Swiss Re Institute

No 6/2022

sigma

Economic stress reprices risk: global economic and insurance market outlook 2023/24

Executive summary

We forecast global real GDP growth of only 1.7% in 2023 as inflationary recessions approach major economies.

Despite relatively resilient growth this year, we expect the world economy to grow by just 1.7% in real terms next year as inflationary recessions approach major economies. Having last year flagged inflation as the number one immediate macro concern, we continue to see upside risk in the next two years and expect it to prove sticky. With it, we see downside risks to growth from higher central bank interest rates. In advanced markets we forecast real GDP growth of just 0.4% in 2023, the lowest since the 1980s outside of the global financial and COVID-19 crises. In emerging markets, we anticipate substantially lower growth rates than pre-pandemic that will likely feel akin to recession. The higher interest rate environment is repricing risk in financial markets and we see this continuing. We anticipate significant insurance market rate hardening in 2023 and potentially some years after. This should ease pressure on the global insurance industry from inflation, natural catastrophe losses and weaker investment results this year.

This year we add a new "D", for debt and related risks, to our "3D" structural economic drivers.

This year we add a fourth dimension to the "3D" set of long-term economic drivers we identified last year: to the structural trends of divergence, digitalisation and decarbonisation we add debt, and its related risks. The withdrawal of market liquidity as central banks unwind unconventional monetary policies is exposing financial vulnerabilities that have built up over the past decade. Debt is a key concern, specifically whether governments can sustain public spending commitments in the face of higher interest rates. We see a risk that market shocks accumulate and fuse into financial instability. Central banks face competing priorities of price stability, financial stability and enabling governments to pursue looser fiscal policy. This creates a risk of real interest rates being repressed in the longer term, either through higher inflation or eventually lower nominal interest rates, to manage debt sustainability or financial stability concerns. If so, we see inflation likely being higher and more volatile. Addressing demand-side drivers of inflation with supply-side or productivity-enhancing policies and investments would help ease this tension.

The insurance industry faces pressure from high inflation this year, but higher interest rates will be a silver lining from 2023.

The global insurance industry faces multiple pressures this year but we expect rate hardening to regain momentum in response. Higher interest rates should be a silver lining as inflation pressure abates in 2023 and 2024, supporting investment results and profitability. Inflation remains the number one industry concern. We forecast high inflation in cost components relevant for insurers, such as construction and healthcare that suggests insurers' claims and costs could rise markedly in 2022 and 2023, even without considering changes in claims frequency and natural catastrophe activity. We expect total global insurance premiums to decline slightly in 2022, with a gradual recovery but still below-trend real premium growth for the next two years. In non-life insurance, slowing global growth and inflation will likely cut real premium growth to below 1% this year, with a recovery as inflation eases and the hard market goes on. Global non-life insurance return on equity (ROE) is expected to halve to just 3.4% in 2022 as underwriting performance and investment results are weaker, but rebound to a 10-year high in 2024 as the interest rate tailwind and potential rate hardening take effect. In life insurance, we forecast a 1.9% contraction in global premiums in real terms in 2022 as consumers face cost-of-living pressure, but a return to trend growth in 2023 and 2024, carried by emerging markets. Life profitability is improving due to rising interest rates and normalising COVID-19 mortality claims.

Alternative scenarios enable us to prepare for new risks as they emerge.

To prepare as new risks emerge, we monitor three alternative scenarios to our baseline outlook. Two scenarios are pessimistic: "1970s-style structural stagflation" and "severe global recession", with the former envisaged to be worse for insurers than the latter due to the impact of prolonged severe inflation on balance sheets. A severe global recession would reduce premiums, investment performance and underwriting results in most lines of business in the near term. With inflation anticipated to be persistent and volatile, and macroeconomic risks overall skewed towards our downside scenarios, we see strong capital and risk management as essential to mitigate risks, alongside underwriting rigour, portfolio steering, reinsurance, asset allocation and hedging.

Key takeaways

Inflationary recessions are materialising, led by advanced economies

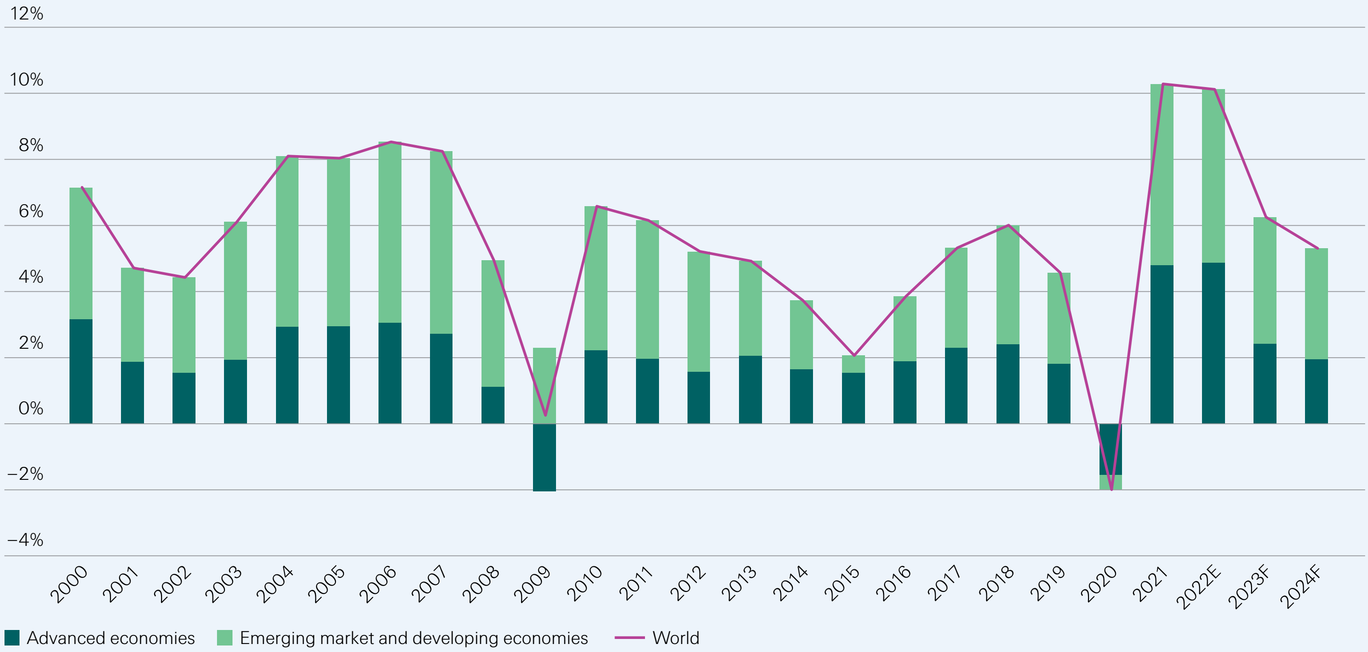
Real GDP growth, inflation and interest rates for select regions, 2021 to 2024

		2021	2022E		2023F		2024F	
		Actual	**SRI**	**Consensus**	**SRI**	**Consensus**	**SRI**	**Consensus**
Real GDP growth, annual average, %	US	5.7	1.8	1.8	0.1	0.4	1.6	1.4
	Euro area	5.2	3.1	3.1	–0.2	–0.1	1.3	1.5
	China	8.1	3.4	3.3	4.1	4.8	4.9	5.0
Inflation, all-items CPI, annual average, %	US	4.7	8.1	8.1	3.7	4.2	2.8	2.4
	Euro area	2.6	8.6	8.3	6.2	5.6	3.0	2.1
	China	0.9	2.3	2.2	2.6	2.4	2.4	2.1
Yield, 10-year government bond, year-end, %	US	1.5	3.9	3.9	3.6	3.4	3.4	3.2
	Euro area	–0.2	2.6	2.2	2.6	2.0	2.3	2.1

Note: E = estimates, F = forecasts. The 10-year euro area bond yield is proxied by the German government bond yield. Data as of 10 November 2022.
Source: Bloomberg, Swiss Re Institute

Emerging markets will no longer be such a strong engine of global GDP growth

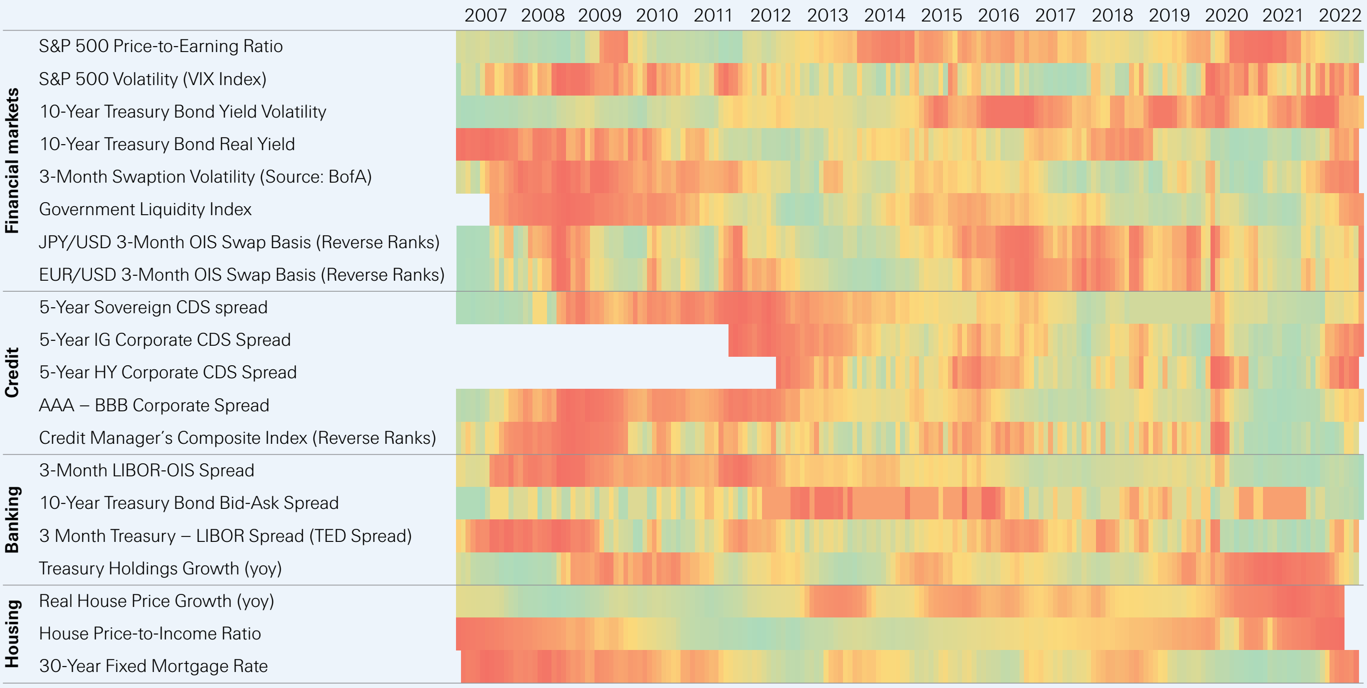
Nominal world GDP growth (current prices, international dollars, purchasing-power parity), contribution by region



Note: E = estimates, F = forecasts. Source: IMF World Economic Outlook Database, October 2022, Swiss Re Institute

Financial stability risks are beginning to emerge in the US as well as elsewhere

Key higher-frequency metrics of financial stability risks for the US



Note: The data for each variable are transformed into percentile ranks, based on the distribution of its values since 2007. The heatmap presents the distribution of the percentile ranks. Red indicates high percentile ranks (bad) and green indicates low percentile ranks (good).
Source: Bloomberg, Federal Reserve Economic Data, OECD, Swiss Re Institute

Cyclical and structural factors point to continued insurance market rate hardening

Macro and market dynamics facing the insurance industry

Macroeconomic dynamics

- Economic recession
- Prolonged and more volatile inflation
- Rising interest rates
- Financial stability risks

Market landscape

- Hardening market
- New risk pools (eg cyber)
- Consumer and government risk awareness
- Huge losses from natural catastrophe events
- Declining capacity in re/insurance market
- Reduction in shareholder equity

Source: Swiss Re Institute

The inflationary shock has varying impacts on claims in different lines of business

Line of business	Claims impact 2022	Claims impact 2023	Reason
Non-life			
Property	High	Above average	Price of materials peaked in 2022, but wage growth to continue in 2023
Motor, physical damage	High	Average	High car part prices related to supply chain imbalances, and wage growth
Motor, bodily injury	Below average	Above average	Wage growth and medical cost inflation to exceed general inflation
Liability	Average	Above average	Wage growth, medical, and social inflation
Health	Below average	Above average	Medical cost inflation
Life			
Life	None	None	Benefits are set at policy issue

Source: Swiss Re Institute

A challenging 2022 for insurers will be followed by a gradual recovery in 2023 and 2024

