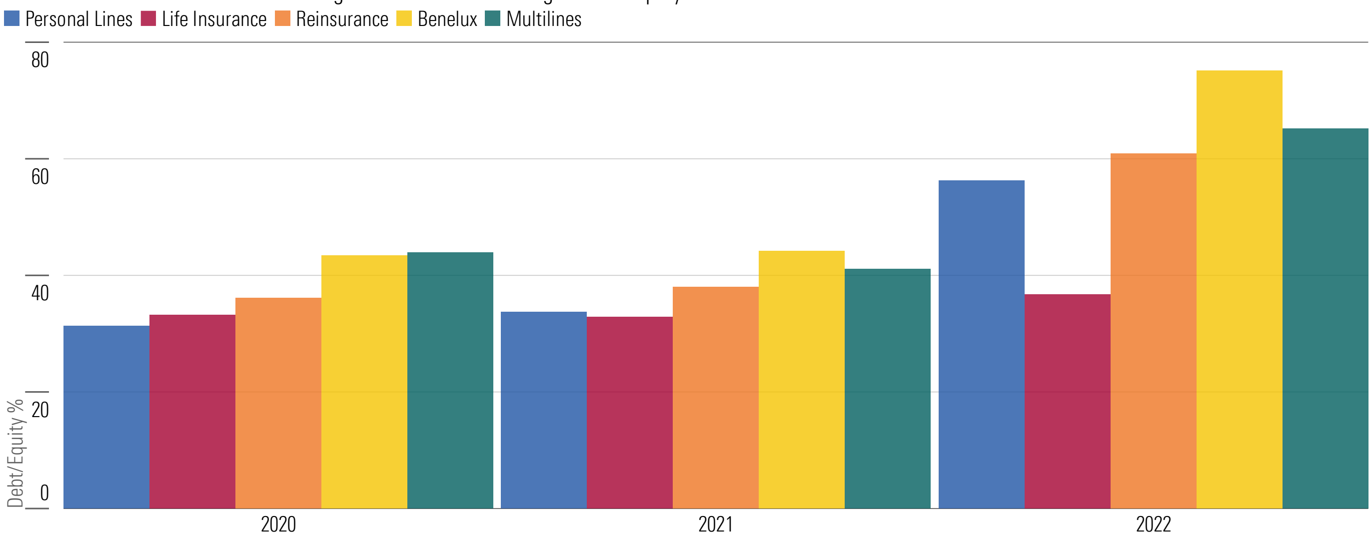
Firms Have Taken on More Debt To Top Up Cash Flow as Operations Have Been Stretched

With inflation on the march and frequency having returned to prepandemic levels, claims for many insurers have reached all-time highs. This means that many insurers have had to top up their claims reserves to meet higher anticipated payments, and as price rises tend to lag inflationary conditions on a forward-looking basis, profitability has also been low. The capital that has been generated has increasingly been used to pay for inflated claims and expenses and this has led some insurers to issue debt to prop up their capital. Others have slashed shareholder distributions outright, which in our opinion is more sensible. However, financial markets tend not to react so flatly to such news, so issuing debt for some has seemed like a better option.

Now the double curse becomes a quadruple curse:

- Rising frequency back to prepandemic levels results in a rise in claims.
- Rising inflation leads to higher claims severity well above prepandemic levels.
- Increasing interest rates compress investment portfolio values.
- Falling operating profit leads some firms to issue debt and push leverage beyond organic levels.

Exhibit 10 Several of Our Insurer Categories Have Now Leveraged Debt/Equity Balance Sheets Under IFRS 4



Source: Company reports. Data as of Dec. 31, 2022.

New Accounting Standards Mean Assets and Liabilities Match

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IFRS 17 Enables Better Assessment of Balance-Sheet Strength and Impact of Changing Inputs

While balance sheets looked overinflated and underinflated for many insurers under International Financial Reporting Standards 4, according to the new accounting standard balance sheets are likely to better reflect economic value. That is because where IFRS 4 left balance sheets pressured because market rates were applied to the value of assets and not claims, the new accounting standards apply market discount rates to both and this is exactly what has been happening under Solvency II.

Exhibit 11 A Number of Reinsurance Balance Sheets Look Stretched Under IFRS 4

Ticker	Company	Normalised Interest Cover	Debt/Equity	Full Stress Solvency	Solvency Post-Stress and Investment	Balance Sheet	Investments	Distributions	Morningstar Capital Allocation Rating
LON: DLG	Direct Line	11.25x	10.0%	108.6%	133.0%	Poor	Fair	Mixed	Poor
LON: ADM	Admiral	45.25x	47.5%	170.4%	214.0%	Sound	Exceptional	Appropriate	Exemplary
	U.K. Personal Lines								
SWX: SLHN	Swiss Life	13.75x	43.5%	155.9%	162.2%	Weak	Fair	Mixed	Standard
LON: PRU	Prudential plc	9.00x	30.0%	158.6%	165.4%	Weak	Exceptional	Mixed	Exemplary
	European Life								
PAR: SCR	Scor	5.00x	64.5%	200.9%	208.8%	Weak	Fair	Mixed	Poor
ETR: HNR1	Hannover Re	20.25x	68.0%	182.2%	192.6%	Sound	Exceptional	Appropriate	Exemplary
SWX: SREN	Swiss Re	2.00x	87.0%	262.0%	276.6%	Sound	Fair	Appropriate	Standard
ETR: MUV2	Munich Re	16.50x	24.0%	210.9%	219.9%	Sound	Fair	Appropriate	Standard
	European Reinsurance								
AMS: AGN	Aegon	3.0x	56.5%	130.6%	138.1%	Poor	Poor	Mixed	Poor
BRU: AGS	Ageas	9.5x	83.5%	140.7%	156.6%	Poor	Fair	Mixed	Poor
AMS: NN	Nationale Nederland	4.0x	85.0%	179.2%	187.9%	Weak	Fair	Mixed	Standard
	Benelux								
LON: AV.	Aviva	4.0x	54.5%	203.2%	215.1%	Sound	Fair	Appropriate	Standard
MIL: G	Generali	6.0x	125.5%	92.1%	100.8%	Poor	Fair	Poor	Poor
PAR: CS	AXA	15.0x	29.5%	116.3%	133.0%	Weak	Fair	Appropriate	Standard
ETR: ALV	Allianz	8.0x	41.0%	118.0%	129.8%	Poor	Exceptional	Mixed	Poor
SWX: ZURN	Zurich	14.7x	52.5%	222.5%	246.8%	Sound	Exceptional	Appropriate	Exemplary
	European Multilines								

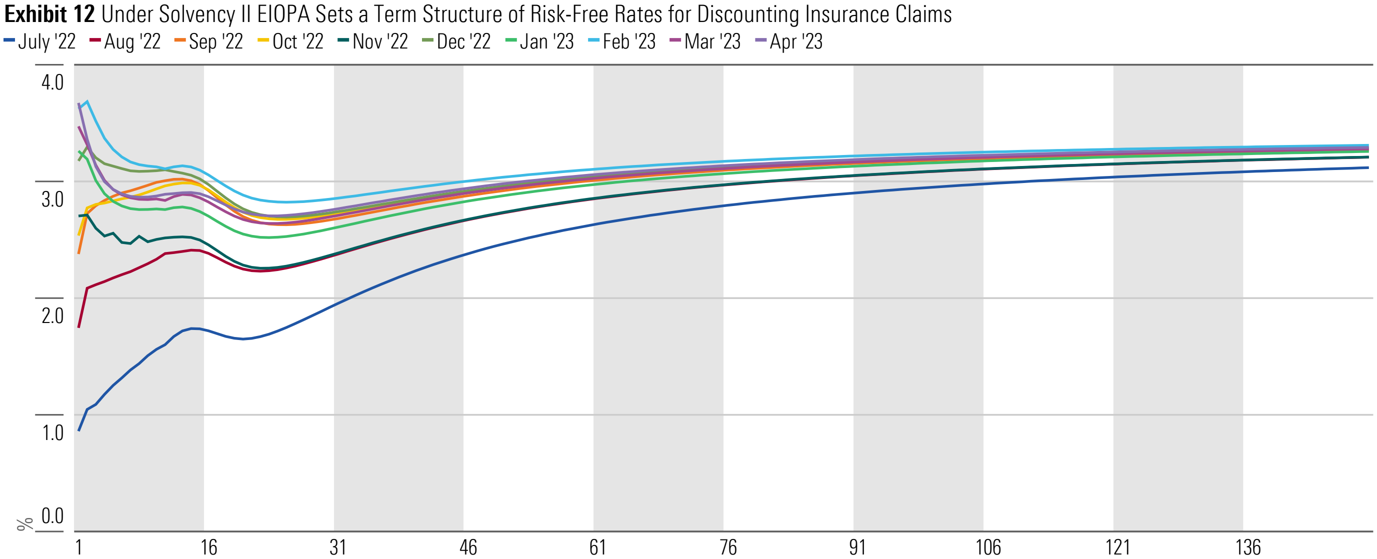
Source: Morningstar Research Services. Data as of Dec. 31, 2022.

Solvency II Also Discounts Claims Liabilities

Many insurers have likely complained about the unequal treatment of balance-sheet items that have an unfair impact on insurers. In a rising interest-rate environment insurers' balance sheets will get substantially compressed. However, with falling rates they will look overly optimistic. We think this is likely to be one of the reasons that the EU and European Insurance and Occupational Pensions Authority introduced Solvency II. Under this framework it's not only assets that are discounted at market rates, but claims liabilities as well.

Under this framework EIOPA provides a term structure of discount rates that can be used to discount claims liabilities across different currencies within the EU. This term structure is derived from fixed swap rates for floating swap rates where the swap markets are deep enough and sufficient market data is available. Where the swap market is not deep enough or there isn't sufficient information available then the term structure uses yields on local government bonds that correspond to the domicile of the claims. This issue of whether markets are deep enough and have enough available information is a genuine one for long-dated claims to the point where liquidity also becomes a cause of disagreement within swaps and government bonds. To account for this EIOPA has come up with the following solution: beyond a last liquid point, the term structure will converge to the ultimate forward rate. The last liquid point varies by currency and can range from 15 to 30 years, but for euro-denominated claims liabilities the last liquid point is currently set at 20 years. The term structure then converges to the UFR over 40 years, leaving convergence maturity at 60 years. The ultimate forward rate is currently set at 3.45% for 2023 and is reviewed annually. In Exhibit 12 we show the term structure of euro-denominated EIOPA risk-free rates.

Exhibit 12 Under Solvency II EIOPA Sets a Term Structure of Risk-Free Rates for Discounting Insurance Claims



Source: European Insurance and Occupational Pensions Authority. Data as of April 30, 2023.

However, while under Solvency II the market-based discount rates used for assets and liabilities are not the same, it is a vast improvement in terms of the presentation of a balance sheet at a more realistic economic value; that is, what the insurer would be worth if it were to enter negotiations for a sale.

Assets and Liabilities Discounted at Market Rates Enable Better Analysis Under Solvency II

Because assets and liabilities are discounted at market rates under Solvency II, and this means that balance sheets better represent their economic value, the framework enables improved analysis of balance-sheet sensitivities to changes in economic inputs and values. For example, a change in the interest rate will affect the asset and liability present value because the rate change has an impact on the discount rate used. Therefore, insurers can tell investors what would happen to their capital position should interest rates rise or fall. While the present value of financial assets and claims liabilities will change in different ways with the change in discount rates used, they will both change in the same direction and better represent economic value.

Further, the framework allows an insurer to assess the impact on its balance sheet because of a change in riskier bond values. Here, only associated asset values will rise or fall, yet insurers and investors can tell what would happen to an insurer's capital position. The same can be said of a rise or fall in equity values, commercial, and/or residential real estate, infrastructure assets, or currencies. The sensitivity of an insurer's balance sheet to these input changes can all be assessed and communicated under Solvency II. In Exhibit 13 we have shown insurers' and our assessment of the impact on solvency positions because of changes in economic inputs and asset values.

Exhibit 13 Solvency II Framework Allows Insurers and Investors To Assess the Sensitivity of Capital Positions To Changes in Economic Inputs and Asset Values

Ticker	Company	Solvency Capital Requirement, million	Eligible Own-Funds, million	Operating Capital Generation, Actual or Guestimate	1 Percentage Point Interest Rate Rise	1 Percentage Point Credit Spread Rise	10 Percentage Point All Other Own Asset Fall	Year End Solvency Pre Market Stress	Solvency Post Market Stress
LON: DLG	Direct Line	1,210	1,780	425	-1.0%	-5.0%	-5.0%	182.2%	171.2%
LON: ADM	Admiral	660	1,200	510	-2.5%	-10.0%	-1.0%	259.1%	245.6%
	U.K. Personal Lines								
SWX: SLHN	Swiss Life	14,120	30,420	875	12.5%	-10.0%	-25.0%	221.6%	199.1%
LON: PRU	Prudential plc	7,600	22,800	1,275	-15.0%	-10.0%	-15.0%	316.8%	276.8%
	European Life								
PAR: SCR	Scor	4,120	8,765	1,250	12.5%	-5.0%	-5.0%	243.1%	245.6%
ETR: HNR1	Hannover Re	6,950	17,515	1,350	10.0%	-15.0%	-10.0%	271.4%	256.4%
SWX: SREN	Swiss Re	13,925	40,940	2,850	25.0%	-10.0%	-17.5%	314.5%	312.0%
ETR: MUV2	Munich Re	17,695	51,080	4,150	5.0%	-5.0%	-20.0%	312.1%	292.1%
	European Reinsurance								
AMS: AGN	Aegon	7,845	16,330	1,375	-5.0%	-2.5%	-20.0%	225.7%	198.2%
BRU: AGS	Ageas	3,460	7,135	725	22.5%	-17.5%	-25.0%	227.2%	207.2%
AMS: NN	Nationale Nederland	9,040	17,820	1,300	2.0%	12.5%	-17.5%	211.5%	208.5%
	Benelux								
LON: AV.	Aviva	7,775	16,470	1,500	15.0%	8.0%	-20.0%	231.1%	234.1%
MIL: G	Generali	21,000	46,300	3,675	8.0%	-4.8%	-50.0%	238.0%	191.2%
PAR: CS	AXA	22,960	58,500	6,550	17.5%	-22.5%	-37.5%	283.3%	240.8%
ETR: ALV	Allianz	38,800	77,900	11,785	2.0%	-10.0%	-30.0%	231.1%	193.1%
SWX: ZURN	Zurich	12,995	35,050	5,100	25.0%	-15.0%	-20.0%	309.0%	299.0%
	European Multilines								

Source: Company reports and Morningstar Research Services. Data as of Dec. 31, 2022.

We Can Also Assess the Impact of Operational Changes Within the Framework of Solvency II

While an insurer's balance sheet is sensitive to changes in economic inputs and market values and these have an impact on the present value of claims' liabilities and their backing investment values, many insurers also provide disclosures for their underwriting exposures. Insurers disclose how changes in underwriting conditions would have an impact on their capitalisation and economic value. For example, a life insurer is exposed to changes in mortality rates, an annuity provider is exposed to longevity, and health and disability insurers are exposed to morbidity rates. And sensitivities to these exposures will be provided, where relevant, by life and health insurers. A motor insurer is exposed to accident frequency rates, a home insurer is exposed to turbulent weather and water leaks, a travel insurer is exposed to travel interruptions, a marine insurer is exposed to turbulent weather conditions, a credit insurer is exposed to changing/volatile negative economic conditions, and a natural catastrophe reinsurer is exposed to climate change, and so on. Where relevant, sensitivities to these exposures will be provided by property and casualty insurers. However, while the assessment of sensitivities to these underwriting exposures is especially useful for investors looking at each of these companies individually, because of the lack of homogeny between insurers, an equal comparison between companies of underwriting risks is difficult for investors to garner from these disclosures.