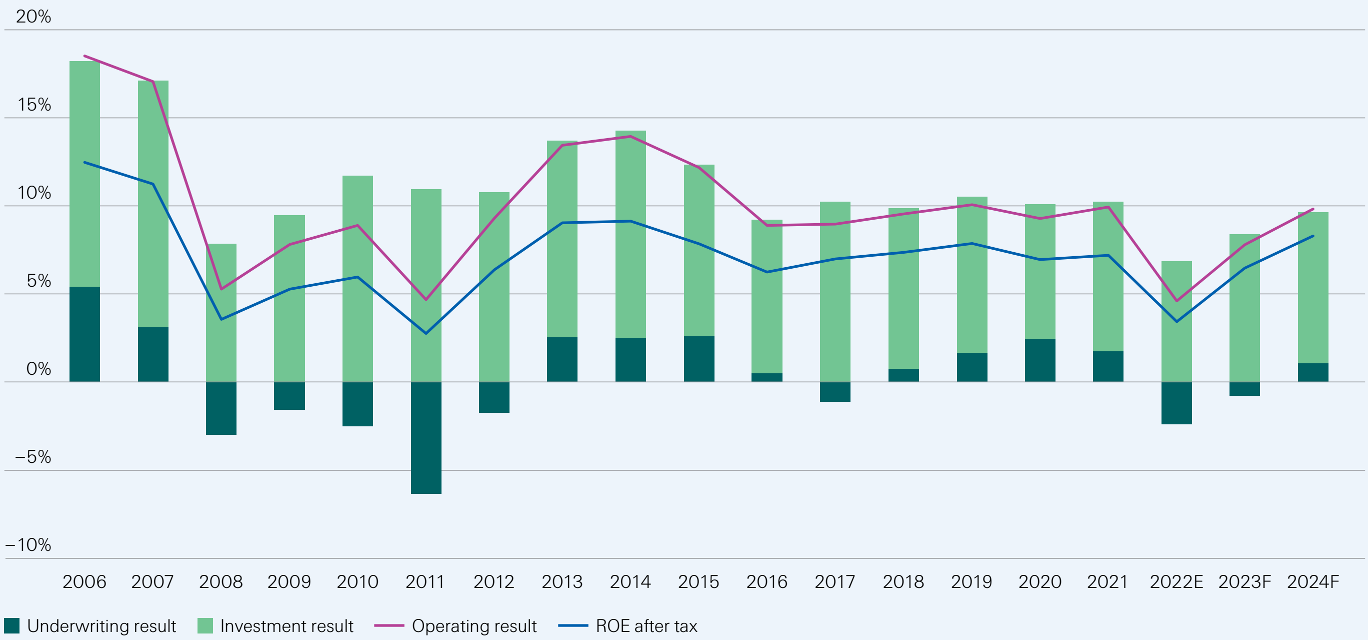
Real insurance market forecasts, key markets

	Total			Non-life			Life		
	Past 2017–2021	**Growth rate 2022**	**Outlook 2023–2024**	**Past 2017–2021**	**Growth rate 2022**	**Outlook 2023–2024**	**Past 2017–2021**	**Growth rate 2022**	**Outlook 2023–2024**
World	2.6% =	–0.2% ▼	2.1% ▼	3.5% ▲	0.9% ▼	2.3% ▼	1.5% =	–1.9% ▼	1.7% =
Advanced markets	2.2% ▲	–0.8% ▼	1.6% =	3.2% ▲	0.6% ▼	1.9% ▼	0.7% =	–2.8% ▼	0.8% ▲
North America	2.9% ▲	1.2% ▼	1.5% ▼	3.4% ▲	1.0% ▼	1.9% ▼	1.3% ▲	1.5% ▲	0.0% ▼
EMEA	2.4% ▲	–2.9% ▼	1.6% ▲	2.6% ▲	–1.2% ▼	1.9% ▲	1.8% ▲	–4.2% ▼	0.7% ▲
Asia Pacific	–0.5% ▼	–3.9% ▼	2.2% ▲	3.1% ▲	2.1% ▼	2.3% ▼	–1.7% ▼	–6.0% ▼	2.0% ▲
Emerging markets	4.4% ▼	2.1% ▼	4.2% ▼	5.4% ▼	2.7% ▼	4.1% ▼	4.4% ▼	0.9% ▼	4.3% ▼
Excluding China	2.5% ▼	1.5% ▼	4.0% ▼	2.2% ▼	1.4% ▼	3.2% ▼	3.1% ▼	2.0% ▼	5.1% ▼
China	6.2% ▼	2.6% ▼	4.3% ▼	8.5% ▼	3.6% ▼	4.7% ▼	5.3% ▼	0.2% ▼	3.7% ▼

Note: figure shows insurance premium forecasts, in real terms. Total insurance premium forecasts are for life and non-life combined. Icons show direction of deviation from long-term trend (2006–2021) for each region. EMEA refers to Europe, Middle East and Africa.
Source: Swiss Re Institute

Non-life insurance profitability is set to rebound in 2023 and 2024 after a downturn in 2022

Aggregated performance of eight of the largest non-life insurance markets, % of net premiums earned



Note: E = estimates, F = forecasts. The eight markets are the US, Canada, France, Italy, Germany, the UK, Australia and Japan. ROE is expressed in % of shareholder equity. Source: Swiss Re Institute

Macroeconomic environment and outlook

Major economies are facing inflationary recessions in the next 12-18 months, we forecast, and we see risks to the growth outlook as skewed to the downside. In Europe, leading indicators suggest that due to the additional pressure of the energy crisis, the downturn may have already begun. Global inflation momentum is likely to decelerate over the next two years but, still, we anticipate inflation being stickier and more volatile than in past decades. The pace of monetary policy tightening may slow, but we believe central banks are unlikely to pivot to interest rate cuts immediately, and will continue to prioritise price stability even as recessions materialise unless financial stability risks become systemic. In advanced economies, we see the low nominal sovereign bond yield environment as largely over.

Inflationary recessions on the horizon

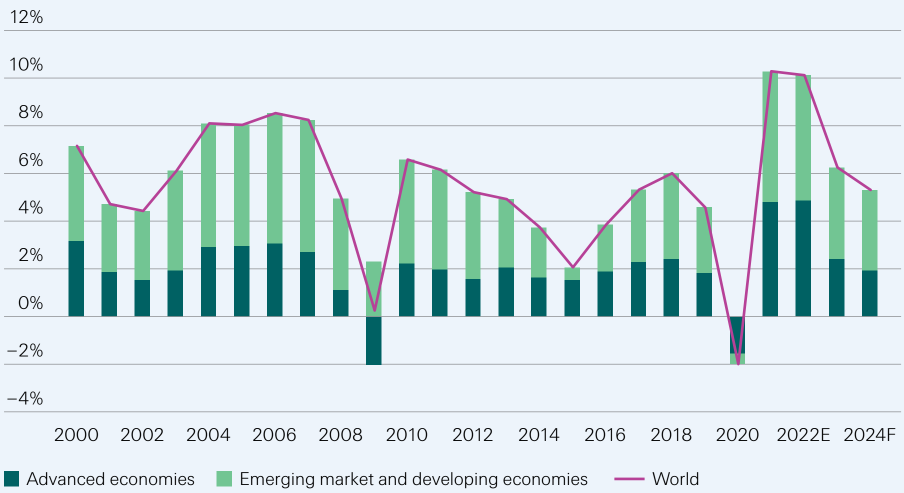
GDP growth has been resilient this year but inflationary recessions are approaching in the next 12–18 months.

As a tumultuous 2022 comes to a volatile close, we see major economies like the US and Europe moving towards "inflationary recessions" in the next 12 to 18 months and facing increasing concerns about financial instability (see Chapter 2). We forecast global GDP growth in real terms to drop from 2.8% this year to 1.7% in 2023 (see Table 1). As a general rule, global real GDP growth of about 1–2% or less is considered a global recession.[1] Higher interest rates in this elevated inflation environment are likely to be a key driver of the forthcoming global growth slowdown.

Emerging markets will no longer be a strong engine of global growth as advanced economies suffer.

We project real GDP growth in advanced markets to decline from 2.4% this year to 0.4% in 2023, the largest annual slowdown since the 1980s outside of the global financial crisis (0.3%/–3.4% in 2008/2009) and the COVID pandemic (–4.5% in 2020).[2] Emerging market growth rates will also weaken: excluding China, we forecast emerging market real GDP growth of 2.8% in 2023. However, in terms of contribution to world GDP growth (in USD, purchasing power parity), emerging markets may have a growing share in the near-term if our US and European recession baselines play out (see Figure 1). The combination of slowing global demand, rising debt levels, higher interest rates and a strong US dollar is increasing emerging market debt burdens (see Chapter 2), shrinking their exports and limiting room for fiscal policy to support the economy. In Asia, we do not forecast real GDP contraction in 2023, but we expect growth rates to be substantially lower than their pre-COVID trend, which will be akin to recession in terms of the impact on consumers and businesses.

Figure 1
Nominal world GDP growth (current prices, international dollars, PPP), contribution by region



Note: E = estimates, F = forecasts.
Source: IMF World Economic Outlook Database October 2022, Swiss Re Institute

1 A. Kose, M. Terrones, "Collapse and Revival: Understanding Global Recessions and Recoveries", IMF, 2015.
2 *sigma* database, based on national and international data sources.

Table 1
Real GDP growth, inflation and interest rates in select regions, 2021 to 2024

		2021	2022E		2023F		2024F	
		Actual	SRI	Consensus	SRI	Consensus	SRI	Consensus
Real GDP growth, annual average, %	US	5.7	1.8	1.8	0.1	0.4	1.6	1.4
	UK	7.4	4.3	4.2	–1.0	–0.5	0.9	1.1
	Euro area	5.2	3.1	3.1	–0.2	–0.1	1.3	1.5
	Japan	1.7	1.3	1.6	1.3	1.4	1.0	1.1
	China	8.1	3.4	3.3	4.1	4.8	4.9	5.0
	Switzerland	4.2	2.2	2.2	0.9	0.8	1.5	1.6
	Global	5.8	2.8	2.9	1.7	2.3	2.8	2.9
Inflation, all-items CPI, annual average, %	US	4.7	8.1	8.1	3.7	4.2	2.8	2.4
	UK	2.6	9.1	9.0	7.0	6.3	3.7	2.6
	Euro area	2.6	8.6	8.3	6.2	5.6	3.0	2.1
	Japan	–0.2	2.3	2.3	1.5	1.6	0.9	0.9
	China	0.9	2.3	2.2	2.6	2.4	2.4	2.1
	Switzerland	0.6	2.9	2.9	2.0	2.0	1.5	1.3
	Global	3.6	8.1	7.4	5.4	4.9	3.5	3.3
Policy interest rate, year-end, %	US*	0.1	4.6	4.4	5.1	4.2	3.6	2.9
	UK	0.3	3.5	3.7	4.0	4.2	3.3	3.4
	Euro area	0.0	2.8	2.5	3.5	2.8	3.3	2.5
	Japan	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yield, 10-year government bond, year-end, %	US	1.5	3.9	3.9	3.6	3.4	3.4	3.2
	UK	1.0	3.5	4.0	3.5	3.7	3.5	3.7
	Euro area	–0.2	2.6	2.2	2.6	2.0	2.3	2.1
	Japan	0.1	0.2	0.2	0.2	0.2	0.3	0.2

Note: E = estimates, F = forecasts. US policy rate is taken as the mid-point of the range; euro area policy rate refers to the interest rate on the main refinancing operations; 10-year euro area yield is proxied by the German government bond yield. Data and forecasts as of 10 November 2022.
Source: Bloomberg, Swiss Re Institute

The euro area is likely to face an earlier and deeper contraction than the US.

The nature of the coming recessions
Without considering the additional spillover risks of financial instability, the euro area is likely to face a deeper recession than the US due to the energy and cost-of-living crisis, with leading indicators already in recessionary territory. In the US, it will likely be the aggressive monetary policy tightening from the Federal Reserve (Fed) that tips the economy into recession, although this will likely materialise later and be more moderate than in the euro area (see Table 2). However, the risk of financial instability could make the downturns deeper in both regions (see Chapters 2 and 4).