In light of high inflation that has an impact on nearly all insurers we have taken a simple approach when looking at what would happen to capitalisations, should they experience substantial underwriting shocks. We have done this simply by increasing 1 year of historical claims incurred by 5% as well as our 1-year forward forecast for claims incurred by 5% and also buffered our forecast for operating expenses by 5%. As price increases tend to lag claims within insurance we feel this approach captures this dynamic well because it introduces a worst-case scenario of these insurers being unable to raise prices by an equivalent amount to offset these underwriting shocks in future. We have conducted this analysis to assess what would happen to insurance capitalisations in a scenario where these shocks hit underwriting conditions. We have then included a normal course of investments that are needed to grow and remain competitive within this analysis to assess predistribution stressed capitalisation levels. When combined with our economic shocks scenario, we have a better understanding of the insurers that are in a good place to stay on course in terms of shareholder distributions and which ones would be better off focusing on balance-sheet conservation and restoration in future.

Exhibit 14 Solvency II Framework Also Provides a Lens Through Which Investors Can Operationally Stress Market-Based Balance Sheets

Ticker	Company	Solvency Capital Requirement, million	Eligible Own-Funds, million	Operating Capital Generation	5-Percentage-Point Expense Incurred	5-Percentage-Point Net Claims Incurred	5-Percentage-Point Net Claims Reserves	Year End Solvency Pre Underwriting Stress	Year End Solvency Post Underwriting Stress
LON: DLG	Direct Line	1,210	1,780	425	38	106	106	182.2%	161.6%
LON: ADM	Admiral	660	1,200	510	26	35	25	259.1%	246.1%
	U.K. Personal Lines								
SWX: SLHN	Swiss Life	14,120	30,420	875	108	721	665	221.6%	211.1%
LON: PRU	Prudential plc	7,600	22,800	1,275	295	1,096	946	316.8%	286.0%
	European Life								
PAR: SCR	Scor	4,120	8,765	1,250	223	731	603	243.1%	205.3%
ETR: HNR1	Hannover Re	6,950	17,515	1,350	448	1,241	1,131	271.4%	230.9%
SWX: SREN	Swiss Re	13,925	40,940	2,850	615	1,805	1,681	314.5%	285.0%
ETR: MUV2	Munich Re	17,695	51,080	4,150	922	2,562	2,348	312.1%	279.2%
	European Reinsurance								
AMS: AGN	Aegon	7,845	16,330	1,375	286	876	931	225.7%	199.0%
BRU: AGS	Ageas	3,460	7,135	725	158	338	374	227.2%	202.0%
AMS: NN	Nationale Nederland	9,040	17,820	1,300	126	684	744	211.5%	194.3%
	Benelux								
LON: AV.	Aviva	7,775	16,470	1,500	266	801	595	231.1%	209.7%
MIL: G	Generali	21,000	46,300	3,675	1,114	2,885	2,832	238.0%	205.4%
PAR: CS	AXA	22,960	58,500	6,550	1,181	4,529	3,572	283.3%	242.9%
ETR: ALV	Allianz	38,800	77,900	11,785	1,936	3,380	3,141	231.1%	209.3%
SWX: ZURN	Zurich	12,995	35,050	5,100	1,008	1,711	1,410	309.0%	277.2%
	European Multilines								

Source: Morningstar Research Services. Data as of Dec. 31, 2022.

Our Stress-Testing Analysis Aligns Our Capital Allocation and Moat Methodology Frameworks

In assessing the current capital position of insurers and then stressing those capital positions according to changes in market conditions and economic inputs as well as changes in underwriting conditions, then taking a look at what these balance sheets look like after these stresses and where that leaves each business in terms of its ability to invest, we believe we are aligning our thinking within the framework of our capital allocation and moat methodology.

We know from our moat methodology that the investments a business makes are key to its ability to create long-term shareholder value and these investment choices not only drive the capability of a business to execute well on a day-to-day basis, but also determine whether or not the company can deliver returns to investors that are above its cost of equity and if so, whether these returns are persistent.

An excess of economic profits will only be protected over the long term if, through its investments, a business can establish one of, or a mixture of, our five key and core competitive advantages. While we rarely find evidence of efficient scale or the network effect in insurance, more frequently there is evidence of intangible assets and cost advantages and sometimes there are reminiscences of switching costs though rarely, if ever, enough to drive a protected competitive position on its own. And if one of these businesses is able through its intelligent investments over the long term, to establish a persistent competitive position then not only will its economic profits be protected, but more than likely its ability to pay dividends. However, none of this is possible or manageable over the long term unless a business has a sound balance sheet because if it does not it will run out of money to invest and remain competitive, or worse, be unable to honor its liabilities. This is what drives our view in this industry about stressing the balance sheet, then assessing the viability of continued investments, and then the eventual persistence of distributions.

Exhibit 15 Stressing Balance Sheets for Market Stresses and Underwriting Stresses Provides a Good Basis To Assess Strength or Weakness of Balance Sheets

Ticker	Company	Solvency Capital Requirement, million	Eligible Own-Funds, million	Operating Capital Generation	Market Stress	Underwriting Stress	Normal Investment	Market and Underwriting Stress Solvency	Solvency Post Stress and Investment
LON: DLG	Direct Line	1,210	1,780	425	196	250	150	145.4%	133.0%
LON: ADM	Admiral	660	1,200	510	162	86	50	221.6%	214.0%
	U.K. Personal Lines								
SWX: SLHN	Swiss Life	14,120	30,420	875	6,845	1,494	55	162.6%	162.2%
LON: PRU	Prudential plc	7,600	22,800	1,275	9,120	2,337	50	166.0%	165.4%
	European Life								
PAR: SCR	Scor	4,120	8,765	1,250	(219)	1,558	75	210.6%	208.8%
ETR: HNR1	Hannover Re	6,950	17,515	1,350	2,627	2,819	35	193.1%	192.6%
SWX: SREN	Swiss Re	13,925	40,940	2,850	1,024	4,101	150	277.7%	276.6%
ETR: MUV2	Munich Re	17,695	51,080	4,150	10,216	5,831	275	221.4%	219.9%
	European Reinsurance								
AMS: AGN	Aegon	7,845	16,330	1,375	4,491	2,093	285	141.8%	138.1%
BRU: AGS	Ageas	3,460	7,135	725	1,427	870	145	160.8%	156.6%
AMS: NN	Nationale Nederland	9,040	17,820	1,300	535	1,553	45	188.4%	187.9%
	Benelux								
LON: AV.	Aviva	7,775	16,470	1,500	(494)	1,663	75	216.1%	215.1%
MIL: G	Generali	21,000	46,300	3,675	21,668	6,832	315	102.3%	100.8%
PAR: CS	AXA	22,960	58,500	6,550	24,863	9,281	360	134.6%	133.0%
ETR: ALV	Allianz	38,800	77,900	11,785	29,602	8,457	1,275	133.1%	129.8%
SWX: ZURN	Zurich	12,995	35,050	5,100	3,505	4,129	450	250.2%	246.8%
	European Multilines								

Source: Morningstar Research Services. Data as of March 31, 2023.

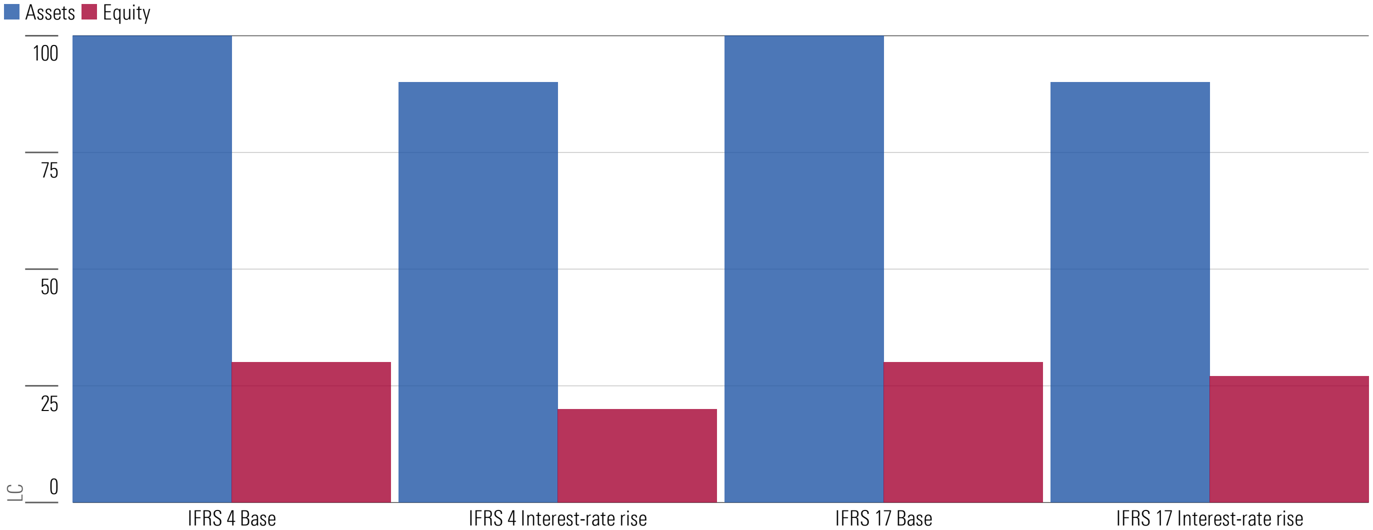
This Analysis Is Easier To Achieve Under the New Accounting Framework That Aligns With Solvency II

Under the accounting framework of IFRS 4, the discount rates used to discount financial assets back have been market rates whereas claims liabilities have largely not been discounted back to the present value. This means claims liability values have remained fixed from the point that the claim was booked. This in turn means that in a changing interest-rate and discount-rate environment, the present value of investment portfolios moves whereas the present value of claims liabilities stays fixed and this can lead to compression or inflation of shareholders' equity, which is an inaccurate representation of true business value.

However, IFRS 17 was introduced for insurers across Europe on Jan. 1 and replaced IFRS 4 with a market-based discount-rate framework. The new standard is designed to help improve comparisons between insurance companies and also between these companies and firms in other industries. The key change within the standard is that all expected future cash flows are discounted back to present value to account for the time value of money and this brings alignment of accounting standards with Solvency II in Europe. Some slight differences remain in relation to the illiquidity premium used under IFRS 17 and the volatility adjustment under Solvency II. However, as assets and liabilities are discounted back, and changes in the present value of financial assets and present value of liabilities due to changes in these discount rates are both recorded, the valuation of assets and liabilities will be treated almost equally.

This means under the new accounting standard the balance sheets of European insurers will better reflect economic value.

Exhibit 16 IFRS 4/IFRS17 Shareholder Equity Values



Source: Morningstar Research Services. Data as of March 31, 2023.

Other Accounting Changes Investors Need To Remember

While the new IFRS 17 accounting standard officially came into force on Jan. 1, 2023, not all European insurers will report full results that are compliant with the regime until the interim results for this year and full-year 2023 are presented in 2024. While the major change within this accounting standard is that assets and liabilities will be reported using discount rates, and that is a substantial and welcome change, there are other adjustments too.

It is important to outline that the discount rate that will be used to discount claims liabilities back to the present value will be constructed using a bottom-up approach that utilises the risk-free rate and then applies an illiquidity premium that is relevant to that specific set of claims. Once that discount rate is set it will be subsequently adjusted at balance-sheet dates. Changes in the present value of assets and liabilities will, by and large, be reflected in other comprehensive income making shareholder equity book value more stable. Unwinding these discount rates will be reflected in insurance finance income and expenses in the income statement.

We believe the second key change within this new accounting framework is that insurers have the freedom to expense acquisition costs as incurred or continue to capitalise them on the balance sheet and expense them over the life of the contract. Most insurers, from what we can tell, are expensing these acquisition costs as they occur and this is a more conservative approach that is also in line with the fact that the deferral of acquisition costs is not allowed under Solvency II. While the choice to expense rather than defer does have an impact on the value of shareholders' equity at the point of transition, as these capitalised acquisition costs are written down, it also helps to align the two regimes better. The new accounting standard also means that during years of higher growth there will be an increased strain on new business. This strain will be low when that growth slows.

There are some broader and more nuanced changes that we believe have been highlighted well in the IFRS 17 income statement (below). Importantly, while there are now three methods of recognizing profit and loss, many general insurers will use the premium allocation approach because this is relevant for short-term contracts and this brings further alignment with the recognition methodology within Solvency II. Net insurance contract revenue will include other sources of income from the provision of insurance services such as instalment income that is not derived from third parties.

And net insurance contract claims will be recorded on a discounted basis and will include a provision for onerous contracts where the contract is loss-making. Discounting claims means there will be a broad improvement in reported claims and combined ratios.

There is no change to the recognition of finance and restructuring costs between the prior and new standards.

Exhibit 17 Direct Line IFRS 17 Income Statement by Line Item

International Financial Reporting Standards 17		
Insurance Contract Revenue	1	1. Revenue recognition materially unchanged but inclusion of instalment income and elements of other income increases insurance contract revenue compared with net earned premium.
Expenses from reinsurance contracts held		
Net insurance contract revenue		
Insurance claims		
Insurance claims recoverable from reinsurers		
Net insurance contract claims	2	2. Reserve philisophy unchanged but claims reduce because of the higher discounting effect. Net insurance contract claims also includes the majority of other income that is claims related.
Acquisition costs	3	3. Acquisition costs expensed as incurred and other operating expenses directly attributable to insurance will form part of the Insurance Service Result.
Operating expenses		
Insurance service result	4	4. Insurance Service Result is similar to existing underwriting result plus the majority of other income.
Investment income	5	5. No material change. Income earned from invested assets and realised gains and losses. Unrealised FV gains, losses and impairments reported below operating profit.
Other operating income	6	6. Revenue from non-insurance activities such as intermediary services and expenses not attributable to the fulfilment of insurance contracts will sit outside of the insurance service result.
Other operating expenses		
Operating profit	7	7. Similar to existing operating profit but benefits from greater discounting effect with the unwind of discount rate included in net finance expenses.
Investment unrealised fair value gains/(losses)		
Investment impairments to financial instruments		
Net finance expenses from insurance contracts		
Net finance income from reinsurance contracts		
Net finance expenses and FV and impairments	8	8. Movements previously captured in OCI and new discounting effect thus increasing volatility.
Restructuring and one-off costs		
Finance costs		
Profit before tax	9	9. More closely resembles pre-tax capital generation under S2.

Source: Company reports. Data as of Dec. 31, 2022

No Change To Operational Capital Generation or Dividend-Paying Capacity Is Key

While the new accounting regime brings some big changes to the way claims liabilities are valued and the way acquisition costs are expensed as incurred, there are some other smaller changes to the way income and expenses from core and noncore operations are recorded. The new standard mainly ushers in much closer alignment with recognition policies under EIOPA Solvency II. This is important because it achieves several positive things. While more closely aligning the reported value of claims liabilities with economic value and therefore more closely aligning the reported economic value of the business with the reported accounting value, it also substantially reduces the volatility of shareholder value in future. In terms of assessing business value we believe that reduced volatility and closer alignment with economic value is good.

Yet, as the new standard improves alignment between IFRS accounting and Solvency II, the new accounting standards move us much closer to capital generation that is reported and calculated under Solvency II. This is critical because for many insurers capital generation is what they use to pay dividends. Further, the alignment brings better relevance to stress-testing and sensitivity methodologies under Solvency II.

Admiral Is Our Top Pick in Personal Lines

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Direct Line Has Made Different Accounting Choices

While each insurer will make its own individual accounting choices under the new regime, we believe there is one key choice that needs to be called out specifically for Direct Line. Many insurers are choosing to report the change in the present value of claims incurred within other comprehensive income sitting alongside the change in financial assets that back them. However, Direct Line is choosing to report these changes in the insurance finance income and expenses income statement line item. This will more likely lead to increased volatility in earnings versus insurers that choose to report these changes in other comprehensive income.

Further, where some general insurers will continue to use a combined ratio as their core operating metric to communicate underwriting profitability, Direct Line looks like it is aiming to report a net insurance margin that is the inverse of a combined ratio to bring its key operating metric in line with that of other retail-orientated firms, in their view. The differences between the inverse of a combined ratio and a net insurance margin are nuanced and relate to the inclusion in the denominator of other income, which should lead to small key operating metric deflation. The choice to report using a net insurance margin seems to be tied to retail insurers that can generate meaningful amounts of noninsurance income like instalment fees. This net insurance margin will be the key performance measure that Direct Line will use to report its targets and results in future.

Exhibit 18 Insurance Margin Is Going To Be the Simple Inverse of the Combined Ratio

Insurance margin calculation	Income/expense
Insurance contract revenue	110
Expenses from reinsurance contracts held	-10
Net insurance contract revenue	100
Insurance claims	80
Insurance claims recoverable from reinsurers	-10
Net insurance claims	70
Acquisition costs	10
Expenses	10
Insurance service result	10
Insurance service margin %	10

Source: Company reports. Data as of Dec. 31, 2022.

Over the Past Year Direct Line's Performance Has Been Vulnerable

During this period of heightened volatility with high inflation and rising interest rates we believe three things have had an impact on the share prices of European insurance securities with inflation being the most important. As inflation has risen this has hit nearly all insurers, but in particular it has had an impact on insurers that insure nonbiometric physical assets for consumers. For example, inflation and the causes of inflation have had a direct impact on the price of metals and this has increased repair costs for motor and home insurers. Further, inflation has had a direct impact on wages and this has also fed directly into claims inflation experienced by these personal-line insurers. A rise in insurance prices will lag a rise in claims inflation and the ability of an insurer to raise these prices will depend on regulations as well as its pricing power. The degree to which an insurer raises prices will also depend on its underwriting prowess and ability to read inflation and judge how far is far enough and how far is not enough. Direct Line has been notably bad at reading inflation and raising prices and it has also been more exposed to regulatory changes than other insurers.

Further, in terms of exposure when insuring nonbiometric physical assets, insurers without diversified business books have suffered more. This is simply because their exposure to materials inflation has been more concentrated than others since they have less diversified exposure to lines where the impact of inflation has been lighter. Last, there has been consideration of balance sheets and because personal-line insurers insure the most predictable risks, by and large, they hold more nimble capitalisations. However, this bout of inflation has demonstrated that this predictability is sometimes not as high as once thought. Balance sheets that were lighter before the rising severity and frequency of claims were even lighter coming out of it. And in the case of Direct Line distributions threatened the stability of its balance sheet in the future.

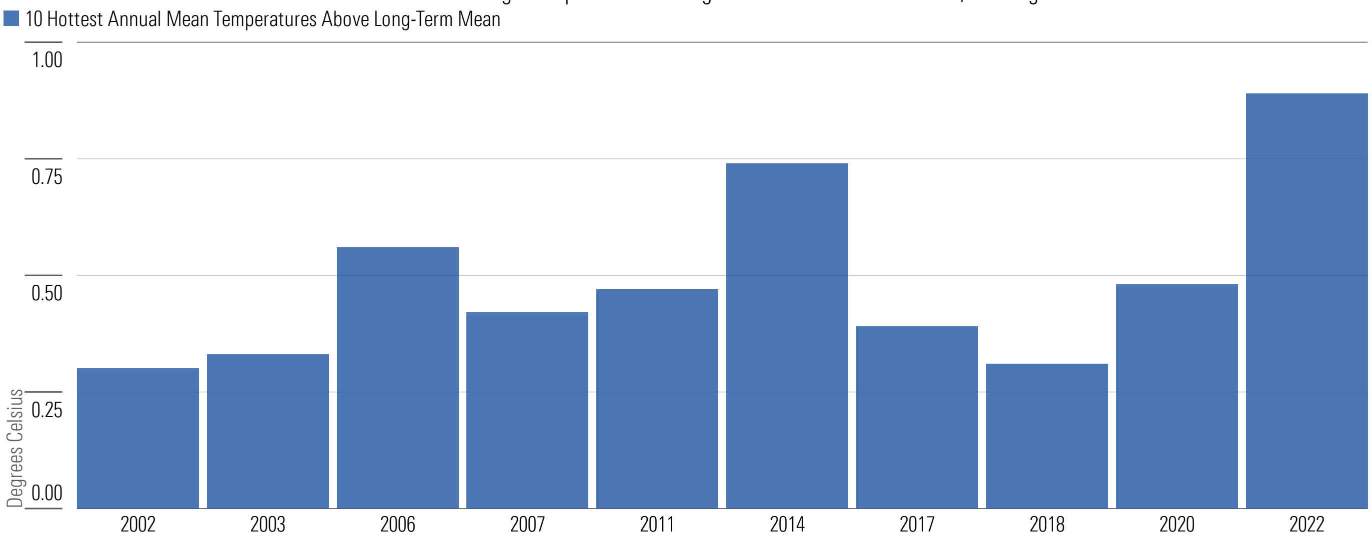
Much of this operational compression has been linked to the regulatory changes that took place at the start of 2022 as we think the business traditionally catered to older and wealthier policyholders. Under the previous regulatory regime, insurers were able to carry out a certain level of "price walking" when renewing policyholders' contracts. And this occurred most frequently when policyholders held more inertia, such as those who did not pay attention to their insurance renewals or those who were less concerned about the price of insurance within the context of their overall wealth. However, the new regulations put paid to this and meant Direct Line's renewal prices were hit in first-quarter 2022.

Hot as Well as Wintry Weather Also Played More of a Role Than Usual

In addition to rising claims frequency and rising inflation feeding higher claims severity, and regulatory changes that have meant a drop in personal-line insurance prices, personal-line insurers have also had to contend with the increased severity of claims because of more extreme weather. In spring and summer last year the U.K. experienced its hottest temperatures within a 30-year record. Further, the country experienced unusually adverse cold snaps at the beginning and end of the year. Warm weather has an impact on insurers because it causes the ground beneath a property to lose moisture. As tree roots also draw on an increasingly low level of water this causes the soil in the ground to contract and that can have an impact on the stability of home foundations and lead to a home subsiding. This means increased claims for home insurers, a line where Direct Line has historically been strong.

Further, the freezing weather in December 2022 alone, severely hit the insurer. As a result of the company's historical links with the Royal Bank of Scotland from prior ownership, transition, and a spinoff, the company holds a particularly high market share in Northwest England as well as in Scotland. This meant that over December 2022 the business incurred 500 claims that averaged over GBP 100,000 during the cold snaps and subsequent thaw. In the context of serving 15,000 customers in weather-related claims annually, this is a lot. This meant that during 2022 Direct Lines' home insurance combined ratio reached well over 100% and was the highest level it has been in 13 years. The company experienced around GBP 35 million, GBP 20 million, and GBP 95 million claims due to the February 2022 storms, dry summer weather, and a freeze in December 2022 respectively, and this meant that the company's total weather costs of around GBP 150 million was double its almost GBP 75 million budget. Its home insurance division would have reported a combined ratio below 100% if the business had remained within its weather budget for last year.

Exhibit 19 Last Year Was the Hottest on Record for Average Temperatures Throughout the Year Across the U.K, Leading to Elevated Weather-Related Claims



Source: Met Office. Data as of Dec. 21, 2022.

There Are Five Key Drivers of Insurer Value and Direct Line Faces Headwinds in Four of Them

We think there are five key factors that drive value within insurance and last year Direct Line faced headwinds in four of them. We have already discussed how claims frequency fell during the pandemic, but then dramatically increased as the world emerged from lockdown and people started to resume their lives and go back to working in offices. Direct Line experienced a particularly horrendous year in 2022 because of its exposure to emerging motor accidents and emerging claims within travel insurance, and its heavier weighting to home insurance that was influenced by adverse weather and lower levels of people working from home. We think the frequency of claims is the number-one operational value driver for insurers.

We believe expenses are the second-largest operational value driver for insurers, but over the years this is something Direct Line has tended to focus on because it continues to operate with quite a high expense-based business model.

Claims severity is the third-most significant operational value driver of insurers in our opinion and, again, with its higher weighting in home insurance and inflation that has fed into its motor book. Direct Line was exposed to higher claims severity than other companies were.

We think the fourth operational value driver that has the most impact is growth, something Direct Line has lacked for a long time. As the company invested in building stand-alone infrastructure and building out innovative technology to compete it has faced dramatic reductions in market share and policy numbers. This has further weighed on its earnings.

Last, while not an operational value driver, the growth anticipated for a company has a significant bearing on its value because of the value placed on growth within the formula for present value. The lack of growth that Direct Line has experienced over the years has weighed on its market value.

Exhibit 20 There Are Five Key Determinants of Profitability for Insurers and Direct Line Has Faced Headwinds in Four of Them

Income Statement Insurer	Example	Frequency	Severity	Expense	Policy Growth	Fair Value Growth	Income
Policies Written	1,000	1,000	1,000	1,000	1,075	1,075	1,075
Insurance Premium EUR	500	500	500	500	500	500	500
Insurance Premium Written EUR	500,000	500,000	500,000	500,000	537,500	537,500	537,500
Average Claim EUR	3,500	3,500	3,400	3,400	3,400	3,400	3,400
Probability of a Claim %	10.0	9.5	9.5	9.5	9.5	9.5	9.5
Claims Filed	100	95	95	95	102	102	102
Claims Paid EUR	350,000	332,500	323,000	323,000	347,225	347,225	347,225
Claims Rate %	70	67	65	65	65	65	65
Gross Profit EUR	150,000	167,500	177,000	177,000	190,275	190,275	190,275
Expenses EUR	125	125	125	100	100	100	100
Expenses EUR	125,000	125,000	125,000	100,000	107,500	107,500	107,500
Expense Rate %	25	25	25	20	20	20	20
Underwriting Profit EUR	25,000	42,500	52,000	77,000	82,775	82,775	82,775
Investment Income EUR	-	-	-	-	-	-	5,375
Operating Profit EUR	25,000	42,500	52,000	77,000	82,775	82,775	88,150
Underwriting Profit Margin %	5	9	10	15	15	15	15
Combined Ratio %	95	92	90	85	85	85	85
Operating Profit Margin %	5	9	10	15	15	15	16
Present Value EUR	525,000	892,500	1,092,000	1,617,000	1,738,275	3,559,325	3,790,450
Fair Value EUR	52.50	89.25	109.20	161.70	173.83	355.93	379.05
Fair Value Change %	0.0	70.0	22.4	48.1	7.5	104.8	6.5
Discount Rate %	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Assumed Growth %	5.0	5.0	5.0	5.0	7.5	7.5	7.5
Investment Income %	0.0	0.0	0.0	0.0	0.0	0.0	1.0

Source: Morningstar Research Services. Data as of April 1, 2023.

Balance-Sheet Restoration From Operational Improvements and Low Distributions To Shareholders

As Direct Line's earnings shrunk to one of the lowest in the last 10 years as a result of rising frequency and severity within motor, home, and travel insurance, it became evident to the former CEO Penny James that the business would not be in a position to pay a final dividend. Under Solvency II rules no insurer can pay a dividend that will take its Solvency II ratio below 100% without prior approval from EIOPA. Earnings shrunk in the second half of the year because while the business has a long-term annual severity inflation estimate of between 3 and 5 percentage points within its core motor insurance division, where it derives over half of its operating income, management estimated that claims inflation would come in at 10% for the year when it reported interims at the half-year point. This estimate was based on elevated used-car prices and longer repair times that caused congested garage repair forecourts. The business also increased its prices by 10% in response to elevated and anticipated double-digit inflation. However, this price increase failed to restore margins because claims inflation for the full year was almost 5 percentage points higher than this.

While the business raised new business prices by around 30% over the year because of the implementation of the Financial Conduct Authority's new pricing rules at the start of 2022 that removed the subsidy for new business prices via renewals, over the year those renewal prices fell by midsingle digits and we believe this was the driving force behind its overall mid-single-digit average fall in motor insurance pricing. This resulted in an almost net 20% pricing decline versus the rise in claims. The eventual resolution was the suspension of its final dividend and the resignation of James, as this fed through.

A full-year adjusted Solvency II ratio of around 135% would have been almost 115% had the business maintained its dividend and we believe a Solvency II capitalisation below 150% is dangerously low for any insurance firm. Jon Greenwood has taken over as acting CEO. He spent two decades at the business and held posts as head of home, pet and travel, and most recently commercial. His experience in pricing and products will be invaluable.

We believe that due to China's emergence from lockdowns and falling energy prices the input pressure on inflation is starting to fall. Further, the continued rise in interest rates is having the desired impact as they encourage savings not spending and lower growth in the economy. In line with the Bank of England, we expect inflation will start to tumble in the second half of this year and return to a long-term steady-state early next year. Direct Line increased new and renewal motor prices at the start of 2023 and while this reflects a higher lack of pricing power within the firm overall, we anticipate that prior underwriting results will eventually unfold. Also, as a business that has been troubled by low growth, its Motability agreement has resulted in it adding 500,000 customers.

Exhibit 21 Morningstar vs. the Market for Direct Line

Topic	The market believes…	Morningstar believes…
	• Direct Line will grow earned premiums by around 2.5%. This includes marginal growth in motor and commercial policies and contraction in home and rescue and other personal lines. • Other than commercial, pricing will contract annually across all other lines by between midsingle digits to slightly under flat. Prices in commercial will increase annually by around 1.5%. • Fee income and other revenue will remain small sources of income with the largest contributors coming from instalment income where margins will average their prior 14 years. • The claims the company incurs will average 65.2%. That includes a 75.1% reported motor loss ratio that incorporates the listing years of elevated bodily injury claims. • The expense ratio will average 24.0%. That utilises average commission and expense rates. Interest expenses as a percentage of debt will average 6.9%. • The cost of equity is 9.0%. Stage two growth will be negative 2.5%. Stage two return on equity will rise from 5.9% to 7.5%. There is a small pension asset.	• Direct Line will grow earned premiums by around 3.3%. This will be the result of slightly higher own-brand policy growth in motor and flatter growth in home and rescue and other personal lines. • Pricing in motor insurance will on average grow by 0.5%, which is in line with its average prior to last year. Commercial pricing will rise by 1.5%. Home and RoPL pricing will decline at flatter rates. • The margin on instalment income will be lower, averaging the rates of the last 10 years. The margin on "other" revenue will be higher at the average over the same 10 year time frame. • Claims incurred will average 60.1%. This includes a lower motor reported loss ratio that excludes high years for bodily injury claims. And improved underwriting in commercial versus start out rates. • The expense ratio will average 23.9%. That utilises average recent commission and expense rates where partnerships changed. Interest expense as a percentage of debt will average 6.9%. • The cost of equity is 9.0%. Stage two growth will be positive 0.9%. Stage two return on equity will decline from 10.9% to 9.9%. There is a small pension asset.

Source: Morningstar Research Services. Data as of April 30, 2023.

Admiral's Structure Makes Its Shift To New Accounting Rules More Complicated

While many consider Admiral to be a straightforward personal-line insurer and management has issued an assurance this will lead to an easy transition for the investment community this is far from being the case. The new standards apply to Admiral's insurance businesses and that includes the U.K. and international. And while the new standard does not apply to Admiral's noninsurance businesses such as Admiral Law or Admiral Money, because of the company's co-insurance and reinsurance arrangements its transition is complicated. The key accounting changes apply here as they do elsewhere with the discounting of liabilities and the expensing of acquisition costs being at the core. However, we believe the key change is that the company will be reporting results on the basis of gross direct insurance and net excess of loss reinsurance because of the utilisation of these partnerships within its model.