Table 2
Depth, diffusion and duration: the three dimensions of inflationary recessions expected in the euro area and US

	Euro area	US
Depth	▪ **Deeper contraction** than the US; nations like Germany and those in eastern Europe vulnerable	▪ **Moderate** contraction
Diffusion	▪ **Energy crisis:** pushing inflation up and growth down; winter will worsen supply-demand imbalances. Consumer and business confidence weakened – **Energy rationing/forced savings:** output of energy-intensive industrial sectors most exposed (particularly in Germany). Diffusion to other European economies – **Labour market impact:** softening due to lower production in energy-intensive sectors; unclear if furlough schemes will be re-introduced – **Consumer impact:** excess savings decline given persistent real income squeeze ▪ **Loss of global momentum:** slowing external demand will once again most impact countries like Germany ▪ **Monetary tightening**: to continue as the ECB raises interest rates in the coming months, also weighing on growth	▪ **Restrictive monetary policy:** rate hikes are exposing: – **Corporates under pressure:** household excess savings continue to erode, while low and deteriorating consumer confidence will likely cut spending. Company revenue to come under pressure while companies also face higher borrowing costs – **Housing market stress:** affordability is worse than before the financial crisis and mortgage rates are rising. Demand and prices expected to fall – **Strong US dollar weakens exports:** the significant appreciation in the dollar against trading partners risks weighing on exports and weakening the trade balance ▪ **Labour markets loosen:** rising unemployment rate will be a headwind to sentiment and drag on demand
Duration	▪ **Downturn** lasting two or more quarters ▪ Risks for winter next year are under-appreciated (risks that next winter's energy crisis could be worse)	▪ **Shorter recession than in Europe** ▪ The downturn will likely take place early in 2023
Triggers that could deepen the recession	▪ Further deterioration in **energy crisis** (see Chapter 4) ▪ **EU solidarity cracks** (leads to fragmented or more constrained policy responses, bringing less support) ▪ **Feedback loop** from global recessionary conditions	▪ Worsening **labour markets** ▪ Policymakers constrained in offering support to cushion the recession/accelerate the recovery ▪ **Feedback loop** from global recessionary conditions

Source: Swiss Re Institute

A slow recovery after the coming recession

Recoveries after the coming recession will be slow and protracted, stretching beyond 2023.

Economic recoveries are likely to be slow and protracted, stretching beyond 2023. We expect the rebound to be much weaker than the exceptional post-COVID bounceback in 2021, which was boosted by large-scale monetary and fiscal stimulus in economies worldwide, and pent-up household demand and savings. We see no central bank pivot into monetary easing unless severe downside (systemic) risks materialise. However, we expect advanced market governments, principally in Europe, to maintain inflationary fiscal stimulus such as income support, despite high inflation. By the end of 2023, we forecast US real output to still be USD 2.2 trillion below our pre-Ukraine invasion forecasts, and the euro area economy to be USD 1.7 trillion smaller than the pre-war forecast. For the US, this shortfall would be more than twice as large as that caused by the 2020 COVID-19 crisis (and 1.2x for the euro area, with Germany most exposed with a 1.4x greater shortfall). The recessions will weaken consumer balance sheets, and consumer spending is unlikely to support the next recovery as strongly as prior ones.

Inflation is not conquered

Falling energy prices point to lower CPI inflation rates next year, yet still above historic averages.

Global inflation is anticipated to stay volatile and persistent above historical averages in 2023 with price pressures more persistent across a larger share of the consumer price index (CPI) basket. Still, we expect headline CPI inflation to decline year-on-year in 2023, due to reverse base-effects from broadly lower (albeit volatile) global commodity prices amid slowing global growth. We forecast 5.4% average annual global inflation in 2023 and 3.5% in 2024, down from 8.1% this year. Upside risks to our CPI forecasts include a milder global economic slowdown, the loosening of China's COVID-19 restrictions, if producers are able to pass on higher costs more easily to stronger consumers, or if there are further supply-side shocks (eg, the energy crisis worsens). The fall in inflation momentum may also be slower if central banks are forced to prioritise addressing financial instability and increasing fiscal stresses at the expense of fighting against inflation (see Chapter 2).

Inflation risks are highest in Europe and emerging markets.

Inflationary risk is highest in Europe, we believe, as government measures to address the energy crisis (eg, cuts to taxes on energy, energy price caps), though lowering inflation in the near term, shift price pressures into 2023 and beyond. Income support via cash handouts and lower income tax rates are also inflationary, keeping aggregate demand higher than would otherwise be the case in the recessions we forecast. In the US, we forecast CPI inflation of 3.7% for 2023 and 2.8% for 2024 and believe only an economic downturn is likely to slow demand, and inflation in turn. In the meantime, excess demand will continue to fuel broadening inflation pressure with pass-through into wages a key risk. For emerging markets excluding China, we expect headline CPI inflation rates to trend down and forecast an aggregate decline to 10.8% in 2023 from 15.3% this year. In our view, commodity-importing emerging markets will continue to be vulnerable to imported inflation, as commodities are typically priced in US dollars. China is the exception, and we expect CPI inflation there to trend up next year to 2.6% from 2.3% in 2022, due to pass-through from producers to consumers.

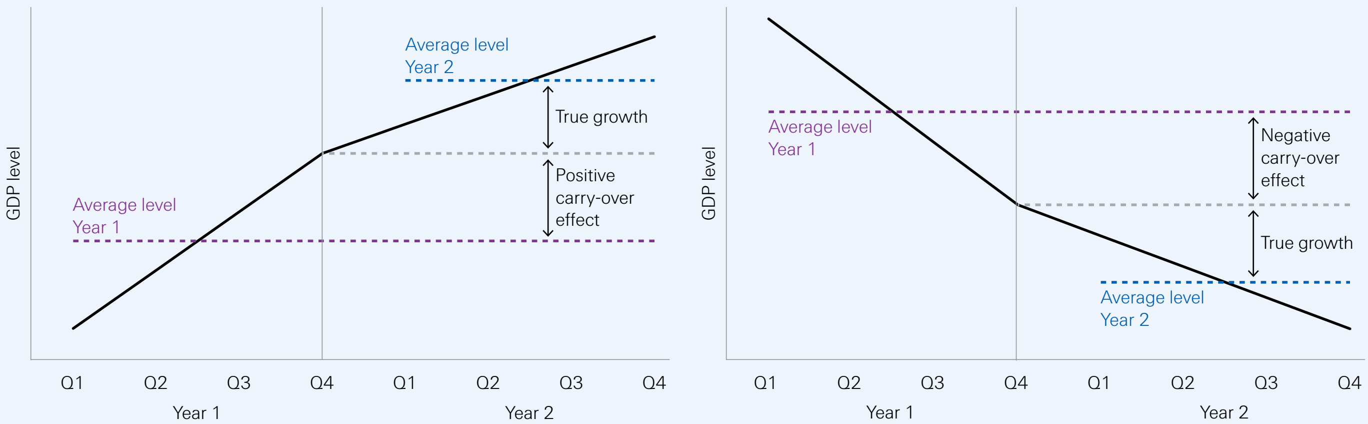
Carry-over effects mean the prior year's dynamics impact the current year's forecasts.

"True" growth and inflation momentum in our forecasts

The interpretation of economic growth and inflation forecasts are affected by "carry-over effects", meaning the prior year's dynamics impact the current year's forecasts.[3] As per convention, we forecast real GDP growth and CPI inflation as annual average growth rates: the year-on-year percentage change of average real GDP or the headline consumer price index, respectively, over the four quarters or 12 months of each year. This means the growth rate is determined by the dynamics in the underlying series within the previous year (carry-over effects) as well as those in the current year ("true" growth).[4] The "true" growth captures solely the current year momentum in the forecast – key to watch in volatile periods like today (see Figure 2).

Figure 2

Illustration of carry-over effects from year 1 to year 2, which can be either positive (left) or negative (right)



Source: Swiss Re Institute

Our 2023 forecasts contain very weak true growth, while true inflation momentum is strong but expected to moderate.

Last year's exceptional post-COVID growth rebound creates strong positive carry-over effects in 2022, masking the underlying weakening momentum in our 2022 forecasts (see Table 3). This results in a true growth estimate that is negative in the US, and weak in Europe, Japan and China. We expect much lower or even negative carry-over effects on real GDP growth in Europe and the US in 2023, while true growth will also remain low or negative. In inflation, strong momentum in 2021 meant most major economies entered 2022 with positive carry-over effects, largest in the US and UK. This year's inflation surge will bring even larger carry-over effects in 2023, especially in Europe. At the same time "true" inflation momentum is very strong this year, but we expect it to moderate in 2023 as monetary tightening takes effect.

[3] See *Beneath the surface: uncovering "true" growth and inflation*, Swiss Re Institute, 2 September 2022

[4] For inflation we forecast the year-on-year percentage change of the average headline consumer price index over the 12 months of each year.

Table 3
Decomposition of SRI's annual average real GDP and CPI inflation forecasts

	2022			2023		
	SRI forecast	**Carry-over effect**	**"True" growth**	**SRI forecast**	**Carry-over effect**	**"True" growth**
Average annual change in real GDP						
US	1.80%	2.02%	–0.22%	0.10%	0.37%	–0.27%
Euro area	3.10%	1.93%	1.17%	–0.20%	–0.66%	0.46%
UK	4.30%	3.66%	0.64%	–1.00%	–0.49%	–0.51%
Japan	1.30%	0.58%	0.72%	1.30%	0.31%	0.99%
China	3.40%	1.52%	1.88%	4.10%	2.05%	2.05%
Average annual change in consumer price index						
US	8.10%	2.89%	5.21%	3.70%	2.07%	1.63%
Euro area	8.60%	2.40%	6.20%	6.20%	3.69%	2.51%
UK	9.10%	3.14%	5.96%	7.00%	4.57%	2.43%
Japan	2.30%	0.44%	1.86%	1.50%	1.14%	0.36%
China	2.30%	0.32%	1.98%	2.60%	1.31%	1.29%

Note: Carry-over effects are calculated assuming zero growth in quarterly real GDP from Q4 of the previous year (for GDP growth) and zero growth in monthly CPI from M12 of the previous year (for CPI inflation). "True" growth or inflation is the difference between the annual average growth/inflation forecast and carry-over effects.
Source: Swiss Re Institute

Interest rate outlook

We expect central bank policy interest rates to stay at higher levels next year in our inflationary recession baseline outlook.

The zero-interest rate environment is largely over. Recessions alone are unlikely to deter central banks from keeping interest rates at restrictive levels unless: 1) there are also substantial, sustainable declines in inflation; 2) financial stability or debt sustainability concerns take priority (see Chapter 2); or 3) a severe global recession scenario emerges (see Chapter 4). The pace of tightening may slow, but we see policy interest rates staying higher. A key question for central banks seeking to tame inflation is to determine where the "neutral interest rate" lies. This is the estimated equilibrium rate at which interest rates neither stimulate nor restrain economic growth, and is important as it could dictate where interest rates settle in the longer term. Some economists have questioned whether the neutral rate may now need to be structurally higher to counter the accomodative effect of the ample liquidity regime of the past decade.[5]

Long-term sovereign bond yields could reflect recession fears next year.

However, 10-year sovereign bond yields could reflect recession fears later next year, which is why in the US we expect yields to end 2023 slightly lower than at present (see Table 1). Still, we think it would be difficult for nominal yields to revert to the extremely low levels of the past decade. We also see a limit to how high yields can rise if central banks intervene on financial instability concerns (see Chapter 2).

Interest rate volatility in 2022 is at levels only generally seen in crises.

Interest rate volatility in 2022 is at levels generally only seen in crises. For example, US interest rate volatility[6] is currently as high as last witnessed during the global financial crisis or during the peak bond market disruptions of March 2020. Based on the volatility in 2022, using a 95% confidence interval implies that US 10-year yields could range anywhere between 2.95% and 5.5% around our point forecasts. Applying the same analysis for German yields suggests a 10-year Bund yield range between roughly 1% and 3.7%. This highlights the significant uncertainty in bond yield forecasts today.

Quantitative tightening is becoming an important tool to combat inflation, especially in the US.

Quantitative tightening (QT) is also becoming an important tool to combat inflation, in our view. The central bank balance sheet run-off is well under way in the US and the UK, and QT is also under discussion at the European Central Bank (ECB). This could lead the ECB to also start passively reducing its balance sheet next year by not (fully) reinvesting redemptions. A policy of QT by the ECB could be tricky given the significant fragmentation across euro area debt profiles (maturity structure, debt servicing costs, etc). For the Fed, we expect a constant USD 80 billion monthly runoff (USD 60 billion in Treasuries, USD 20 billion in mortgage-backed securities) through year-end 2023. As a

[5] *A monetary policymaker faces uncertainty – speech by Catherine L Mann*, Bank of England, 21 April 2022.
[6] As measured by the MOVE Index.

result, we expect the Fed balance sheet to be at around USD 8.6 trillion by year-end 2022 and around USD 7.6 trillion by year-end 2023.

10-year real yields – the most fundamental cost of capital – have increased substantially this year, especially in the US.

Decomposing the drivers of longer-term interest rates

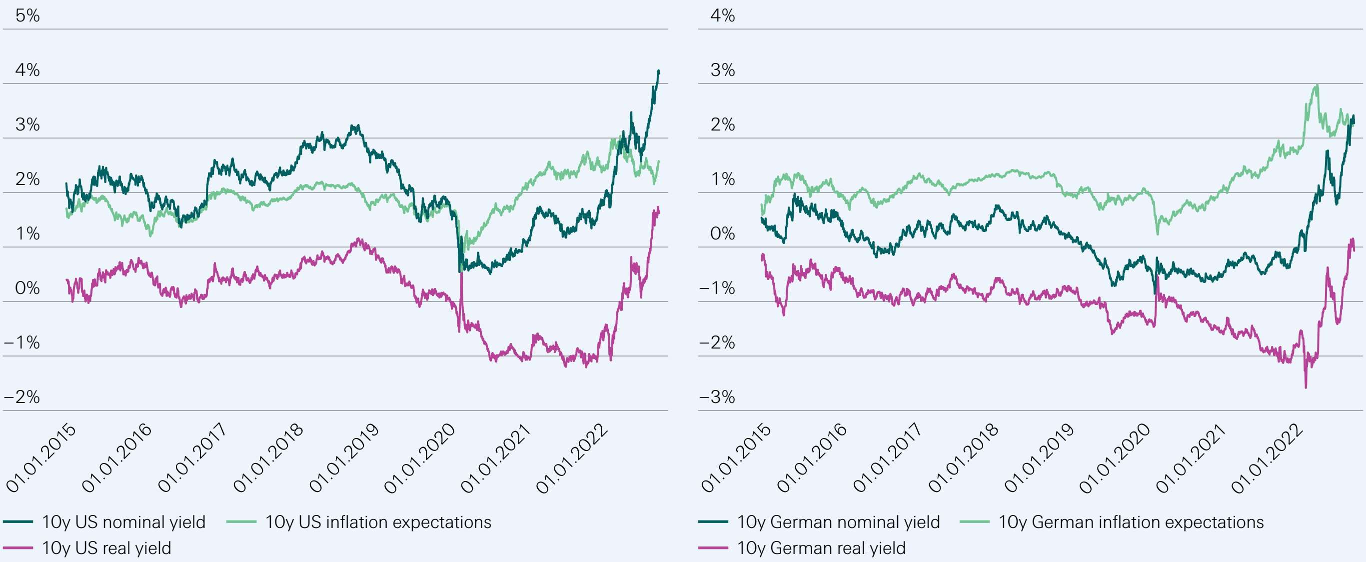
Nominal and real interest rates have increased substantially since one year ago. As the Fed has become more hawkish, longer-term US inflation expectations – measured as the yield on 10-year breakevens – peaked in the first half of 2022 at around 3% and have declined since. Nominal yields have repriced higher, resulting in higher real yields – adjusted for inflation expectations – which have risen significantly since the start of 2022 (see Figure 3). The 10-year US Treasury real yield touched around 1.7% in early November, the highest level since just after the global financial crisis. The US yield curve is inverted across most maturities and the US term premium has not repriced much so far, perhaps due to the still very large Fed balance sheet.

German yields have also increased significantly since the start of the year.

In Europe, German sovereign bond yields have also increased significantly since the start of the year, similar to the US. Nominal yields rose from roughly 0% at the start of the year to about 2.3% as of early November. Longer-term inflation expectations also topped in the first half of this year and have retraced slightly since. Compared to the US, however, 10-year German real yields are hovering just around 0%. In essence, this means that the most fundamental cost of capital – the inflation-adjusted risk free interest rate in Germany – is still zero. In our view this is not an adequate level to fight inflation and is one reason we expect German yields to rise further in the near term. This could cause a further repricing of risk. Only in the medium term do we see a risk of real interest rates on government debt being held lower (see Chapter 2).

Figure 3

Left: US 10-year interest rates and inflation expectations. Right: German 10-year interest rates and inflation expectations



Source: Bloomberg, Swiss Re Institute

A policy tug of war: financial stability and debt sustainability risks

A sharp repricing in interest rates is exposing latent vulnerabilities built up by financial market participants over the past decade of ultra-low interest rates in our view. Central banks must juggle competing objectives of maintaining price stability, financial stability, and pressure to enable government spending by keeping interests rates lower than they should be (debt sustainability). We see growing risk of real interest rates being repressed in the longer term, either through lower nominal interest rates or tolerance of higher inflation, which would be negative for long-term investors. However, if policymakers address the demand-side causes of inflation and implement supply-enhancing investments, this tension could ease. Productivity-driven growth could bring welcome benefits to the real economy and to the insurance industry.

The accumulation of risk is exposing a new "D", debt, to add to the structural "3Ds" we flagged last year.

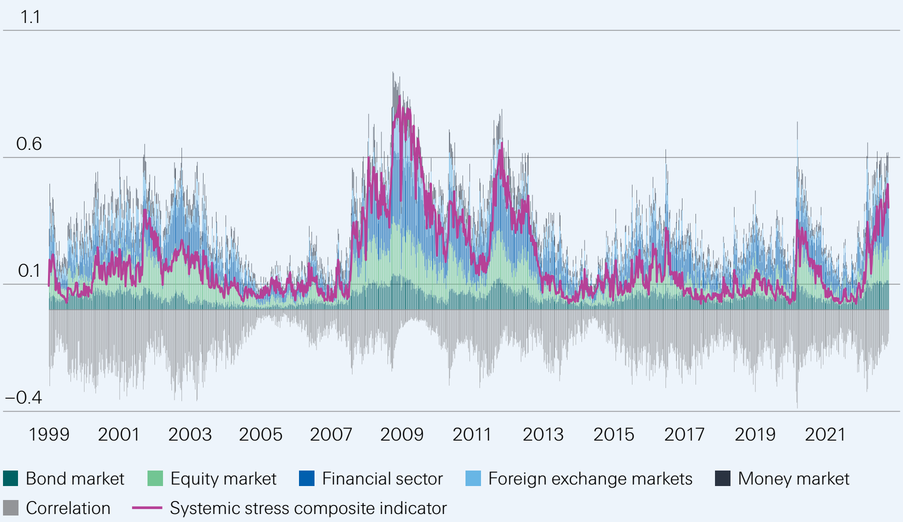
Last year we identified the "three Ds" – divergence, digitalisation and decarbonisation – three structural trends that would shape the long-term path of the world economy. These still do matter, but the accumulation of risk is now exposing a fourth "D": debt sustainability and related financial stability risks. As central banks rapidly raise interest rates to bring down inflation, it is calling into question government finances and exposing latent vulnerabilities built up among financial markets participants (eg, pension funds in the UK) that added leverage in the low-yield, low-volatility regime. Central banks could be forced off their tightening course if price stability becomes dominated by financial stability concerns in the short term, and debt sustainability concerns in the medium term. Due to this, we see the prospect of further volatility in financial markets (eg, interest rates, currencies) and higher inflation in the medium term – key for insurers to watch.

Financial stability risks are rising

Suddenly imposed financial market discipline can amplify financial instability risk.

The fastest pace of interest rate rises for several decades is fine so long as it leads to the desired tightening in financial conditions and "benign" market volatility. However, if fluctuations in asset prices or deteriorations in asset quality become so large as to threaten the solvency of systemically important institutions, we would expect central banks to prioritise addressing financial stability, immediately and forcefully. For example, the Bank of England (BoE) recently became gilt market-maker of last resort for UK pension funds. Financial instability can manifest its either in the fragility of financial intermediaries or in excessive volatility in the prices of financial assets – both could be legitimate triggers for a central bank policy pivot if the anticipated impact on growth and inflation were large enough.

Figure 4
ECB composite indicator of systemic stress

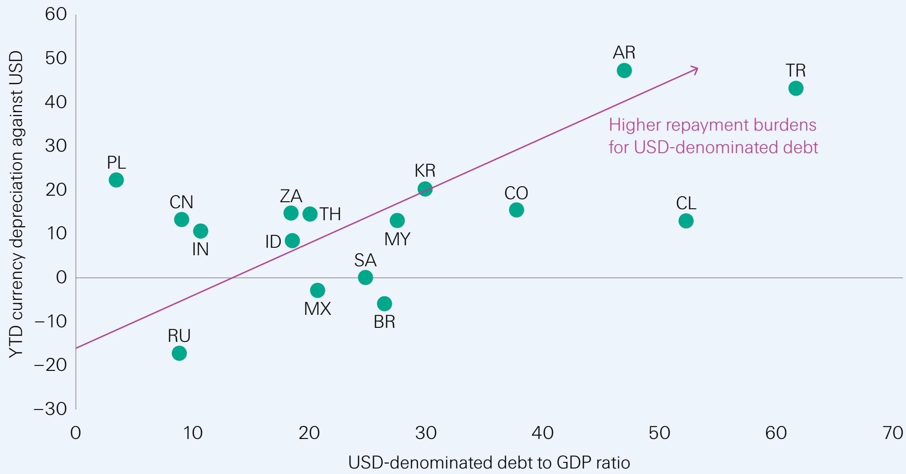


Source: Composite Indicator of Systemic Stress, ECB Statistical Data Warehouse

The tightening of monetary policy and coming recessions raise liquidity and solvency risks.

There are signs that strain in financial markets has risen substantially on the back of central bank tightening (with more expected, including QT). The ECB systemic risk indicator for the euro area is already at its highest since the region's sovereign debt crisis of 2010–2012, with the biggest contribution from the financial sector and bond markets (see Figure 4).

Figure 5
US dollar-denominated debt and currency depreciation

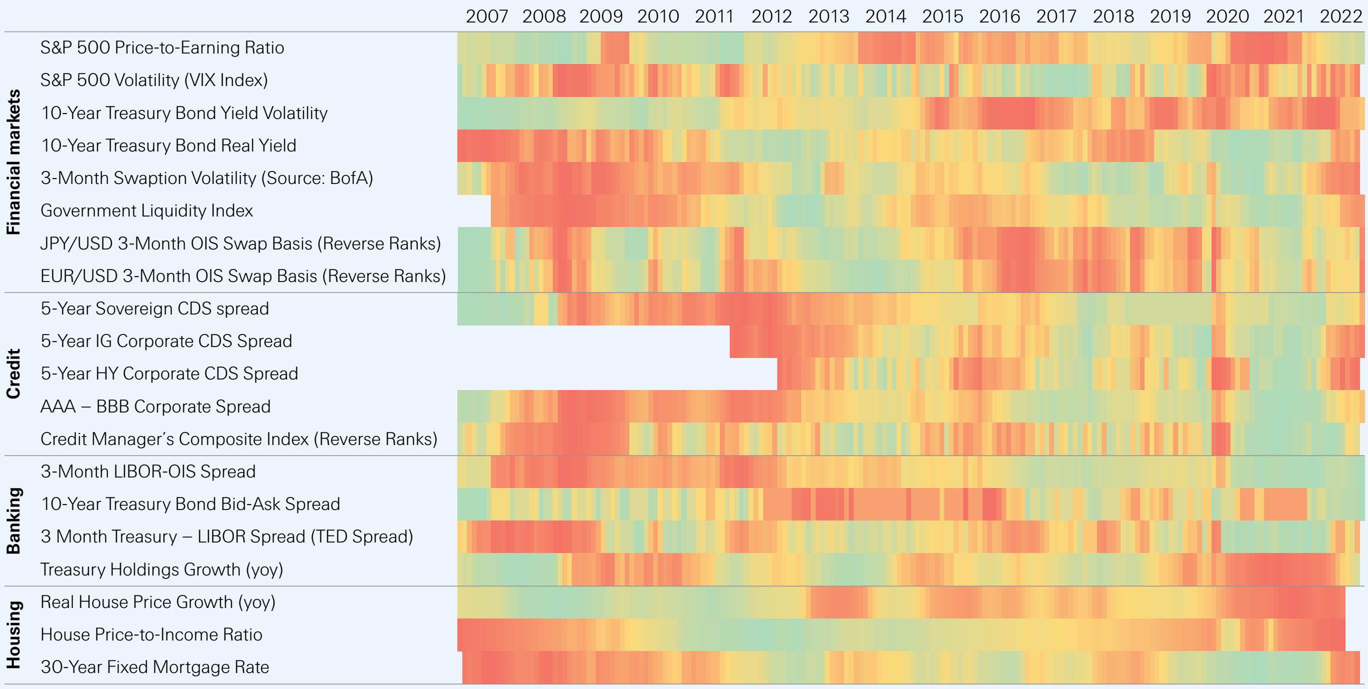


Note: countries listed as follows: AR – Argentina; TR – Turkey; PL – Poland; KR: South Korea; CO – Colombia; ZA – South Africa; TH – Thailand; CN – China; MY – Malaysia; CL – Chile; IN – India; ID – Indonesia; SA – Saudi Arabia; MX – Mexico; BR – Brazil; RU – Russia.
Source: IIF, Bloomberg

Emerging markets face spillover effects from US dollar strength and interest rate tightening.

In emerging markets, higher interest rates increase debt sustainability concerns, which could become self-reinforcing. Front-loaded tightening in the US has driven the US dollar to a 20-year high, requiring emerging market central banks to act to contain interest-rate differentials and currency depreciation. Countries with high levels of USD-denominated debt are most at risk from a stronger dollar and higher interest rates (see Figure 5). The US has no such worries over currency mismatches, but liquidity in the US Treasury bond market – possibly the most globally systemically important asset market – has deteriorated to spring 2020 levels (see Figure 6). We consider this due to thinning demand from investors ranging from global pension funds to domestic commercial banks and the Fed (which is selling as part of QT).