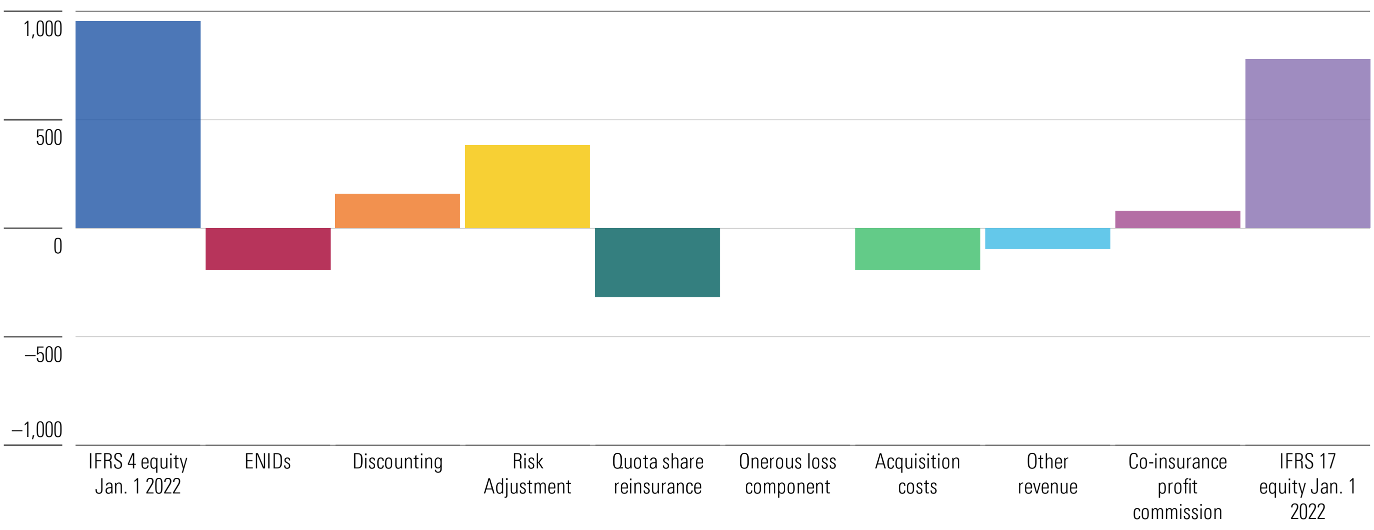
The introduction of acquisition costs to be expensed as incurred costs will mean a higher strain in the first year and higher profits in the second year, followed by lower average profits in the years that follow. Although there will be no net difference to total profits.

The key difference that we believe investors need to be aware of is that the company utilises co-insurance and reinsurance business partners, where it cedes over half of its business and capitalises all related acquisition costs, and after the resulting write-off of these capitalised costs management expects shareholders' equity to fall between GBP 100 million and GBP 130 million. That is net of the favourable movement in claims as a result of new reserve revaluations to present value and also an adverse reinsurance quota share-asset movement. Under the prior accounting system Admiral recognised all nonacquisition expenses upfront in the first underwriting year they were incurred. And the business recognised all expense recoveries related to these quota share contracts in the same underwriting year under IFRS 4. In moving to the new IFRS 17 standard any expense recoveries from these contracts will be netted against these ceded premiums and earned over the life of the contract, which means at the point of transition the business will have earned less of the expense recoveries than it would have done under IFRS 4. This means there's a small misalignment between gross expenses being recognised as incurred and quota share expense recoveries that will be earned over the full year of underwriting. This leads to an unfavourable impact on shareholders' equity at the point of transition and that is caused by the discount of its quota share claims recoveries that are now lower.

The expectation is that there will continue to be alignment with the development of loss ratios on a gross basis, net of the excess of loss reinsurance, for co-insurer profit commissions. And because there is a reduction in claims reserves at the point of transition, there will be a slight increase in those profit commissions as a result of the new regime.

Despite this reduction in equity there will be no change to the group's strategy or its solvency and cash generation. This also means there will be no change to the company's policy surrounding its payment of shareholder dividends. This is a key factor we use under our solvency-based stress-test scenarios and its balance sheet looks much stronger than many others.

Exhibit 22 Admiral Shareholders' Equity Will Fall During Transition Due To Events Not in the Data, Quota Share Reinsurance, and Acquisition Cost Write-Offs



Source: Company reports, Morningstar Research Services. Data as of Dec. 31, 2022.

Admiral Has Faced Similar, yet Protected Headwinds

In the same way that Direct Line experienced strong challenges last year Admiral's year was similarly difficult. But what we note about the company's overall results is the protection within its U.K. motor insurance business and continued diversification as the business matures.

The company, when contending with the rebound in claims frequency within U.K. motor and the rise in claims severity that inflation caused, estimated around the interim that claims inflation of about 10% would emerge in motor insurance for the full year. Like all other U.K. personal-line insurers, the company was affected by the introduction of new FCA general insurance pricing rules that began at the beginning of 2022. This meant the company dropped the prices of renewals and raised prices for new customers. The full impact, as predicted by the FCA, would have resulted in a low-double-digit percentage average motor insurance price decrease. However, when Admiral announced its half-year results the company also announced a higher price rise than this across new business and renewals. While at the full-year point the business also announced that inflation had remained around the 10% mark, management also announced the company had raised prices further by 25% for the remaining year. This resulted in giving up some customers and a rare lack of U.K. motor insurance growth. We do not know how these remaining price increases over the second half of 2022 unfolded. However, we do believe that had Admiral taken a full markdown in pricing in line with the FCA estimates at the start of last year, during 2022 the company experienced a price rise that was ahead of inflation by 2 percentage points. Admiral continues to price ahead of the U.K. motor insurance market.

Overall, Admiral reported a sub-95% combined ratio last year in U.K. motor insurance, much better than the 100%-plus that we think was probably experienced by the U.K. motor market overall. This can be partly attributed to its co-insurance and reinsurance protection partners, where the company cedes a commission and gains protection against an underwriting loss. Further, we believe these partnerships are invaluable. They incentivise a primary insurer and partner to seek out the best criteria. And we believe the knowledge base built up by an efficiently run primary insurer with swathes of data, analytics, and underwriting experience, combined with similar swathes of intangible assets that are built up within best-in-class reinsurers, makes for very compelling partners. We estimate that while this pandemic has been a volatile interlude, a 1-in-200-year event, Admiral will return to underwriting standards and underwriting cycles that are more normal.

Admiral Continues Aim of Diversifying Its Business Model

While the company managed to maintain high standards of underwriting last year in U.K. motor insurance, the combination of rising frequency and severity and an uncertain pricing environment led the company to continue seeking diversification of its business model. The company turned 30 last year, having spent the first 20 years dedicated solely to U.K. motor insurance. A decade ago it diversified into U.K. home insurance and over the last 8 years the company has averaged 35% customer growth. Then the company moved into travel insurance and loans five years ago, with the unit delivering around 90% average annual customer growth. This growth is close to 20% in international cars. With its partnerships and technology, this is a company that continues to be focused on, and able to deliver, growth over the long term.

While the prior financial year was typified by a lack of growth in its historical unit that is core, for noncore units there was no slowdown and management is reiterating diversification. In offering new and different products to new and existing customers the company believes it can establish relationships with customers that are stronger and more persistent with higher switching costs. So far the numbers seem to support this. When looking at the trend in average home insurance prices per customer we believe the company has not been using price walking, which resulted in the introduction of rules on general insurance pricing. Last year, the company delivered over 20% U.K. household customer growth. And while the unit reported an underwriting loss because of increased weather claims in the U.K. last year, we anticipate a U.K. home insurance combined ratio of around 95% would have been more normal. This is not bad given the rising frequency and severity of claims for weather events, and considering Admiral's experience in U.K. home is still new.

Excluding the U.S., we think similar success in international has been part of Admirals' report. While all international car markets delivered double-digit growth, a sharp spike in damage inflation that reached double digits versus a normal mid-single-digit progression (primarily the result of innovative technology in cars) resulted in a GBP 50 million loss in the U.S. Price rises of 35% came late in the year and this was because of the requirement for a rate approval. The company has announced the sale of its U.S. price comparison site www.compare.com. However, given the divestment of all its other comparison businesses we do not see this as indicative of a sale.

Our expectation is there are likely to be continued underwriting improvements within these nonperipheral business units once the business reaches scale and replicates its achievements within its U.K. motor insurance model. In one notable nugget last year the business reduced U.S. motor acquisition costs. The company also joined ING as a long-term partner In Spain.

For 2023 Admiral started the year with mid-single-digit price increases in U.K. motor so far. Rises are expected to remain in the first half and that is likely to mean slow progress. What the business does well is grow when these market corrections become overdone. And as prices continue to rise in the second half, we expect the company to then return to a state of U.K. motor customer growth. Prices have also been raised by low single digits in its U.K. household business so far. We anticipate claims will start to return to normal.

Exhibit 23 Morningstar vs. the Market for Admiral

Topic	The market believes…	Morningstar believes…
	• Admiral will grow earned premiums by around 11.8%. The result of high, but moderating policy growth in U.K. home insurance, travel, and international. U.K. motor will have midsingle digit growth. • Pricing in U.K. insurance will rise by 10 basis points a year on average, stronger in home and travel. International prices will rise by 150 basis points on average, stronger in Spain and the U.S. • The margin on U.K. instalment income will average GBP 19 per (motor) customer and the margin on U.K. fee and comissions will average GBP 30.5 per (motor) customer. • Claims incurred will average 68.3% in U.K. motor, 70.3% in U.K. household, and 69.6% in U.K. travel. Claims incurred will average 74.9% in international. • The expense ratio will average 25.4% in the U.K. and 42.5% in international. The interest expense as a percentage of debt will average 2.7%. • Cost of equity is 9.0%. Stage two growth will be positive 5.0%. Stage two return on equity will be 27.4%. There is a no pension position.	• Admiral will grow earned premiums by around 11.8%. This is the result of high, but moderating policy growth in U.K. home insurance, travel, and International. U.K. motor will have mid-single-digit growth. • Pricing in U.K. insurance will rise by 10 basis points a year on average, stronger in home and travel. International prices will rise by 150 basis points on average, stronger in Spain and the U.S. • The margin on U.K. instalment income will average GBP 19 per (motor) customer and the margin on U.K. fee and commissions will average GBP 30.5 per (motor) customer. • Claims incurred will average 66.1% in U.K. motor, 58.5% in U.K. household, and 69.6% in U.K. travel. Claims incurred will average 72.2% in international. • The expense ratio will average 21.8% in the U.K. and 39.4% in international. Interest expense as a percentage of debt will average 2.7%. • Cost of equity is 9.0%. Stage two growth will be positive 10.0%. Stage two return on equity will 27.4%. There is a no pension position.

Source: Morningstar Research Services. Data as of Dec. 31, 2022.

Factors Have Converged To Release Reinsurers

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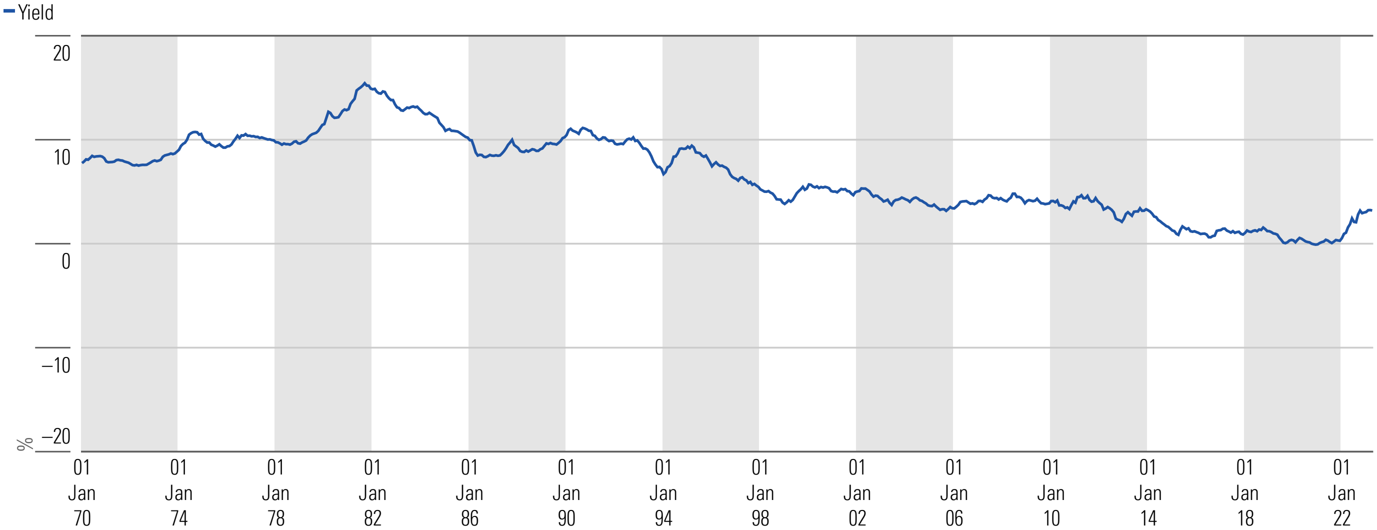
Reinsurers Have Not Had It Easy in Recent Years

Reinsurance is almost as old as insurance with the first evidence of contracts being written in the 1400s. In the first instance we found it was used where a primary insurer had carelessly underwritten a life insurance contract and over the years reinsurers have had to become better at underwriting as they have faced adverse selection from primary insurers. In the early years there was a flurry of bankruptcies as they began to learn about their disadvantages. Yet, since then some have endured and become some of the longest-standing businesses within European insurance. They have of course made mistakes, aggressively growing in securitised products, not underwriting diligently at times, and diversifying too much. However, we believe despite some missteps they have become the best bastions in the industry because their vulnerable position of exposure to adverse risk selection has forced this to happen. Over the last two decades conditions have been unfavourable for reinsurers and over the last few years this has continued to get worse. Add a 1-in-200-year pandemic and it has been tough times for reinsurers, overall. Yet, they have endured and many have learned exactly where their true expertise lies. We believe as the world continues to change they will continue to be increasingly relied upon.

Falling Yields Presented the First Sign of Trouble for Reinsurers

Reinsurance and insurance, like any other industry, is at its heart a game of supply/demand. And while many businesses including reinsurers will spend heavily on data and technology to build their underwriting expertise, risk selection, and pricing of claims and margin; where there is capital there is supply and where there is less capital there is demand. As they write new business and incur acquisition costs the balance sheet strain is what determines how much business a reinsurer can write if it wants to. Its investments in proprietary technology determine how well it can write and how well it can identify what it wants to sell. As the world moved to a subdued inflationary environment, after the Great Inflation period and the recessions and energy shortages that it caused, monetary policy became dovish. As the policy of low interest continued, yields on long-term government and corporate bonds fell after the Great Inflation from January 1965 to December 1982, when inflation fell from 14% in 1980 to low single digits in early 1983. Yields on long-term government bonds can be mapped to this well.

Exhibit 24 Long-Term 10-Year Government Bond Yields for the Euro Area's 19 Countries



Source: Federal Reserve Bank of St Louis. Data as of April 1, 2023.

In the same way, the insurance landscape has recently seen a compression in balance sheets as interest rates have risen and the present value of fixed income and other securities have decreased; during the falling inflationary period and interest rates of the 1980s this led to a reversal and the present values began to rise. In some ways for insurers and reinsurers that was good because it inflated shareholders' equity under the old regime as the present value of claims liabilities remained. However, this fall in inflation and rise in balance sheets as rates also decreased meant that there was more reinsurance capital available to deploy than there was before. This also meant that while whatever demand there had been for reinsurance remained, the supply of reinsurance capital increased. This rise in supply was not good for the pricing power of reinsurers.

Alternative Capital Has Put Further Pressure on Traditional Reinsurance

Pricing power within reinsurance over the long term has undoubtedly been driven by supply/demand. Yet the theme that has taken hold more frequently has been one of arbitrage. When Hurricane Andrew hit in the early 1990s along with Hurricane Iniki and the Northridge earthquake that followed, for reinsurance this started something new. Institutional investors became attracted to the industry because of its low correlation to the performance of financial markets and government and corporate bonds and they wanted to diversify their performance and bolster fixed-income returns. Capital from hedge funds, pension funds, mutual funds, and sovereign wealth funds followed. Investors' capital flowed into alternative capital products and this meant easily identifiable trigger events such as hurricanes and storms. New catastrophe bond issuance rose from below $1 billion to over $8 billion in the years that followed. The percentage of global reinsurance capital it represented reached double digits 10 years ago.

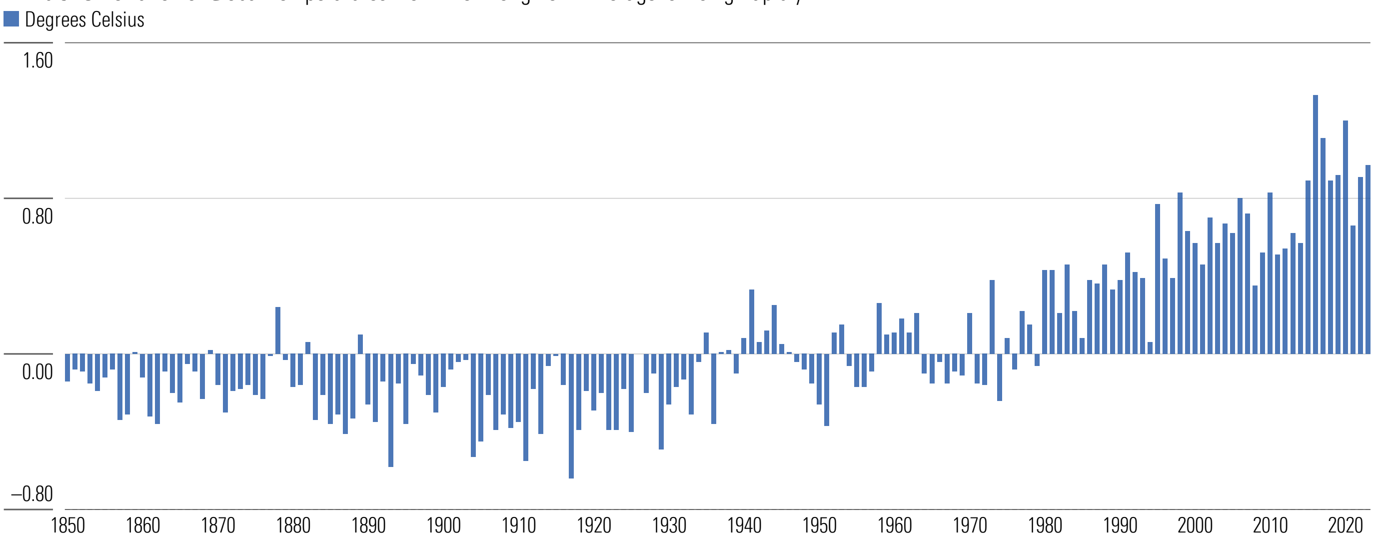
This has meant pressure on reinsurance pricing continued to grow.

However, alternative capital is just that, it is capital that in the loosest sense is static and is placed to generate a risk-adjusted return. That is not necessarily going to work over the long term in the reinsurance industry.

Global Warming Is Leading To Higher Economic Losses

As the change in average surface temperatures warms the Earth there is evidence that this leads to a higher frequency and severity of weather events around the world. While the evidence cannot tie the warming of the earth to a rise in the frequency and severity of events, scientific theory can conclude that it increases the probability of higher frequency and severity of weather events. It can be tied to a higher likelihood rather than actual outcomes. Global warming increases the number of hotter days and nights, drying the soil and fields, leading to heatwaves, subsiding land, and wildfires. These higher temperatures lead to more evaporation of fresh water and salt water across the planet. This can lead to droughts and famines and increases the frequency and intensity of hurricanes. As sea levels rise and as ice caps melt, coastal storms create more water damage in seaside towns.

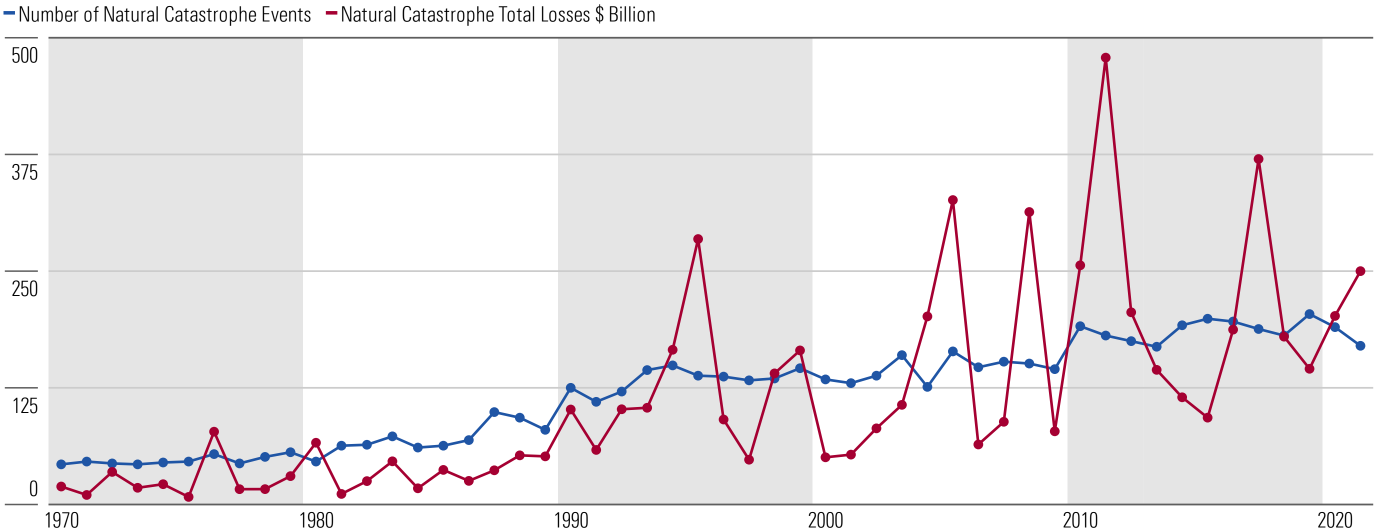
Exhibit 25 Deviation of Global Temperatures From Their Long-Term Average Is Rising Rapidly



Source: National Oceanic and Atmospheric Administration. Data as of Dec. 31, 2022.

In the paper Attribution of extreme rainfall from Hurricane Harvey, August 2017 Geert Jan van Oldenborgh drew on observations since 1880 to highlight that precipitation increased two times for every 1 degree Celsius rise in temperature. The paper highlighted that higher evaporation and condensation drew stronger wind updrafts and concluded that global warming made precipitation around 15% more intense and increased the probability of a hurricane Harvey event by between 1.5 and 5.0 times. While collectively it may be difficult to make direct ties between global warming and weather events, evidence and experience seem to point to the fact that the warming of the Earth's surface temperature is causing the frequency and severity of these events to increase. Further, the rising frequency and severity of natural catastrophe losses correlates with rising surface temperatures of the Earth.

Exhibit 26 The Number of Natural Catastrophes and Damage Being Caused Continues To Rise



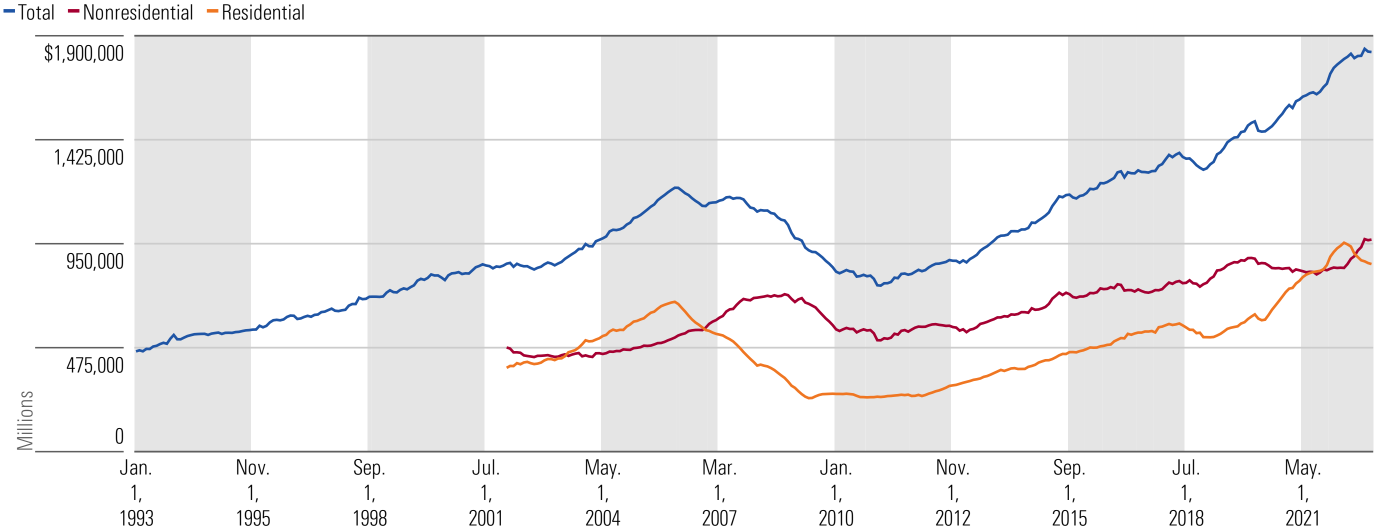
Source: Swiss Re Sigma. Data as of Dec. 12, 2022.

It Is Unlikely That Demand for Reinsurance Will Plunge

At the start of this year devastating earthquakes in Syria and Turkey left millions homeless and claimed many lives. The 2023 earthquakes along Turkey's East Anatolian Fault have been among the most destructive since the start of the 20th Century and this fault line lies twice in the list of the 10 deadliest earthquakes, according to the National Geophysical Data Center. Many argue the melting ice caps change the weight distribution across the Earth's crust and this drives changes in plate tectonics and puts a primed fault line at risk. Economic losses from earthquakes have averaged $15 billion over the 10 years prior. These earthquakes are set to cost Turkey $35 billion alone. They remain one of the least-well-covered perils in terms of insuring against economic loss.

As the number and severity of weather and insured events continues to increase, global construction spending continues to march higher. The U.S. alone spent $21.5 trillion on construction last year. This is staggering considering the $275 billion economic loss from natural catastrophes. While insurers and reinsurers have helped close the protection gap across human-made and weather-related catastrophes over the last 50 years from 4.8 times to 2.3 times, there is a minimum $250 billion protection gap that remains outstanding. At current and reduced capacity, with temperatures and expenditure rising, that protection gap looks set to increase.

Exhibit 27 The Amount of Money Spent on Construction Continues on a Strong Upward Trend



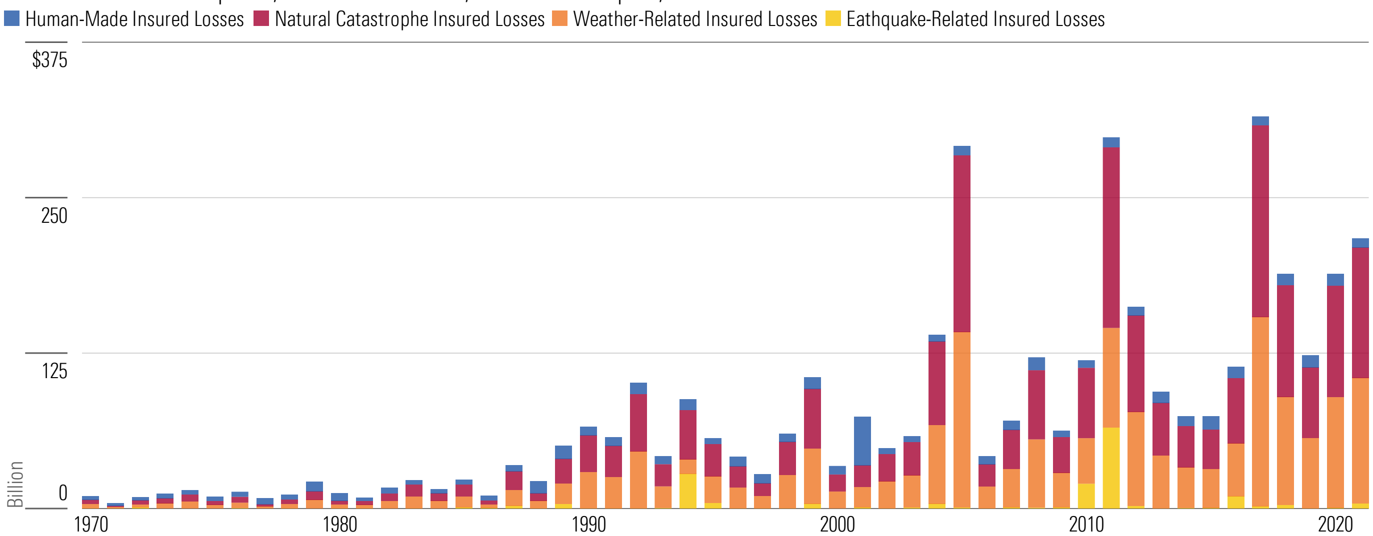
Source: Federal Reserve Bank of St Louis. Data as of Jan. 31, 2023.

Forces Converge for a Traditional Reinsurance Rise

In the main, there are fundamentally two types of reinsurance and we believe both show how traditional reinsurers are further along the spectrum of the broader insurance sector transition from payer to partner. In co-insurance a primary insurer will cede a proportion of the business it has written to a reinsurance partner, which sometimes can choose what parts of the book it wants to underwrite. However, because over the years a reinsurer has relied on the quality of the primary insurer's risk selection to derive its earnings, these businesses have become increasingly sophisticated at becoming an underwriting partner. Their expertise lies in what risks to underwrite and when, where, and how to serve the primary as a co-insurance or reinsurance partner. Reinsurers have been leaned on by primaries to enter new markets, build out new products, and grow or scale down market share. Their expertise has become widely invaluable. Further, the second fundamental form of reinsurance is excess loss and this leaves the reinsurer much more exposed to risk as a partner. Here, the business will underwrite any losses incurred above a certain threshold and therefore indemnify its primary insurance partner. But again, the relationship shows that the reinsurer has a personal stake in the primary insurer's standards. And if they do not have a well-aligned partnership this leaves the reinsurer exposed to higher losses than it priced in. Both forms of reinsurance show us that reinsurers have a vested interest in the primary insurer's underwriting standards and this drives the pursuit of risk mitigation and better risk selection at the outset. This also makes their experience invaluable for directly insuring larger risks such as those found within specialised commercial insurance.