Figure 6
Overview of key higher-frequency metrics of financial stability risks for the US



Note: The data for each variable are transformed into percentile ranks, based on the distribution of its values since 2007. The heatmap presents the distribution of the percentile ranks. Red indicates high percentile ranks (bad) and green indicates low percentile ranks (good).
Source: Bloomberg, Federal Reserve Economic Data, OECD

Unlike in the financial crisis, risks today are seen in non-bank financial intermediaries.

In the private sector, a key "known unknown" is fragility in non-bank financial intermediaries (NBFIs), where regulators and policymakers have less visibility. The sector had optimised for the low-volatility and low-rates-for-longer regime of the past decade by taking greater risk and leverage, increasing their vulnerability to volatility, as seen this autumn among UK pension funds.[7] Credit spreads are also wider since the start of this year, and elevated input costs are pressuring profit margins.[8] We see relatively lower risks in the banking sector, due to regulation since the global financial crisis.

Real estate markets are coming under pressure, but we do not see a repeat of the global financial crisis.

In the US, the interest-sensitive housing sector has rapidly entered a recession this year with demand falling amid rising mortgage rates.[9] We do not believe US housing market stresses will become systemic as in 2008.[10] In China, we expect the real estate sector, about a quarter of China's GDP, to remain a drag on the real economy, though recent data suggests government stimulus measures have eased the stress somewhat.[11]

Real interest rate repression in the mid to longer term

Inflation objectives may conflict with debt sustainability concerns, leading to a tug of war over interest rate policy.

The other potential trigger of central bank U-turns on interest rates could be debt sustainability concerns. The legacy of crisis responses of past decades is a large stock of public debt. Higher interest rates mean larger fiscal deficits due to higher costs of new borrowing and lower tax revenues (due to lower growth). Normally when supply-side shocks are being treated by governments by boosting demand further in an already inflationary environment, an independent central bank should raise interest rates to offset fiscal inflation (see Box: Competing policy objectives).

[7] The financial assets of the NBFI sector accounted for 48.3% of the global financial system in 2020, compared to 42% in 2008, according to the Financial Stability Board.
[8] *Rising defaults: "zombie firms" will be the first to fall*, Swiss Re Institute, 27 October 2022.
[9] *Mortgage Applications Decrease in Latest MBA Weekly Survey*, Mortgage Bankers' Association, 2 November 2022.
[10] *Global house prices: the road back to earth*, Swiss Re Institute, 4 November 2022.
[11] According to National Bureau of Statistics of China, the contraction in real estate investment narrowed to –12% in September (August: –14%) and contraction in sales narrowed to –16% (August: –23%).

We see a risk of debt sustainability concerns becoming a constraint on central bank independence.

We see a risk of debt sustainability concerns becoming a constraint on central banks' independence, potentially derailing their inflation goals to enable fiscal policy.[12] The result is "fiscal dominance" when central banks keep interest rates low to prevent government borrowing costs ballooning, and allow higher inflation to reduce the real value of the debt. We see greatest likelihood of such policy alignment if there is an escalation or prolongation of the war in Ukraine, or a new global conflict, that makes it easier to justify central bank support for exceptional fiscal spending in a so-called "wartime economy", as in the pandemic (and in wars throughout history).

Competing policy objectives

Policymakers face competing policy objectives, and measures can undermine each other.

Raising interest rates to tackle inflation is consistent with central banks' price stability objective, and accepts that the rises may eventually cause recessions. However, this mandate can create tension with governments' objectives, as seen in Europe, where fiscal and monetary authorities' policies are undermining one another. Fiscal outlays to tackle the "cost of living" crisis, notably energy subsidies and price caps[13], are expected to add to medium-term inflation, especially when expenditure is funded by debt issuance rather than tax revenue. But by continuing to raise interest rates to counter such inflation pressure, central banks make government borrowing more costly and bring debt sustainability concerns into the spotlight. This can impose greater fiscal discipline (as seen in the UK fiscal U-turns this autumn), but also means less fiscal relief than governments would ideally like to provide. Meanwhile central bank losses on their quantitative easing portfolios could become a significant fiscal issue (eg in the UK), with potential ramifications for central bank independence.

We are entering a structurally higher and more volatile global inflation backdrop.

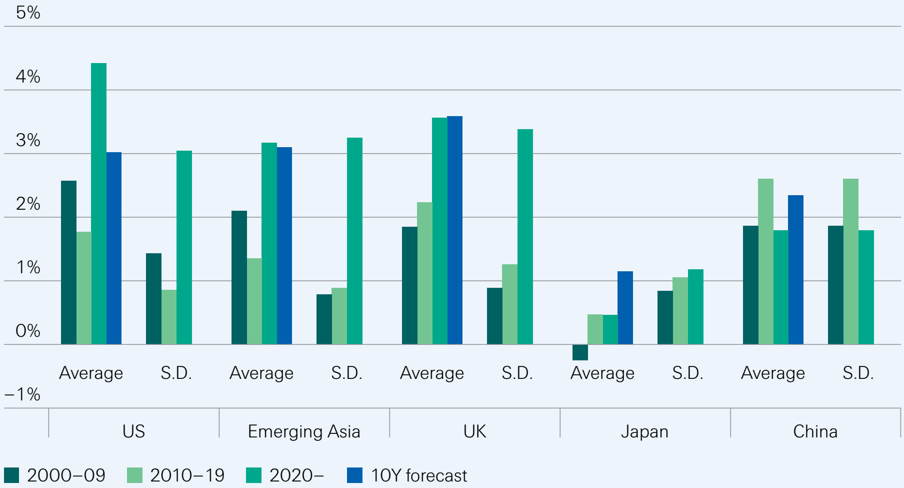
We see the global economy experiencing more volatile inflation with more frequent spikes and surprise deviations from the recent trend, exacerbated by more frequent supply shocks in an increasingly multipolar world economy (see Figure 7).[14] In such an environment of inelastic and scarce supply, aggregate (fiscal) demand swings, eg, due to government interventions like subsidies/price caps and their subsequent unwinding, would in our view have bigger inflationary effects than in the previous decades of supply abundance associated with globalisation prior to 2008.

Real interest rate repression is a key medium-term risk.

The biggest losers from fiscal dominance could be sovereign debt investors and private sector savers – of which insurers are both – who face the prospect of higher and more volatile inflation resulting from lower central bank policy rates. Bond investors would demand higher yields to compensate for higher inflation risks. It would be a challenge to keep long-term real borrowing costs preferentially low for governments unless fiscal dominance is coupled with financial repression through official regulations such as capital controls or interest rate caps (eg, yield curve control) despite high inflation.[15]

[12] *Some Thoughts on Monetary Policy in Japan*, Remarks by Ben Bernanke, May 2003.
[13] Fiscal responses to shield households and businesses from the energy crisis in Europe has been estimated to cost as much as 7.4% of GDP in Germany (as of 20 October 2022) for example. Source: https://www.bruegel.org/dataset/national-policies-shield-consumers-rising-energy-prices
[14] Maintaining resilience as a new world order takes shape – *sigma* 05/2022 (swissre.com)
[15] Reinhart, Kirkegaard and Sbrancia, "Financial Repression Redux", *Finance & Development*, June 2011

Figure 7
Average inflation and inflation volatility (standard deviation of monthly headline CPI inflation)



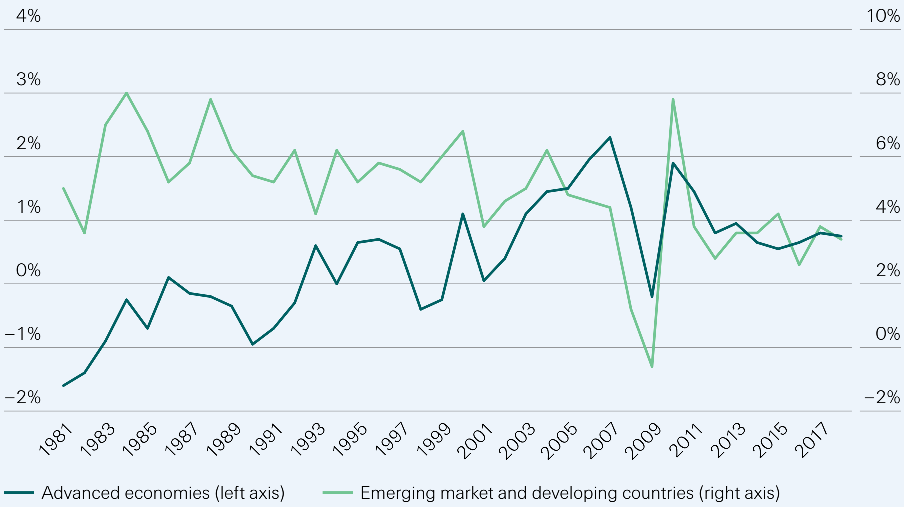
Note: 10-year forecast is the average of SRI annual inflation forecasts for 2022–2031.
Source: Bloomberg, Swiss Re Institute

Boosting productivity and the revival of industrial policy

A boost to productivity could improve the longer-term economic outlook.

While current monetary and fiscal policies are affecting the *demand*-side of the economy (see Box: Competing policy objectives), alleviating the tension between addressing inflation and supporting fiscal sustainability will require long-term investment in productive *supply* capacity. Global labour productivity has been on a decline the past years (see Figure 8).

Figure 8
Evolution of productivity growth (output per worker)



Note: GDP-weighted aggregate growth rates. Output per worker and GDP in 2010 US dollars.
Source: Conference Board; Penn World Table; *World Development Indicators*, World Bank.

Investment and innovation could boost growth and support higher productivity.

Ramping up investment into R&D to commercialise innovation would help improve productivity. A key example is in the energy transition to address climate change and energy security. We estimate that USD 271 trillion of new investment is needed to meet the Paris Agreement target[16] and net-zero carbon emissions by 2050.[17] Increasing public investment is a significant challenge for governments, especially those facing binding

[16] Limiting global warming to well below 2°C relative to pre-industrial levels, see *The Paris Agreement*, United Nations Framework Convention on Climate Change (UNFCCC), 2022
[17] *Decarbonisation tracker – Progress to net zero through the lens of investment*, Swiss Re Institute, 7 October 2022.

budget constraints and with high debt.[18] One solution would be to pool more private capital investments. To do so, policymakers can lower barriers to private investors into long-term and net-zero investment assets and support the establishment of sustainable infrastructure assets in becoming a tradable asset class by encouraging standardisation.[19]

Industrial policy is set to take on a new prominence by governments.

The remaking of industrial policy to promote long-run supply chain resilience and security could also help reduce vulnerabilities to future shocks and reduce the need for future government intervention. In the energy sector, this could mean using investment, incentives or regulation to lead the shift to green technologies like hydrogen, electricity storage and carbon capture. The semiconductor industry is also undergoing extraordinary investment as countries pursue technological decoupling.[20] Other sectors likely to be shaped by industrial policy focused on national security include aerospace, steel and aluminium production, as well as medical devices and pharmaceuticals.

Insurance implications of the new policy backdrop

Fiscal relief that cushions consumers' income squeeze would sustain insurance demand in the near-term.

Divergence in fiscal and monetary policies and the potential for fiscal dominance have implications for the insurance industry. In the near term, fiscal relief that alleviates cost-of-living pressures would sustain normal insurance demand. Without sufficient relief measures for consumers and businesses, insurers could see demand headwinds as disposable incomes decline. Consumers and companies could delay purchases of (or investments in) goods and projects requiring new compulsory policy take-ups, and delay purchases of (or lapse) non-mandatory insurance products (eg, motor first-party liability or term life insurance coverages).[21] However, for first-necessity and compulsory non-life insurance (eg, basic health, compulsory motor third-party liability) demand is inelastic and the demand would be expected to remain resilient. For life insurers, effective fiscal support could reduce lapse rates on in-force saving business, while any unplanned saving buffers created by mistargeted stimulus could underpin new demand.

Fiscal policy-driven inflation would impact non-life insurers through claims costs.

In the medium term, the potential for fiscal dominance risks keeping inflation higher and on a more volatile basis. This would be negative for non-life insurers but have a more mixed impact on life insurers through the monetary policy channel (see Chapter 3). First, higher and more volatile inflation impacts claims and repricing. When non-life insurers' ability to reprice is constrained by market competition or political headwinds, underwriting margins would be expected to come under pressure. There, those insurers with the greatest reserve buffers would be more resilient.[22] Next, the exposure to property versus casualty business matters. In Europe, non-life insurers with a higher share of property business are more exposed to supply-driven inflation, while those tilted towards casualty lines are more exposed to wage-driven inflation, except for health covers exposed to both sources of inflation.[23] Insurers with a business mix more exposed to the shape of medium-term inflation will thus experience higher profitability pressures.

Governments are incentivised to strengthen energy security and safeguard critical industries.