As we operate in an increasingly uncertain world where pandemics happen, and global warming, war, and politics have an increasing impact, we believe the risk of insurable events is set to rise. Insurance and reinsurance firms insure against inconvenience, used lightly, and economic loss. The busy pace of people's lives and the number of events and size of their losses continues to rise. We believe reinsurers, in support of this rise, play an increasingly important part. With their expertise and knowledge they are better placed to help mitigate against loss. For example, with the probability that a 1-in-500-year event has now risen to the probability of a 1-in-100-year event, reinsurers can help communities, constructors, regulators, and a disaster recovery force. Reinsurers can help stakeholders manage land and building regulations and standards. They can help prepare for the higher probability and severity of weather and human-made events by helping build physical assets and systems that will last.

Exhibit 28 Cost of Earthquakes, Human-Made Events, Natural Catastrophes, and Weather-Related Events Continues To Rise



Source: Swiss Re. Data as of Dec. 21, 2022.

This sets traditional reinsurers apart from alternative capital providers.

As the rising losses from weather events over recent years continued to have an impact on financial results, because of elevated levels of capital and higher alternative capital supply reinsurers had not been able to raise prices to where they should have. Enter a 1-in-200-year pandemic, severe natural disasters, some heavy human-made losses, and a subsequent rise in interest rates to combat inflation that has led to the present value of financial assets falling and capital dropping, these businesses now have the perfect conditions to push through and establish new and higher prices. We think a reinsurers' worth as a partner adds to this sway and strengthens its business model.

Reinsurance Winners Need To Have Strong Balance Sheets

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Balance Sheets Are One of The Most Important Factors in Reinsurance

There is a perception that balance sheets are not frequently thought about in insurance. Yet, we think they are one of the most important parts. That is because assets are bought and held to settle liabilities and during times of strain or stress insurers suffer from a similar problem to banks: as the present value of their assets falls their ability to pay claims to policyholders is questioned. Under the new accounting regime this will improve as the present value of claims will also change. However, we believe that because insurers write policies and receive and invest premiums before they pay claims, these questions can also lead to a lack of confidence in that business and that can result in customers looking elsewhere. This results in a downward cycle where asset values fall as well as premium income and cash flow.

We think the importance of capitalisation is more evident in reinsurance where underlying customers tend to be businesses or other primary insurers. As clients they tend to be more sophisticated than personal-line policyholders. A business or primary insurer will want to know that the reinsurer is in a strong position to be able to pay any legally obligated claims in full and be able to do so even during the most stressful times. This is why credit ratings are important and we believe even more so during times of market strain. During these periods we think it is the best-capitalised reinsurers that are likely to be favored by primary insurers. Similarly, the least well capitalised are more likely to be least favored and experience a contraction in business writing.

Exhibit 29 Reinsurer Credit Ratings Are Important As They Indicate an Insurance Firm's Capacity To Honour Claims

Company	Agency	Rating	Outlook	Last Modification
Munich Re	A.M. Best	A+ Superior	Stable	07 Dec 17
Munich Re	S&P Global	AA- Very Strong	Stable	22 Dec 06
Swiss Re	A.M. Best	A+ Superior	Stable	18 Aug 22
Swiss Re	S&P Global	AA- Very Strong	Negative	21 Feb 23
Hannover Re	A.M. Best	A+ Superior	Stable	13 Jan 22
Hannover Re	S&P Global	AA- Very Strong	Stable	22 Aug 22
Scor	A.M. Best	A Excellent	Stable	09 Mar 23
Scor	S&P Global	A+	Stable	17 Nov 22

Source: Company websites. Data as of March 30, 2023.

Societe Commerciale de Reassurance Will Lose About EUR 1 Billion in Shareholder Equity Value

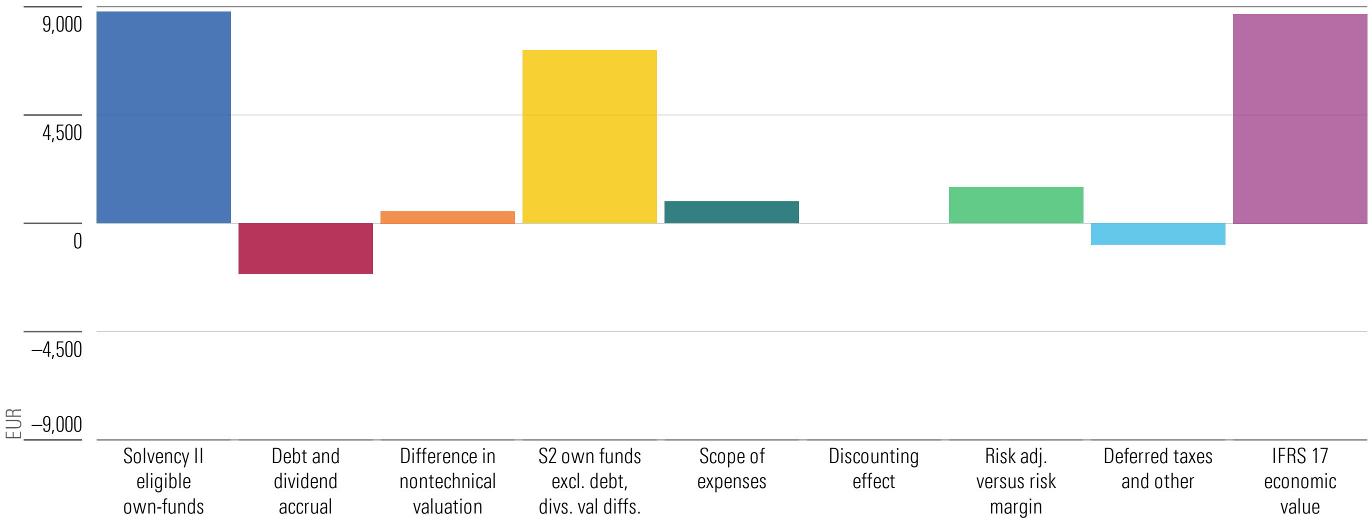
The transition from IFRS 4 to IFRS 17 is a large one and will have an impact on various European insurers in different ways. How this happens will only unfold over time as we move to more practical live dates with full-year results. However, until we get there, businesses are disclosing the transitional impact in different ways.

In the case of Scor, management outlined two key metrics that will drive the business now and in future under the new regime. While Scor alleges both carry equal weight, we believe one will be the most important and that is the target of a 7% above the risk-free, economic value growth rate. Management is aiming to achieve this growth within a 185%-220% solvency ratio. These targets are built up from assumptions made by management about what the business can achieve.

As Scor returns to a portfolio that places more emphasis on its core life and health reinsurance unit, and after a period of targeting growth in natural catastrophe lines where the company lacked experience, we anticipate life and health reinsurance revenue growth will be in a slightly higher range of low-single-digit growth compared with the property and casualty unit. We attribute management's anticipated lower growth rates to a combination of portfolio pruning and lower balance-sheet strength, overall. Scor is targeting an insurance service result of around EUR 450 million in its core life and health reinsurance division. With an 8% annual contractual service margin amortisation, the majority of that will come from the release of future life and health profits from this contractual service margin stock per year. That stock is expected to be built equally by new business of around EUR 450 million. In Scor's property and casualty unit the business it writes is for a shorter duration. Under the IFRS 4 accounting regime Scor's targeted combined ratio of 95%, including an 8% impact from large claims as a result of natural catastrophes, translates into an 87% combined ratio target with a 10% natural catastrophe budget under IFRS 17. That lower combined ratio arises as a result of discounting claims and the lower insurance revenue denominator under IFRS 17. The natural catastrophe budget rises as a result of the increase in severity the industry has experienced. For Scor's property and casualty unit, management is targeting a new business contractual service margin of around EUR 750 million. That will amortise almost fully over one year.

Unwinding claims discounts will pass through insurance finance income and expenses, and management is targeting an expense ratio of 7.1%-7.3% on a forward-looking basis. That includes EUR 45 million of a EUR 125 million target by 2025. The result of these objectives is an ROE of 11% above the risk-free rate. That is helped by Scor's improved profit outlook and reduction in its shareholders' equity. Shareholders' equity has fallen at the point of transition by approximately EUR 1 billion. That is the result of the positive impact from discounting claims that have been more than offset by adding a risk adjustment and contractual service margin to these claims. The risk adjustment can be viewed as increased conservatism. It adds an additional layer of prudence to claims to compensate insurers and reinsurers for cash flow timing and value uncertainty.

Exhibit 30 Solvency II Eligible Own-Funds Is a Good Proxy for Economic Value Under IFRS 17



Source: Company reports. Data as of Dec. 21, 2022.

We Believe the Market is Anticipating Continued Higher Property and Casualty Claims

With Scor's transition to the new IFRS 17 accounting regime there is no impact on the company's policy to pay dividends. Management's aim to distribute at least 35% of earnings as a full-year dividend paid once a year and keep the volatility of this dividend low. That distribution is also somehow tied to economic value creation in the context of Solvency II. Our belief is that while Scor's dividend is among the best covered by Solvency II earnings, it is not the most reliable. Management skipped the dividend during the pandemic and cut the dividend by 20% to EUR 1.40 per share for full-year (negative) earnings generated over 2022. On the plus side, the company has achieved an average dividend payout ratio of 60% over the last 15 years. Buybacks are generally not executed. As we transition to an IFRS 17 world and Scor loses around EUR 1 billion of shareholders' equity, we believe that leaves Scor with one of the highest leveraged reinsurance balance sheets. The company has significantly improved its sensitivities but the leverage and retraction from natural catastrophe, combined with its low credit ratings lead us to be conservative on the strength of its balance sheet.

Exhibit 31 In Our European Insurance Coverage Scor Has the Highest Cover of Normalised Operating Capital Generation Over Shareholder Distributions

Ticker	Company	Fundamental Currency	Dividend Currency	Reporting Currency to Dividend Currency	Estimated or Historical Interim Dividend Per Share	Estimated or Historical Final Dividend Per Share	Interim Dividend in EUR Million	Final Dividend in EUR Million	Full-Year Dividend in EUR Million
LON: DLG	Direct Line	GBP	GBP	1	8	15	98	197	295
LON: ADM	Admiral	GBP	GBP	1	45	50	136	151	288
	U.K. Personal Lines								
SWX: SLHN	Swiss Life	CHF	CHF	1	0	30	-	887	887
LON: PRU	Prudential plc	USD	USD	1	6	13	158	359	517
	European Life								
PAR: SCR	Scor	EUR	EUR	1	0	2	-	322	322
ETR: HNR1	Hannover Re	EUR	EUR	1	0	6	-	724	724
SWX: SREN	Swiss Re	USD	USD	1	0	6	-	2,034	2,034
ETR: MUV2	Munich Re	EUR	EUR	1	0	12	-	1,597	1,597
	European Reinsurance								
AMS: AGN	Aegon	EUR	EUR	1	14	16	277	316	593
BRU: AGS	Ageas	EUR	EUR	1	150	150	275	275	551
AMS: NN	Nationale Nederland	EUR	EUR	1	100	179	281	504	785
	Benelux								
LON: AV.	Aviva	GBP	GBP	1	12	21	337	590	927
MIL: G	Generali	EUR	EUR	1	0	118	-	1,826	1,826
PAR: CS	AXA	EUR	EUR	1	0	170	-	3,850	3,850
ETR: ALV	Allianz	EUR	EUR	1	0	11	-	4,578	4,578
SWX: ZURN	Zurich	USD	CHF	1	0	24	-	3,156	3,156
	European Multilines								

Source: Company reports and Morningstar Research Services. Data as of Dec. 31, 2022.

While Scor's balance sheet looks weak, the business has also had a rough time lately, similar to Direct Line. A few years ago Scor management decided to grow its property and casualty portfolio more aggressively in natural catastrophe lines and this hasn't turned out well. Scor's property and casualty business' combined ratio has averaged 102.5% over the last six years and those poor standards of underwriting really hit home last year. When the company reported a natural catastrophe impact of 10.1% alone in first-quarter 2022, that was already 2 percentage points ahead of the 8.0% natural catastrophe budget for the full year. Those higher losses resulted from floods in Australia and wind storms in Europe, and as a result management pledged to reduce the company's natural catastrophe probable maximum loss by 15% over the year. Scor has subsequently delivered a 20% reduction in natural catastrophe PML and identified agricultural risks as another area that it will tackle. Scor's target is to reduce its agriculture book-probable maximum loss by 50% in coming years. This expansion and retraction highlights a misdirection at Scor in making an aggressive move into natural catastrophe perils where the risk of loss is much higher and the business lacks expertise. Scor's return to its roots of specialist and treaty lines as well as core life and health is supported by new management. Laurent Rousseau has left Scor and been replaced by Thierry Leger, who comes from a background that is more life-insurance-orientated. Nevertheless, we think that many of Scor's problems are the result of poor leadership. That becomes clear when you compare the style of frequent business adjustments with the long-term development of positions and expertise at Hannover Re.

For 2022 Scor delivered a property and casualty combined ratio of 113.5%, which is the highest it has been over the last 15 years. Our earnings forecasts aren't aggressive, but the business is severely lacking in quality and consistency. That shows in the value the market currently applies to the business.

Exhibit 32 Morningstar vs. the Market for Scor Under IFRS 4

Topic	The market believes…	Morningstar believes…
	• Scor will grow earned premiums by around 7.3%. This the result of high, but moderating growth in global property and casualty and mid-single-digit growth for Scor global life. • Gross claims incurred will average 66.0% in Scor global P&C, 87.8% in Scor global life. Claims ceded via retrocession will be 7.0% and 11.0%, respectively. • Gross commissions will average 22.2% in Scor global P&C and 14.5% in Scor global life. Commission recoveries will equal 1.3% and 9.5%, respectively. • Investment management expenses, administrative expenses, and other current operating expenses will average 0.6%, 4.5%, 1.8% of net earned premium, respectively on a group basis. • Scor will distribute at least 35% of its earnings in annual dividends and not carry out buybacks. Interest paid on debt will average 4.4% and over the coming years the business will lower its leverage.	• Scor will grow earned premiums by around 4.0%. This is the result of low-single-digit growth in Global property and casualty and mid-single-digit growth at Scor global life. • Gross claims incurred will average 64.5% in Scor global P&C, 87.8% in Scor global life. Claims ceded via retrocession will be 7.0% and 11.0%, respectively. • Gross commissions will average 22.2% in Scor global P&C and 14.5% in Scor global life. Commission recoveries will equal 1.3% and 9.5%, respectively. • Investment management expenses, administrative expenses, and other current operating expenses will average 0.5%, 4.1%, 1.7% of net earned premium, respectively on a group basis. • Scor will distribute at least 35% of its earnings in annual dividends and not carry out buybacks. Interest paid on debt will average 4.4% and over the coming years the business will lower its leverage.

Source: Morningstar Research Services. Data as of Dec. 31, 2022.

Even in Its Accounting Choices, Hannover Re Reiterates its No-Nonsense Business Model

With the introduction of and transition to IFRS 17 Hannover Re has taken a unique approach of only using the general measurement model. The GMM is the default measurement under IFRS 17 with the variable fee approach used only for fee-based business within life insurance. To use the premium allocation approach a business must prove annually that the calculation of liabilities does not deviate too much from the calculation under the GMM. The PAA is a simplified version of the GMM and does not match the GMM well in long-term contracts. By adopting only the GMM Hannover Re removes complexity and aligns its accounting choices with the core of the new standard. By using the GMM approach to calculate the value of its claims Hannover Re adopts a building-block approach that estimates, to the best of its ability, the payments it will need to make, and then discounts these payments back to the present value. The estimates of those claims payments are settled by predicting those payments under different scenarios. A layer of prudence is then added to these reserves. The new IFRS 17 accounting standard introduces an extra layer of prudence by requiring insurers to add a risk adjustment to these discounted claims payments that will be made to policyholders in future. This risk adjustment is required by the new accounting rules to factor in an allowance for the uncertainty that surrounds the timing and amounts of these claims payments. So, under IFRS 17 and in a similar way to Solvency II there are two layers of prudence in claims payments. The contractual service margin adds the discounted value of expected future profits to the associated record of future claims payments. While this means that under IFRS 17 the present value of payments to be made to policyholders is higher than it was under IFRS 4, in principle it also includes three layers of profitability that will be released into the income statement. These are prudence within the reserves, risk adjustment, and contractual service margin. And if actuarial and financial assumptions prove accurate and claims payments match best estimates, these three sources of profit will be fully realised.