Navigating industrial policy shake-ups in Europe

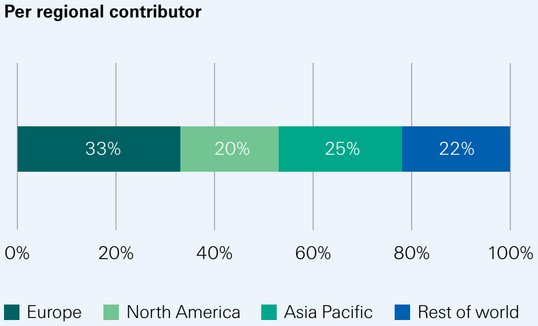
Geopolitical events and the energy crisis are creating an urgency for governments to strengthen energy security and safeguard 'strategic' industries (eg, semiconductors). Closing the climate investment gap to protect energy security would create positive spill overs for commercial insurers, as would reshoring of critical industries.[24]

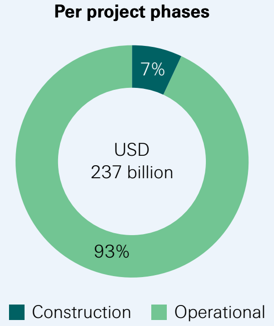
[18] See also Z. Darvas, G. Wolff, "A green fiscal pact: climate investment in times of budget consolidation", Policy Contribution 18/2021, Bruegel, 2021.
[19] Swiss Re Institute, 2022, op. cit.
[20] See for example the US CHIPS and Science Act, the European Chips Act, and China's State Council Notice of Several Policies to Promote the High Quality Development of the Integrated Circuit (IC) and Software Industries in the New Era, Guofa, August 2020.
[21] For instance, car registration in the EU requires third-party liability coverage but first-party liability is not mandatory, see *Car insurance validity in the EU – Your Europe*.
[22] For example in France, domestic insurers will implement price alleviation measures targeted at vulnerable groups to contain purchasing power squeezes caused by insurance costs. G. Dauvergne, "Pouvoir d'achat : un compromis inédit entre Bercy et les assureurs", L'Argus de l'assurance, 28 September 2022.
[23] *Impact of rising interest rate and inflation on European insurers*, FitchRatings, 5 September 2022.
[24] *sigma* 5/2022 – Maintaining resilience: the role of P&C insurers in a new world order, Swiss Re Institute, 9 September 2022.

Investment and innovation in energy security offer medium term growth opportunities.

Insurance supports the expansion of renewable energy by providing risk protection covers for the construction and operations phases of new projects. We estimate that global renewable energy investments would generate cumulative premiums of USD 237 billion between 2022 and 2035, with major contributions from Europe (33%), Asia Pacific (25%) and North America (20%) (see Figure 9 left).[25] We expect the energy crisis to accelerate the continental European transition towards net-zero, with most of the new insurance business realisation shifting forward. The largest chunk of new premium generation is anticipated to come from operational covers, at 93% (of which 71% for property damage & business interruption policies, and 29% for machinery breakdown), against 7% for construction covers (of which 77% for erection all risks/construction all risks policies, and 23% for delay in start-up or advanced loss of profits policies) (see Figure 9 right).

Figure 9
Forecast cumulative global insurance premiums from renewable energy investments, 2022–2035.
Per regional contributor (left) and per project phases (right)





Source: Swiss Re Institute

[25] Ibid.

Insurance market outlook 2023/24

The global insurance industry is facing underwriting and investment pressures, but major mitigation measures are taking place in response and we expect hard market conditions to continue for some years. We expect a slight contraction in global premiums in 2022 after adjusting for inflation, and real growth of 2.1% on average for the next two years, below the long-term trend. In non-life insurance, we see weak real premium growth this year, strengthening in 2023 and 2024 from anticipated lower inflation and a hard market for commercial lines. The Florida landfall of Hurricane Ian adds profitability pressure to non-life insurers already feeling the effect of higher claims severity this year. In life insurance, we forecast real premiums to fall this year as the cost-of-living crisis reduces disposable incomes, but expect higher interest rates and digital adoption to return premiums to growth in 2023 and 2024. The rising interest rate environment is positive for insurers' investment returns and profitability over time, though capital losses add near-term pressure.

We expect global insurance premiums to grow at a below-trend rate for the next two years when adjusted for inflation.

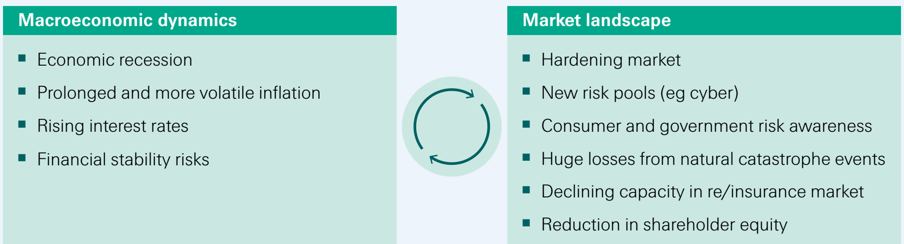
We are cautious on the outlook for global insurance premiums given the elevated downside risks over the next two years. A negative macroeconomic backdrop, persistent albeit easing inflation pressures and volatile financial markets are weighing on premium growth and profitability. We forecast a 0.2% fall in global insurance premiums in 2022 (though +5.6% growth in nominal terms) and below-trend growth of 2.1% annually on average in 2023 and 2024 in real terms (2023: 1.5%, 2024: 2.8%, see Table 4).[26] We continue to forecast total premium volumes in nominal terms to exceed USD 7 trillion this year, for the first time. This is attributed to a market recovery from pandemic-induced lows, rate hardening in commercial lines, and stronger premium growth, particularly in emerging markets. Looking forward, we believe 1) further rate hardening in non-life insurance fuelled by high inflation and large losses from both Hurricane Ian and the war in Ukraine; 2) anticipated fiscal support to relieve the consumer cost-of-living crisis; and 3) higher interest rates will raise both nominal-terms premium growth and profitability for all insurers from 2023.

The insurance industry is facing challenges and opportunities from economic and market dynamics.

The difficult environment creates challenges for the insurance industry, but opportunities too (see Figure 10).

- **Macroeconomic dynamics:** the environment of expected inflationary recessions and risk of financial instability is challenging for the insurance industry. We expect higher interest rates to be a silver lining for insurers as inflation pressure abates from 2023.
- **Market landscape:** we see risk and opportunity in hardening markets, new risk pools catalysed by digitalisation, higher risk awareness in consumers and governments, among other factors.

Figure 10
Macroeconomic and market dynamics



Source: Swiss Re Institute

[26] "Trend" refers to the long-term 2006–2021 average CAGR. Trend growth for total global real insurance premiums is 2.4% per annum.

Table 4
Real insurance premium forecasts, key markets

	Total						Non-life						Life					
	Past 2017–2021		Growth rate 2022		Outlook 2023–2024		Past 2017–2021		Growth rate 2022		Outlook 2023–2024		Past 2017–2021		Growth rate 2022		Outlook 2023–2024	
World	2.6%	=	–0.2%	▼	2.1%	▼	3.5%	▲	0.9%	▼	2.3%	▼	1.5%	=	–1.9%	▼	1.7%	=
Advanced markets	2.2%	▲	–0.8%	▼	1.6%	=	3.2%	▲	0.6%	▼	1.9%	▼	0.7%	=	–2.8%	▼	0.8%	▲
North America	2.9%	▲	1.2%	▼	1.5%	▼	3.4%	▲	1.0%	▼	1.9%	▼	1.3%	▲	1.5%	▲	0.0%	▼
EMEA	2.4%	▲	–2.9%	▼	1.6%	▲	2.6%	▲	–1.2%	▼	1.9%	▲	1.8%	▲	–4.2%	▼	0.7%	▲
Asia Pacific	–0.5%	▼	–3.9%	▼	2.2%	▲	3.1%	▲	2.1%	▼	2.3%	▼	–1.7%	▼	–6.0%	▼	2.0%	▲
Emerging markets	4.4%	▼	2.1%	▼	4.2%	▼	5.4%	▼	2.7%	▼	4.1%	▼	4.4%	▼	0.9%	▼	4.3%	▼
Excluding China	2.5%	▼	1.5%	▼	4.0%	▼	2.2%	▼	1.4%	▼	3.2%	▼	3.1%	▼	2.0%	▼	5.1%	▼
China	6.2%	▼	2.6%	▼	4.3%	▼	8.5%	▼	3.6%	▼	4.7%	▼	5.3%	▼	0.2%	▼	3.7%	▼

Note: figure shows insurance premium forecasts, in real terms. Total insurance premium forecasts are for life and non-life combined. Icons show direction of deviation from long-term trend (2006–2021) for each region. EMEA refers to Europe, Middle East and Africa. Source: Swiss Re Institute

Table 5
Insurance market key indicators

	World			Advanced markets								
				North America			EMEA			Asia-Pacific		
	Past	Current	Outlook	Past	Current	Outlook	Past	Current	Outlook	Past	Current	Outlook
Non-life, direct												
Profitability, ROE average	7.3%	3.4%	7.4%	7.4%	3.1%	7.6%	7.0%	3.3%	7.2%	7.0%	5.8%	6.5%
Profitability, Underwriting results average*	1.1%	–2.4%	0.2%	0.3%	–3.6%	–0.6%	2.9%	–0.4%	1.8%	2.1%	1.6%	2.4%
Profitability, Investment results average*	8.9%	6.8%	8.5%	9.5%	7.3%	8.7%	7.9%	6.0%	9.0%	6.9%	5.7%	6.0%
Life, direct												
Profitability, ROE average	9.7%	9.9%		10.2%	11.9%		8.3%	11.2%		10.0%	8.6%	
Total (Stock market indicators)												
Price to book, insurance sector average	1.2	1.4		1.3	1.5		1.1	1.3		1.2	1.2	
Price to book, total market average	2.1	2.4		3.8	3.9		1.9	2.1		1.5	1.4	
Stock prices, insurance sector, CAGR %	3.2%	–15.0%		8.2%	–9.5%		1.2%	–26.0%		–4.0%	–18.0%	
Stock prices, total market, CAGR %	8.4%	–1.5%		14.0%	–25.4%		4.4%	–24.5%		2.6%	–26.9%	

Note: * as a % of net premiums earned. Non-life insurance encompasses property, casualty and also health insurance. Past trend (2017–2021); Current (2022); Outlook (2023–2024). CAGR = compound annual growth rate. Regional stock market indicators contain advanced and emerging countries in each of the region. Colours are based on deviation from long term trend (2006–2021) for each region:

<–1.5% –1.5% to –0.5% –0.5% to 0.5% 0.5% to 1.5% >1.5%

Source: Swiss Re Institute, Bloomberg

The big concern: more persistent and volatile inflation

In 2022, inflation became the number one worry for insurance executives (63% of respondents to BlackRock's global insurance survey).[27] Inflation affects insurers on both sides of the balance sheet, by (1) hurting demand for products as affordability decreases, (2) increasing the cost of claims and expenses, but also (3) pushing up rates and nominal premiums and (4) generating – with a lag – higher nominal investment returns because of the (usually) associated increases in interest rates. Inflation volatility as well as the absolute level will be an additional challenge for insurers, as the industry's underwriting will have to cope with higher uncertainty in the outlook.

Inflation as a headwind for insurance demand

Inflation at current levels makes insurance less affordable.

Businesses and individuals tend to scale back demand for discretionary goods and services when prices rise. In lines of business where covers are compulsory, such as motor or professional liability, demand is likely to hold up better. Large firms may use captive insurance to self-insure as an alternative to commercial insurance markets.[28] For life insurance products, higher inflation erodes the value of future fixed pay-outs, decreasing its attractiveness. The volatile nature of this year's inflation outlook is a further secondary headwind, as volatility is robustly negatively correlated with economic growth. There is supporting evidence for this view for both advanced and emerging markets, after controlling for the effect of inflation levels.[29]

Inflation as a drag on underwriting performance

Inflation erodes profitability via higher claims and expenses, especially in property and motor.