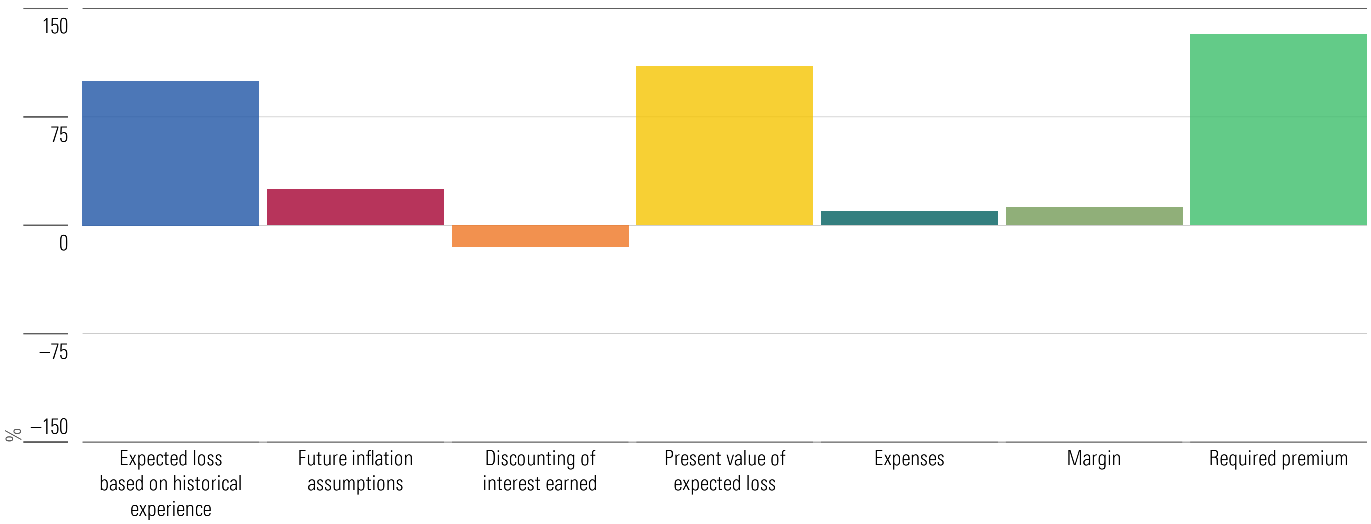
Hannover Re Is Strengthening Its Competitive Position Even Through the Transition To IFRS 17

While most insurers are concerned about the implementation of a new accounting change with the introduction of IFRS 17, Hannover Re has taken a straightforward approach to accounting choices and the company has also aimed to improve the quality of the business, overall. In taking the decision to use the GMM, an approach that is more intricate and tends to require heavier data and analytics to price contracts and value claims, Hannover Re has taken the opportunity to upgrade its actuarial and finance systems, merge all its core databases into two, and improve the granularity of data underwriters can use.

Hannover Re takes a decentralized approach to underwriting and this is one of the business' strengths. This means that underwriters do not work toward an ideal portfolio that is established and set by management and there is no function within Hannover Re that outlines how much should be written when and where in terms of the line of business or region. Decisions on whether or not to write a specific piece of business are based on whether or not that piece of business will generate a return above the company's minimum margin. We think this drives home the relevance of data and analytics because it outlines how important it is to get this process right as part of business writing. The better an insurer can assess profitability, the better its results will ultimately be.

These data and analytics tools enable Hannover Re to build prices up from the bottom and maintain its desired margin. For example, data and analytics are useful for taking a view on the historical levels of claims within a specific area and line of business. The insurer can answer the question: "If I insure this set of policyholders in this line of business, in this area, under these legal, social, environmental, and economic conditions, what claims payments should I expect to make?" This is challenging because claims may not actually be paid for short-tail claims between 3- and 5 years. For long-tail claims they may not be paid for 20 to 30 years. For the inflation component alone, Hannover Re uses 400 indexes. We think this pricing process is clearly laid out in Exhibit 34 that shows how the company adds expectations of inflation and its expenses to this expectation for claims. This allows the business to set its desired premium.

Exhibit 33 Insurers and Reinsurers Use Data and Analytics To Form Expectations of the Losses They Will Incur

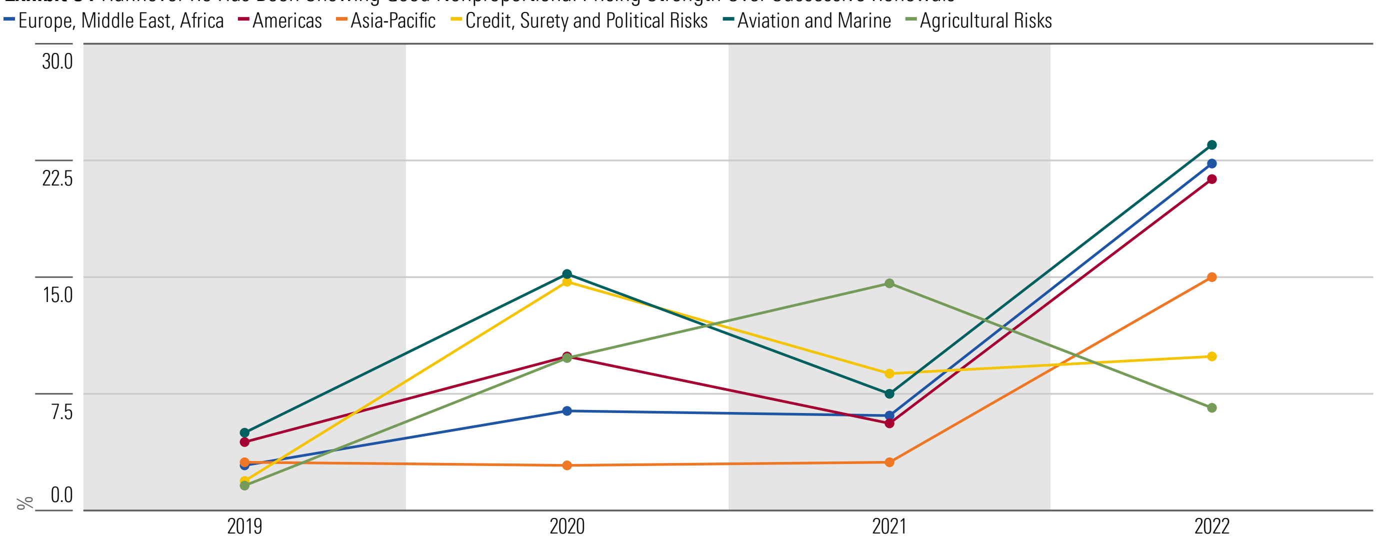


Source: Company reports, Morningstar Research Services. Data as of Dec. 31, 2022.

Like Scor, but probably to a more accurate degree, Hannover Re has been able to assess in which lines of business it can achieve a desired profit margin, considering its expectation for inflation, expenses, and claims. For example, the company now has a small EUR 500 million cybercrime book, has pared back its large account U.S. casualty, now writing this line by line, and has become more selective in U.S. windstorms. Hannover Re continues to exercise a specialty-class double-digit market share.

The accuracy and method of this building-block approach to claims and expenses seem to give Hannover Re more strength when it comes to knowing what prices to charge. That is because out of all the European reinsurers in our coverage Hannover Re has, on average, posted the best property and casualty combined ratios. The ability of Hannover Re to get exactly what it wants is probably not always the case. For example, in its January renewals it increased treaty reinsurance prices by 8% on average. However, we think Hannover Re has been able to price ahead of the market in the lines of business where the ability to predict the cost of claims is more difficult. For example, in its nonproportional lines its price increases averaged 20.7% and in its natural catastrophe business this price rose by 30% on a risk-adjusted basis. That means for this line Hannover Re's profit margin is 30% higher. These rises have undoubtedly been helped by the reduction in balance sheets, spurred by a period of high claims costs and rising interest rates, topped off by the new accounting change.

Exhibit 34 Hannover Re Has Been Showing Good Nonproportional Pricing Strength Over Successive Renewals



Source: Company reports, Morningstar Research Services. Data as of Dec. 31, 2022.

Exhibit 35 Morningstar vs. the Market for Hannover Re Under IFRS 4

Topic	The market believes...	Morningstar believes...
	• Hannover Re will grow earned premiums by around 7.7%. This is the result of high, but moderating growth in property and casualty and moderating mid-single-digit growth in life. • Property and casualty claims incurred will average 70.5% and 83.6% in life. • Gross commissions will average 24.8% in property and casualty and 18.7% in life. Administrative expenses will average 1.7% in property and casualty and 3.4% in life. • Investment management expenses, administrative expenses, and other current operating expenses will average 0.6%, 4.5%, 1.8% of net earned premium, respectively on a group basis.	• Hannover Re will grow earned premiums by around 7.7%. This is the result of high, but moderating growth in property and casualty and moderating mid-single digit growth in life. • Property and casualty claims incurred will average 70.5% and 83.1% in life. • Gross commissions will average 24.8% in property and casualty and 17.1% in life. Administrative expenses will average 1.7% in property and casualty and 3.4% in life. • Hannover Re will distribute around 47.5% of its earnings in annual dividends and not carry out buybacks. Interest paid on debt will average 3.6% and leverage will stabilise.

Source: Morningstar Research Services. Data as of Dec. 31, 2022.

Munich Re Chooses Full Alignment Accounting, Which Is as Close as Possible to Solvency II

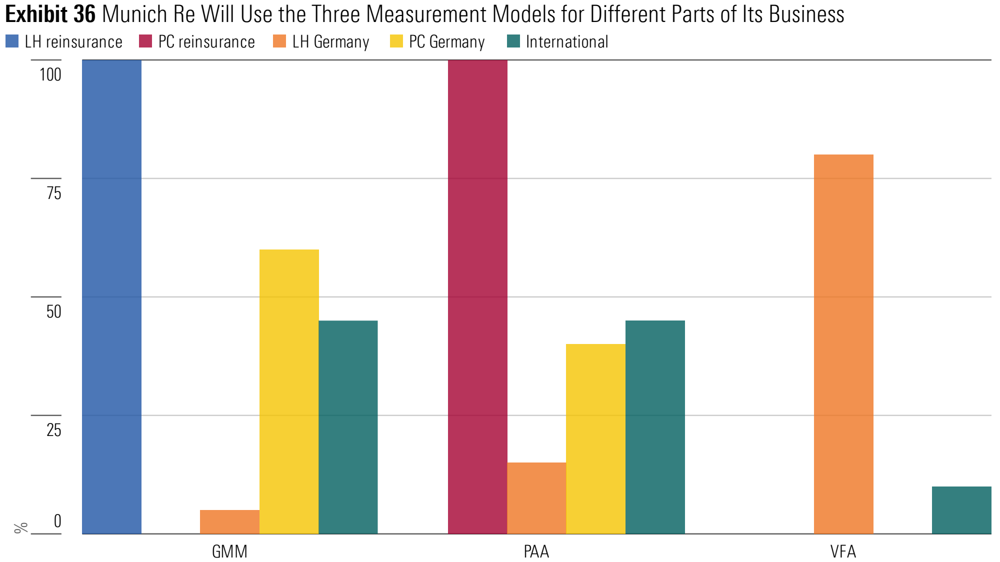
With the introduction of IFRS 17, the accounting choices Munich Re has made align it as closely as possible to Solvency II. Management welcomes the new standard because of its alliance with economic steering. Munich Re management stipulates earnings will be more transparent because of the consistent market approach to discounting and clearer separation of insurance and investment business under this new regime. But none of these accounting choices change the company's strategy or dividends.

To achieve alignment with Solvency II, Munich Re will use the same discount rate curves used under Solvency II. Changes in the present value of policyholder claims will be passed through other comprehensive income. However, we do think that income statement earnings will be more volatile as

Munich Re has increased the proportion of assets where changes in fair value pass through the income statement and not through shareholders' equity. We believe the accounting treatment of these assets is down to individual companies and under this new IFRS 17 accounting standard all assets that are not loans or fixed-income assets will pass through profit or loss for Munich Re. This means that all private equity, infrastructure, real estate, and derivatives, and so the share of assets where fair value changes pass through profit or loss, rises from 1% to almost 15% after this transition to IFRS 17. This accounting treatment with more asset fair value passing through profit or loss means more of Munich Re's assets are accounted for at fair value. This leads to a EUR 10 billion rise in the company's total investments value to EUR 240 billion.

Munich Re will use the GMM to value claims and price business for around a third of its business. This will be applied to life and health reinsurance and some parts of Ergo, the company's primary insurance business. For the largest segment of the company, property and casualty reinsurance, management has decided to use the simplified premium allocation approach to value claims and price business. This accounts for over half of revenue. For the remaining part of the business Munich Re will use the third measurement model called the variable fee approach primarily for its Ergo life and health business in Germany. The VFA approach is specifically designed for participating contracts where policyholders take a share of the investment returns. This should reduce earnings volatility. With the introduction of the concept of onerous contracts, for any contracts that show a loss at inception that loss will have to be booked immediately.

Exhibit 36 Munich Re Will Use the Three Measurement Models for Different Parts of Its Business

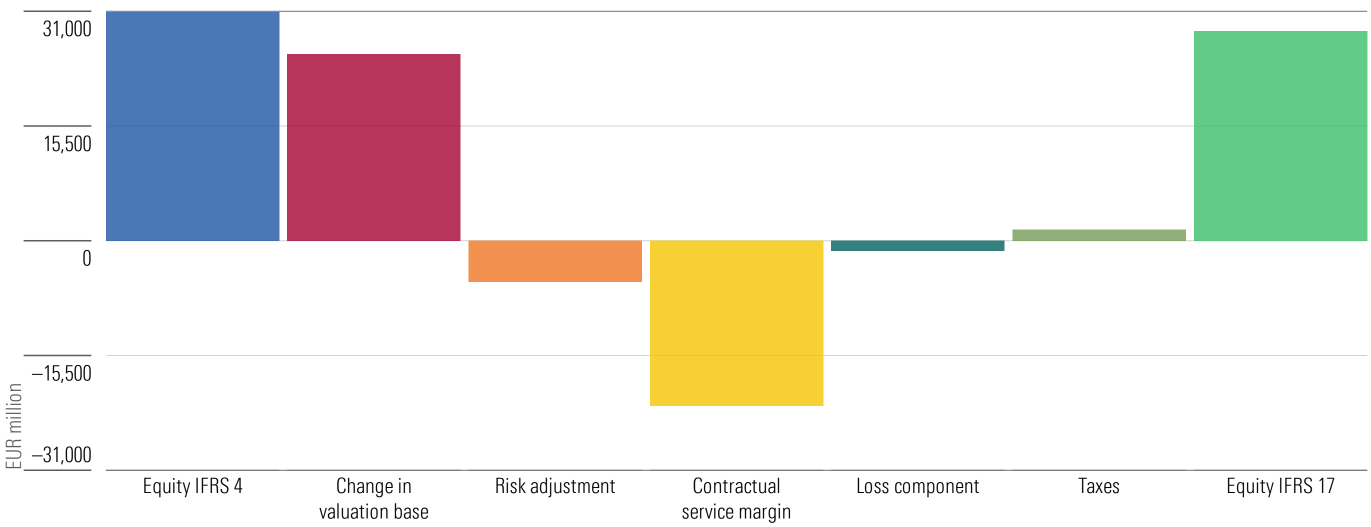


Source: Company websites. Data as of March 30, 2023.