Underwriting results typically suffer as inflation pushes up the cost of claims and expenses. Non-life is most affected at present as high inflation in car parts and construction negatively impacts motor and property claims (see Table 6). Higher fuel prices also have an effect as costlier transportation adds to the final cost of claims.[30] Long-tail business, such as liability claims, will be more affected by wage and healthcare inflation in the long term, while the latter will also affect health insurers. The industry is also exposed to social inflation, which stems from shifts in judicial and court judgments to award larger financial settlements to plaintiffs, and legislative changes.[31]

Table 6
Impact of inflation on insurance claims, global trends

Line of business	Claims impact 2022	Claims impact 2023	Reason
Non-life			
Property	High	Above average	Price of materials peaked in 2022, but wage growth to continue in 2023
Motor, physical damage	High	Average	High car part prices related to supply chain imbalances, and wage growth
Motor, bodily injury	Below average	Above average	Wage growth and medical cost inflation to exceed general inflation
Liability	Average	Above average	Wage growth, medical, and social inflation
Health	Below average	Above average	Medical cost inflation
Life			
Life	None	None	Benefits are set at policy issue

Source: Swiss Re Institute

Inflation as a driver of higher nominal non-life premium growth

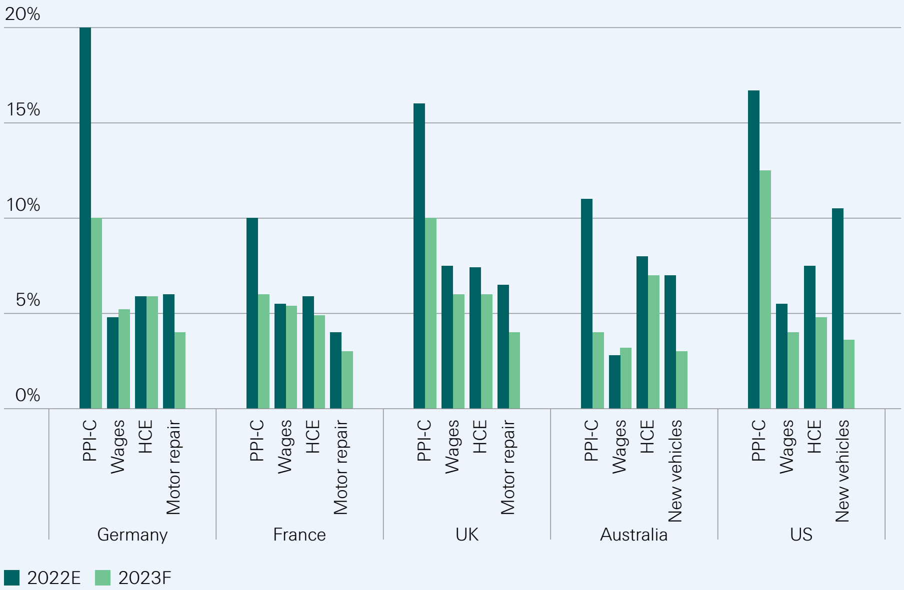
Inflation in cost components relevant for insurers suggests their claims and costs may increase significantly.

Forecast changes in specific components of inflation provide guidance on the extent to which claims and cost in non-life insurance may increase. Property and motor damage costs, healthcare expenditures (HCE) and income compensation are the main moving parts in insurers' claims expenditures, while wages are key for administrative costs. For example, bodily injury claims in liability and accident insurance depend on HCE and income compensation (wages). Our forecasts suggest that property lines, which account

27 *2022 Global Insurance Report*. BlackRock.
28 *Hard market solutions: captive insurance thrives in tough times*. Swiss Re Institute. 2021.
29 R. Judson, A. Orphanides, "Inflation, volatility, and growth", Board of Governors of the Federal Reserve System. 1996. https://www.federalreserve.gov/pubs/feds/1996/199619/199619pap.pdf
30 *Inflation lifts reconstruction costs as fuel prices boost volatility*. Verisk, 2022.
31 *Annual Report 2021*. Swiss Re.

for around 13% of non-life premiums, should see the greatest pressures on claims in 2022, largely due to the forecast rises in construction costs (producer price index for construction, PPI-C). Claims and costs in other lines are also seeing strong pressures driven by wages, HCE and components such as motor repairs. In 2023, increases in prices relevant for property and motor may ease, but sticky inflation components such as wages mean costs and claims are likely to continue to climb at pace. The situation can vary greatly depending on the individual insurer and market. Considering the impact from nat cat losses, we anticipate that pressure on premium growth to maintain stable combined ratios could increase over this year and next.

Figure 11
Forecast changes in key components of claims and costs, key markets



Note: E = estimates, F = forecasts, PPI-C = producer price index for construction, HCE = healthcare expenditure.
Source: Swiss Re Institute

Higher interest rates are a silver lining for insurers.

Higher interest rates a tailwind for investments
Higher interest rates create a more attractive environment for rate-sensitive investments. This an important profitability tailwind for insurers via higher net investment income, which helps to offset higher claims liabilities, but takes time to have an effect. However, financial market volatility can continue to accompany interest rate rises, especially if sudden or sharp as seen in 2022. For non-life insurers this volatility can have adverse effects as mark-to-market losses on fixed income asset values have a counter-effect on investment profitability. For life insurers, valuation losses are typically unrealised and so portfolio revaluation due to interest rate changes does not have a material impact, but lapse rates of life policies may rise along with interest rates, which would force life insurers to sell out asset with losses realised accordingly.

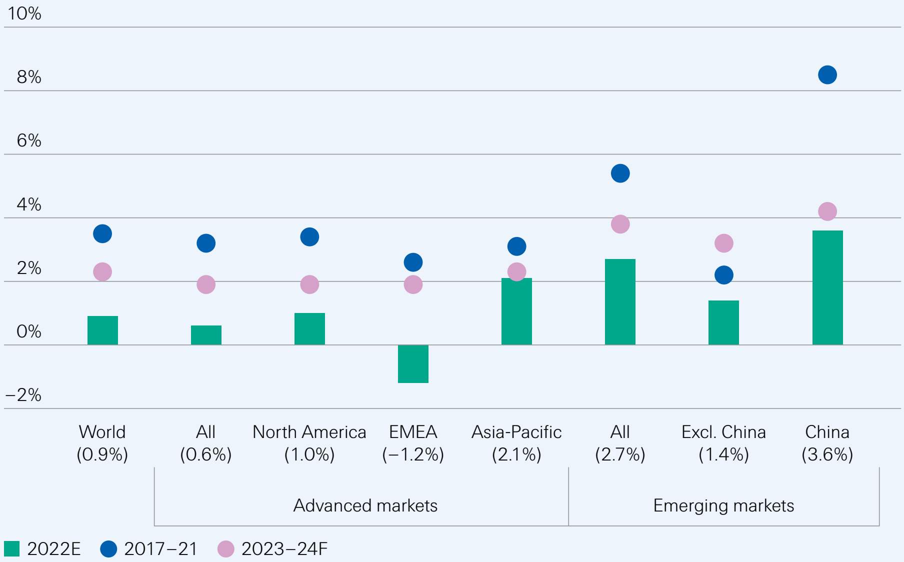
Non-life outlook

2022 is expected to be the trough for real non-life premium growth, but 2023–24 growth will remain below trend.

Real premium growth will bottom out in 2022, with a slow recovery
We expect global non-life premiums to increase by 0.9% in real terms in 2022. Slowing global economic growth and high inflation reduce investments into new projects and, particularly in personal lines, spending on insurance. Meanwhile, decades-high inflation mechanically leads to lower real growth. Indeed, nominal premium growth is estimated at 8.0% in 2022, above the five-year average of 6.0%, underpinned by increases in exposure and rate hardening in commercial and personal lines. We forecast real premiums to grow 2.3% on average over the next two years (1.8% in 2023 and 2.8% in 2024), below the 2017–2021 average of 3.5%, as economic conditions take time to normalise. Nominal non-life growth should moderate in 2023–2024 as inflation comes down. We stress that there is more than the usual uncertainty surrounding our forecasts,

amid volatile inflation and the impact of Hurricane Ian on claims, pricing and loss ratios (see *Natural catastrophe losses elevated after Hurricane Ian*).

Figure 12
Global non-life insurance premium growth rates in real terms (2022 values in brackets)



Note: E = estimates, F = forecasts. Source: Swiss Re Institute

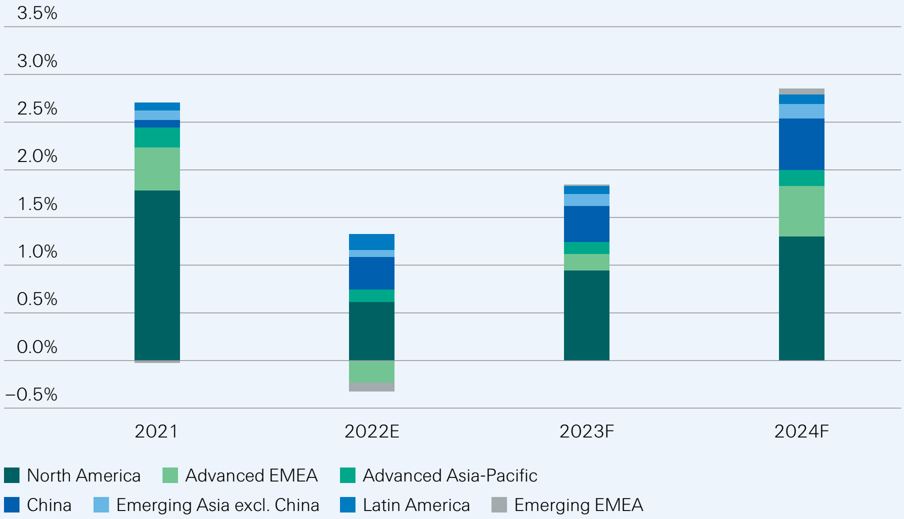
We forecast weaker real premium growth in advanced markets in 2022 and 2023 due to weakness in EMEA.

Advanced markets set to slow in 2022 and 2023; emerging markets to improve
Macroeconomic headwinds will impact advanced markets the most, but we expect advanced EMEA to perform worst in 2022 and 2023. In that region, we forecast a 1.2% decline in non-life premiums in 2022 and a 0.9% increase in 2023, caused by a squeeze on household incomes, with also limited price hardening in 2022. There is a large gap between nominal and real growth, and nominal growth is also weaker than in most other regions. Growth should recover as Europe exits the inflationary recessions forecast for early 2023, with more scope for rate hardening. In North America, though we expect just a 1.0% rise in real terms in 2022, due to inflation, nominal growth is an above-trend 9.2% and real growth should rebound in 2023–24 as prices continue to firm while inflation eases. Rate hardening is expected to remain strong in commercial lines and is accelerating in personal lines. In advanced Asia, aside from Australia, lower inflation makes for more favourable real growth than in other advanced markets.

Emerging markets are returning to premium growth outperformance.

After underperforming in 2020 – 21, we see emerging markets premium growth outpacing advanced economies in the coming years. This is due to their relatively strong pace of economic development and rapid growth in lines of business such as health, general liability and agro. China will remain the key contributor at close to 60% of our estimated 2022 emerging market non-life premiums. We anticipate real growth in China of 4.0% in 2023 and 5.8% in 2024, contributing to respectively 0.4ppts and 0.5ppts of global real premium growth in those years. Although those are high numbers, non-life premium growth in the coming years will be below historical trends as economic growth slows. We see strong real premium growth in emerging Asia excluding China of 7.3% on average in 2023 – 24, driven by commercial lines, health and a resilient economic backdrop. In Latin America, we also expect a 7.3% rise in real non-life premiums in 2022. The war in Ukraine is creating headwinds in emerging Europe (including Russia). We forecast non-life premiums to fall 12.1% in real terms in 2022 in that region, with further smaller declines in 2023 and 2024. Nominal premiums will grow at a slow pace.

Figure 13
Contributions to annual real growth rates in non-life premiums per region (percentage points)



Note: E = estimates, F = forecasts. Source: Swiss Re Institute

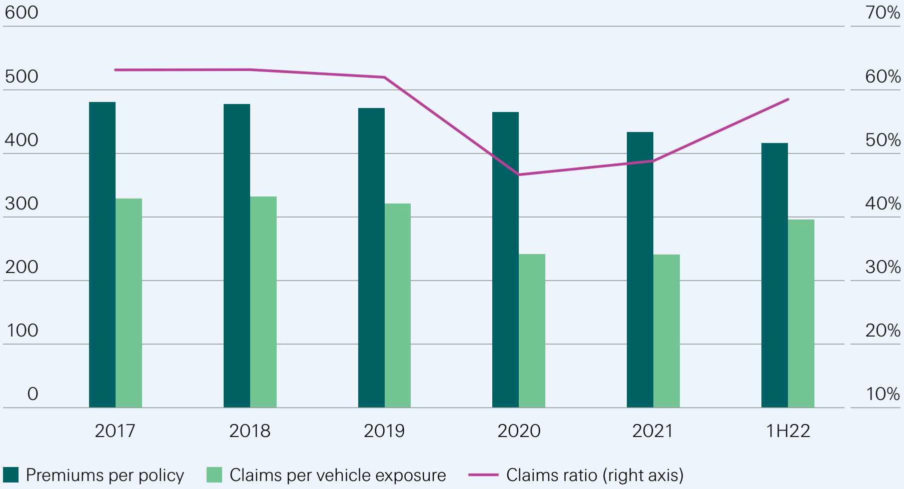
Commercial lines of business will continue to benefit most from rate hardening.