With the Inclusion of the Risk Adjustment and Contractual Service Margin, Equity Will Fall

Under the new accounting regime, Munich Re is also experiencing a drop in shareholders' equity and the change is significant. In the undiscounted framework Munich Re shareholders owned EUR 30.9 billion of equity. And the core application of discounting assets and liabilities at market-consistent rates increased the value they held by EUR 25.2 billion. While that 80% rise includes consolidation of some items that were held off-balance-sheet under IFRS 4, such as Ergo loans and real estate, the addition of the risk adjustment and contractual service margin has reduced the value owned by shareholders by EUR 5.6 billion and EUR 22.3 billion, respectively. That means the value shareholders own has fallen to EUR 28.4 billion. Arguably, that value could include the risk adjustment and contractual service margin, but that would be relying on future profitability. Munich Re's application of the risk adjustment is based on the cost-of-capital approach used under Solvency II. That is prescribed at 6% under the EIOPA regime, but Munich Re's calculation utilises the benefit of diversification that is not available under Solvency II. For discounting claims, Munich Re applies an illiquidity premium where the volatility adjuster is applied in the Solvency II regime. Changes in these discount rates will be absorbed by other comprehensive income for the PAA and GMM approach and by the CSM for the VFA.

Exhibit 37 Value of Munich Re Shareholder Equity Is Hit Substantially by the Future Profitability of the Business

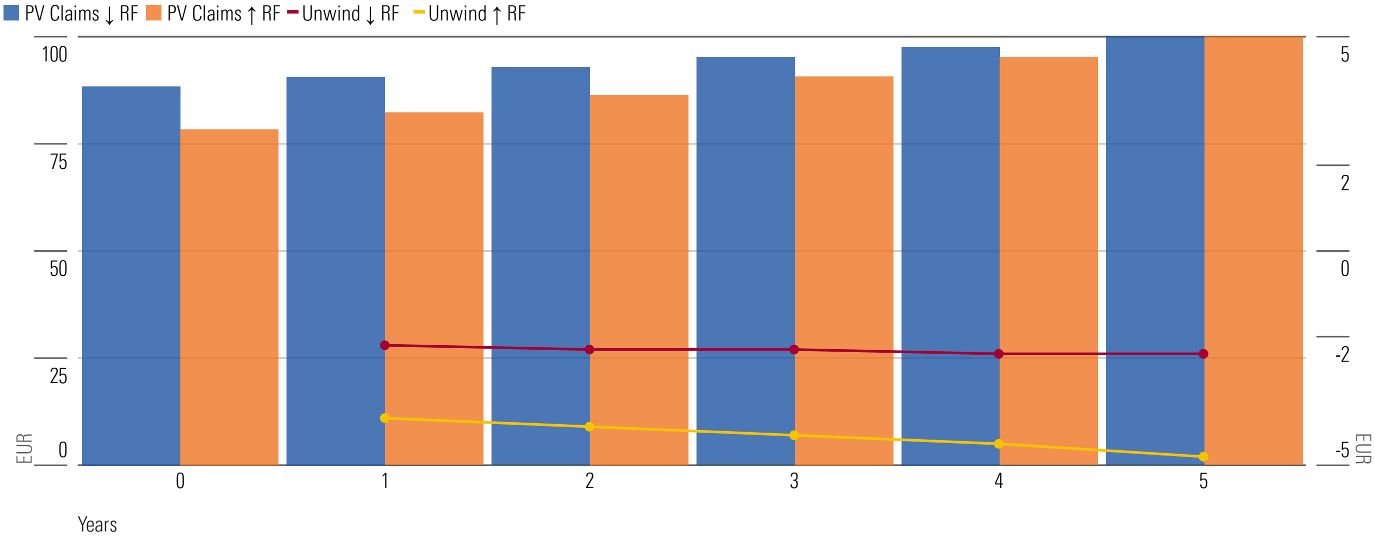


Source: Company reports, Morningstar Research Services. Data as of Dec. 31, 2022.

Unwinding the Discount Is Another Key Concept

Because reserves that have been booked for future claims payments are now discounted back to the present value, as those claims pass one year, further along to their ultimate payment date, the one year's worth of discounting will unwind and that will pass through insurance finance income and expenses. Because discounting future claims has a favourable impact after discounting them to a lower value that was the case under the old regime, as that discount unwinds by one year it has an adverse impact on earnings. The higher the discount rate used, the higher the impact of unfavourable unwinding. This means that at the point of transition on Jan. 1, 2023, when discount rates were lower than they are now, unwinding those claims payments will have a lower negative impact than the unwind of the discount on claims that are being booked presently. In a rising interest-rate environment we should therefore expect an earnings headwind from this discount unwind that will be partially offset by the higher impact of discounting these claims. When interest rates fall we should expect earnings tailwind from this unwind that will be offset by the lower impact of discounting these claims. Unwinding this discount will pass through finance income and expenses and the discounting of claims will pass through insurance contract claims. These are both earnings items within the income statement, but finance income and expenses sit below operating income. Changes to these discount rates will be booked in OCI.

Exhibit 38 Higher Rates Mean Higher Discounting, and a Higher Earnings Impact From the Discount Unwind



Source: Morningstar Research Services. Data as of Dec. 31, 2022.

Returns Will Rise for Owners of Munich Re

While the book value that shareholders own in the business has clearly fallen at the point of transition to IFRS 17, we believe that because the reason for most of that fall is a booking of future profitability within reserves set aside for future claims, profitability will increase. That will, of course, depend on how the expectations that are used to set and reserve claims and expenses match reality. But Munich Re has moved from guidance of EUR 3.3 billion for net income for full-year earnings in 2022 to guidance for a consolidated result of EUR 4.0 billion for full-year earnings in 2023. For comparison, these figures change the returns the business makes and therefore the returns that shareholders make will rise from 10.7% to 14.1% over this period. This stacks up well against our 11.0% cost of equity.

Within our stress-testing analysis, Munich Re holds one of the most durable balance sheets and the company operates with low leverage and high credit ratings. As a result of the transition, the outlook for Munich Re's distributions remains unchanged. The company has not missed a dividend payment in the last 15 years and has not reduced its dividends per share once during this 15-year period. The official dividend policy is that the DPS should increase on average by at least 5% per year. So far, the company has raised its DPS by 5.6% per year and we believe the company will continue to buy back around EUR 1 billion in shares annually.

Exhibit 39 Munich Re Offers Solid Distributions That Include Buybacks

Ticker	Company	Stock Trades Excluding Interim	Payment Date Interim	Stock Trades Excluding Final	Payment Date Final	Interim Dividend, million	Final Dividend, million	Buyback, million	Solvency Earnings, million
LON: DLG	Direct Line	August	September	April	May	98	197	-	425
LON: ADM	Admiral	September	September	May	June	136	151	-	510
	U.K. Personal Lines								
SWX: SLHN	Swiss Life	No Interim	No Interim	April	April	-	887	665	875
LON: PRU	Prudential plc	August	September	March	May	158	359	-	1,275
	European Life								
PAR: SCR	Scor	No Interim	No Interim	February	March	-	322	-	1,250
ETR: HNR1	Hannover Re	No Interim	No Interim	May	May	-	724	-	1,350
SWX: SREN	Swiss Re	No Interim	No Interim	April	April	-	2,034	500	2,850
ETR: MUV2	Munich Re	No Interim	No Interim	May	May	-	1,597	1,000	4,150
	European Reinsurance								
AMS: AGN	Aegon	August	September	June	July	277	316	300	1,375
BRU: AGS	Ageas	October	October	May	June	275	275	125	725
AMS: NN	Nationale Nederland	August	September	May	June	281	504	250	1,300
	Benelux								
LON: AV.	Aviva	August	October	March	May	337	590	300	1,500
MIL: G	Generali	No Interim	No Interim	May	May	-	1,826	500	3,675
PAR: CS	AXA	No Interim	No Interim	May	May	-	3,850	1,100	6,550
ETR: ALV	Allianz	No Interim	No Interim	May	May	-	4,578	1,000	11,785
SWX: ZURN	Zurich	No Interim	No Interim	April	April	-	3,156	500	5,100
	European Multilines								

Source: Morningstar Research Services. Data as of Dec. 31, 2022.

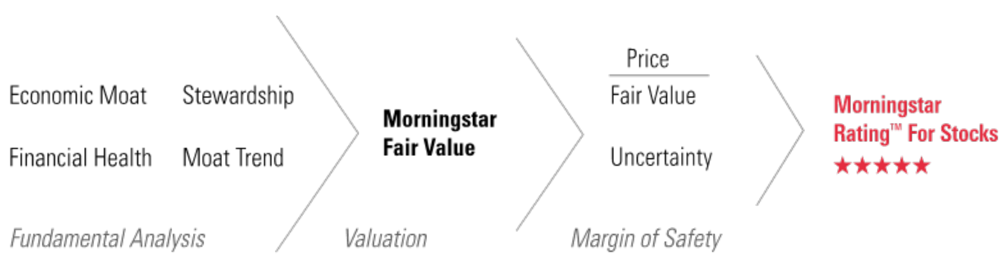
Research Methodology for Valuing Companies

Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, in-depth competitive advantage analysis, and a variety of other analytical tools to augment this process. Moreover, we think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (e.g., mines), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss short-term market price movements), but we believe these negatives are mitigated by deep analysis and our long-term approach.

Morningstar's equity research group ("we," "our") believes that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star stocks sell for the biggest risk-adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Morningstar Research Methodology



Source: Morningstar.

Four key components drive the Morningstar rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's fair value, (3) our uncertainty around that fair value estimate, and (4) the current market price. This process ultimately culminates in our single-point star rating.

Economic Moat

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define economic profits as returns on invested capital (ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality, no-moat companies will see their normalized returns gravitate toward their cost of capital more quickly than companies with moats.

To assess the sustainability of excess profits, analysts perform ongoing assessments of the moat trend. A firm's moat trend is positive in cases where we think its sources of competitive advantage are growing stronger, stable where we don't anticipate changes to competitive advantages over the next several years, or negative where we see signs of deterioration.

Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

In this stage, which can last 5 to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in working capital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) and net new investment (NNI) to derive our annual free cash flow forecast.

Stage II: Fade

The second stage of our model is the period it will take the company's return on new invested capital—the return on capital of the next dollar invested (RONIC)—to decline (or rise) to its cost of capital. During the Stage II period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10–15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBI over the period, a normalized investment rate, average return on new invested capital (RONIC), and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until a perpetuity value is calculated. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

Stage III: Perpetuity

Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with estimated WACC.

Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term, market value weights.

Uncertainty Around That Fair Value Estimate

Morningstar's uncertainty rating captures a range of likely potential intrinsic values for a company and uses it to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The uncertainty rating represents the analysts' ability to bound the estimated value of the shares in a company around the fair value estimate, based on the characteristics of the business underlying the stock, including operating and financial leverage, sales sensitivity to the overall economy, product concentration, pricing power, and other company-specific factors.

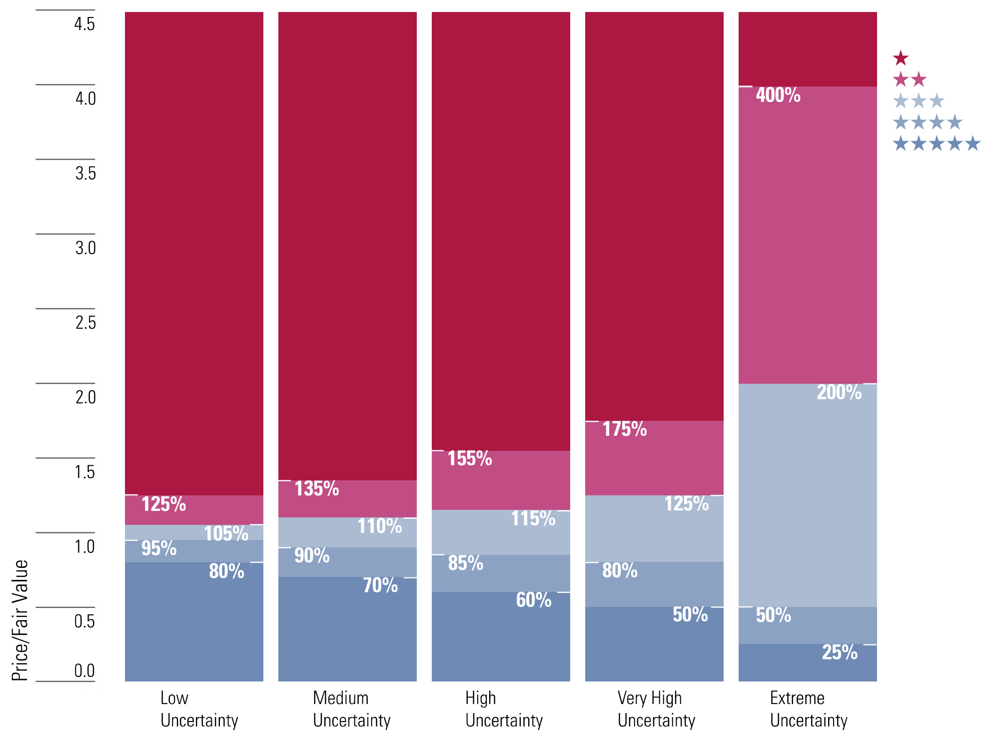
Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case and a 25% probability that the company will perform worse than the bear case. The distance between the bull and bear cases is an important indicator of the uncertainty underlying the fair value estimate.

Our recommended margin of safety widens as our uncertainty regarding the estimated value of the equity increases. The more uncertain we are about the estimated value of the equity, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the uncertainty rating provides guidance in portfolio construction based on risk tolerance.

Our uncertainty ratings for our qualitative analysis are low, medium, high, very high, and extreme.

- Low: Margin of safety for 5-star rating is a 20% discount and for 1-star rating is a 25% premium.
- Medium: Margin of safety for 5-star rating is a 30% discount and for 1-star rating is a 35% premium.
- High: Margin of safety for 5-star rating is a 40% discount and for 1-star rating is a 55% premium.
- Very high: Margin of safety for 5-star rating is a 50% discount and for 1-star rating is a 75% premium.
- Extreme: Margin of safety for 5-star rating is a 75% discount and for 1-star rating is a 300% premium.

Morningstar Equity Research Star Rating Methodology



Market Price

The market prices used in this analysis and noted in the report come from the exchange on which the stock is listed, which we believe is a reliable source.

For more details about our methodology, please go to https://shareholders.morningstar.com.

Morningstar Star Rating for Stocks

Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the star rating is automatically recalculated at the market close on every day the market on which the stock is listed is open. Our analysts keep close tabs on the companies they follow and, based on thorough and ongoing analysis, raise or lower their fair value estimates as warranted.

Please note, there is no predefined distribution of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true, the market price will converge on our fair value estimate over time, generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our star ratings are guideposts to a broad audience, and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors.

The Morningstar Star Ratings for stocks are defined below:

★★★★★ We believe appreciation beyond a fair risk-adjusted return is highly likely over a multiyear time frame. Scenario analysis developed by our analysts indicates that the current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential.

★★★★ We believe appreciation beyond a fair risk-adjusted return is likely.

★★★ Indicates our belief that investors are likely to receive a fair risk-adjusted return (approximately cost of equity).

★★ We believe investors are likely to receive a less than fair risk-adjusted return.

★ Indicates a high probability of undesirable risk-adjusted returns from the current market price over a multiyear time frame, based on our analysis. Scenario analysis by our analysts indicates that the market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to capital loss.

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