Personal lines premium growth lags commercial as rates keep rising
We see commercial lines (including workers compensation) continuing to benefit most from rate hardening and expand more than personal lines (excluding health) in the coming years. We estimate 3.3% growth in commercial premiums in 2022, and a 3.7% gain in 2023. In contrast, we expect personal lines insurance premiums to shrink by 0.7% in 2022, primarily due to poor performance in motor insurance in advanced markets (see *Motor in focus: a re-balancing after COVID-19 disruption).* In China, growth in motor should normalise after the de-tariffication effect of 2020/21 although new car sales are weak there too. For 2023, we forecast global personal lines to grow by 1.8%. Health insurance, which accounts for about half of global non-life premiums, is set to expand by 1.1% in 2022 and 0.8% in 2023 in real terms. In the US, the largest primary health insurance market, rising prices and utilisation are driving premium growth. Emerging markets health insurance is also benefiting from higher risk awareness and a strong medical expenses insurance market in China.

Motor claims frequency and severity are rapidly increasing

Motor in focus: a rebalancing after COVID-19 disruption
Motor insurance, the second largest line of business in non-life, is experiencing a strong increase in claims frequency and severity in 2022 in major markets such as the UK. Premium income is lagging these claims trends, though, as policyholders benefit from strong price competition in many motor markets, fuelled by windfall gains from reduced mobility during the pandemic in 2020 and 2021. Figure 14 depicts the development in the UK motor market: claims frequencies are still slightly below pre-pandemic levels and may increase. Claims severity has risen significantly and is about 23% higher in the first half of 2022 than in 2021 for accident and property damage as well as for bodily injury. If the inflationary environment persists, a continued rise in claims trends is to be expected. Without a similar rise in premiums, the outlook is challenging for insurers.

Figure 14
Premiums and claims of UK motor insurance



Source: ABI quarterly motor statistics, Swiss Re Institute

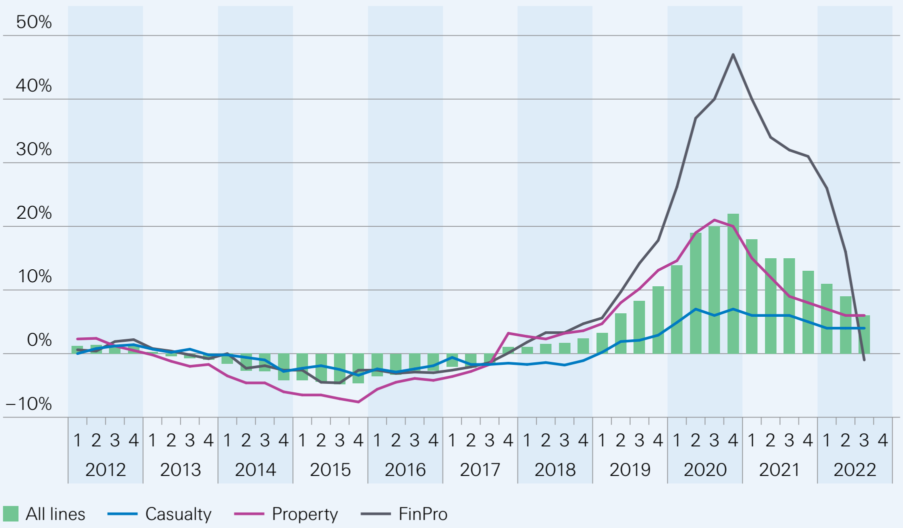
Claims inflation is prolonging the hard market in commercial lines of business.

Rate hardening to regain momentum amid rapidly increasing loss trends
We anticipate the significant claims inflation in commercial lines of business this year to fuel fresh momentum in rate hardening for the next 12 – 18 months. The significant increases in construction costs in many countries, and high and rising natural catastrophe losses following Hurricane Ian, will put upward pressure on property lines. In the US for example, commercial property price growth already reaccelerated to 8% year-on-year in 3Q22, from 6% in 2Q22. In casualty, we expect rising wages and healthcare costs in the post-pandemic world, and a continuing trend of social inflation, to push up premium rates in 2023.

Pricing in commercial lines improved again in 3Q22, the 20th consecutive rise and the longest continuous growth in the series.

Pricing in commercial lines has continued to improve in 2022, albeit more moderately. Before that, commercial lines pricing had continued rising, albeit by a more moderate 6% in 3Q22 from a peak of more than 20% in late 2020, according to Marsh (see Figure 15). Property insurance rates moderated to 6% from the 2020 peak of 20%, while casualty price increases have been more moderate over the whole cycle. Financial and professional liability lines, which are least exposed to economic inflation, exhibited a small decline of 1% in 3Q22 after five years of soaring rate increases. Compared to the trough in 2017, property rates are 60% higher, while casualty rates were up by close to 20%. Regional variations remained small for property and casualty rates.

Figure 15
Commercial lines rate index, 2012– 2022



Source: Marsh global insurance rate index, Swiss Re Institute

Natural catastrophe insured losses elevated after Hurricane Ian

Hurricane Ian pushes natural catastrophe insured losses for 2022 above 10y average, providing a stark reminder of the loss potential of primary perils.

Hurricane Ian's landfall in Florida as a category 4 storm and in South Carolina as a category 1 has triggered an estimated insured loss of USD 50 to 65 billion,[32] the second costliest catastrophe loss event ever for the insurance industry after Hurricane Katrina in 2005. We now estimate that natural catastrophe insured losses totalled at least USD 100 billion so far in 2022, already well above the last 10-year annual average of USD 81 billion. Hurricane Ian brought catastrophic damage due to the intensity of its winds, storm surges and torrential rainfall, and caused the loss of 134 lives. Hurricane Ian provides a reminder that it only takes one large primary peril event to push insurance losses for a year significantly higher. Hurricane risk is a major threat to US coastal businesses and residents and a capital-intensive peak peril for the re/insurance industry. This year has also been characterised by a high number of winter storms, severe convective storms and devastating floods globally.

Insured catastrophe losses have been elevated since 2017 and going forward projected to grow by 5 – 7% annually.

Insurers have experienced elevated natural catastrophe insured loss years since 2017, after a dip in 2012–2016, driven primarily by recurring high-loss secondary peril events such as severe convective storms, major floods and wildfires, a number of peak perils events including Hurricanes Ida in 2021 and Ian in 2022 and, of late, inflationary pressures. Inflation rates for key loss components, and in particular construction costs, have risen in the past two years significantly. For example, in the US, total reconstruction costs including material and labour rose 20.6% between September 2021 and September 2022, more than three times the pace of increase for the same period a year earlier.[33] As demand-supply imbalances continue, construction costs are projected to stay elevated into 2023, which will affect home repair and reconstruction costs. This increases the potential for further elevated natural catastrophe property losses over the next two years. Going forward, we expect natural catastrophe insured losses from both primary and secondary perils to continue grow by a long term annual rate of 5–7%, exceeding expected GDP annual growth rate of 2.5%, underpinned by economic development, urban sprawl into hazardous areas, hazard intensification in a warming planet, as well as rising construction costs.[34]

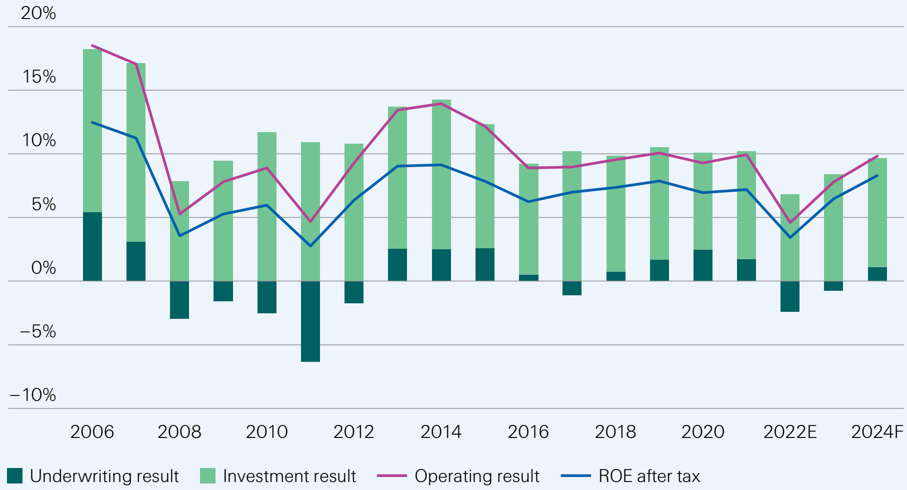
Non-life profitability to reach a trough in 2022

Global non-life insurance ROE is expected to fall in 2022, recovering thereafter.

In our view, global non-life insurance profitability will be challenged significantly in 2022 by weakness in both underwriting performance and investment results. Using a sample of largest markets as a proxy for global profitability[35], we estimate global non-life after-tax return-on-equity (ROE) at 3.4% in 2022, down from an average of 7.3% between 2017–2021. However, we expect a rebound in average global non-life ROE to 6.5% in 2023 and a 10-year high of 8.3% in 2024.

[32] Includes National Flood Insurance Program (NFIP). The foregoing estimates are subject to uncertainty and may need to be subsequently adjusted as the claims notification and assessment process continues.
[33] Producer Price Indexes, Bureau of Labor Statistics, September 2022.
[34] Construction costs will persistently rise beyond economic inflation due to emerging standards for investments in energy efficiency and natural hazard mitigation as well as income/wealth effects.
[35] Asia includes Australia and Japan, EMEA is proxied by France, Italy, Germany and the UK. North America captures both Canada and the US. Profitability trends in China are described but are not part of the sample.

Figure 16
Aggregate performance of eight of the largest non-life insurance markets, % of net premiums earned



Note: E = estimates, F = forecasts. The eight markets are the US, Canada, France, Italy, Germany, the UK, Australia and Japan. ROE is expressed in % of shareholders' equity.
Source: Swiss Re Institute

Underwriting results will be under pressure in 2022–2023 as claims rise strongly.

Higher claim values and insufficient rate hardening will combine to put underwriting results under pressure in 2022 and 2023. We estimate non-life global underwriting losses will reach 2.4% of net premiums earned (NPE) in 2022, with further losses of 0.8% of NPE in 2023, as claims and pricing only improve gradually. Motor insurance is particularly impacted by the mismatch of claims and pricing. Our estimates also factor in the impact of hurricane Ian, but there remains uncertainty regarding its impact, in particular if insured losses grow more than expected due to economic inflation in Florida and social inflation caused by litigation. As insurers seek to mitigate higher claims with rate rises, we expect underwriting results to gradually improve and bring underwriting results back to profitability in 2024, at levels close to the 2017–2021 average.

Higher re-investment yields will boost results by 2024, but that will not enable insurers to take a soft stance on underwriting.

Investment results will likely deteriorate in the near-term due to some realised capital losses, but higher interest rates gradually improve investment income as bond portfolios roll over. We expect a global non-life investment result of around 6.8% of net premiums earned in 2022, down from 8.9% between 2017 and 2021. The biggest driver for this is declines in asset prices as interest rates have risen, given more than 60% of insurers' global investments are in fixed income, but equity investments, which accounted for roughly 20% of insurers' global invested assets,[36] are also expected to post negative returns for 2022. Still, rising interest rates should provide a boost in the medium term. We forecast the global non-life investment yield to rise progressively. From 2.4% in 2021, it will climb to about 2.6% in 2022 and to more than 3% in 2023 as maturing low-yielding debt is progressively re-invested into higher-yielding new bonds.[37] Non-life insurers typically hold more short/medium-term bonds than life insurers, which explains the relatively faster rebound in portfolio yields.[38] As a result, by 2024 we expect the non-life industry investment result to be 8.6%, close to 2021. However, the more beneficial investment environment ahead will not enable insurers to take a softer stance on underwriting since projected investment yields remain low by historical standards.

Advanced EMEA set for a gradual recovery until 2024.

In advanced EMEA, we expect underwriting losses to more than offset investment gains in many economies this year. We forecast advanced EMEA after-tax ROE to fall about 3.2ppts to 3.3% in 2022, and that it will take until 2024 for underwriting results to return to historical trends. We estimate that investment results will improve meaningfully in 2023 and the regional ROE will climb to roughly 6.3% in 2023 and to 8.2% the following

[36] Those shares are based on investment portfolios reported by insurers to regulators in our country sample.
[37] We distinguish between the "net" yield that only includes changes in income from capital, and "total" yield that also factors in realised gains or losses. The latter is falling in 2022, but will then rebound slightly higher than the former as asset prices recover in the medium term. Picking a few examples among the large re/insurers, both Zurich and Generali have commented on important increases in their reinvestment yields in H1 2022, while Scor estimates its overall investment yield will reach 3–3.5% in 2025. Sources: Generali Investor Relations, Zurich Investor Relations, Scor H1 2022 results.
[38] Globally, around 15% of non-life insurers' bond portfolio will be renewed in 2023, and bond yields are rising at the fastest pace in decades. AM Best.

year. In North America, Canada is expected to fare better than the US in 2022. US ROE is estimated to fall to 2.5% with both underwriting and investment performance deteriorating, while Canadian P&C ROE is expected to be around 11.5%. In addition to insured losses from hurricane Ian, high inflation in property and motor hull insurance is forecast to increase the North American gross combined ratio by 5ppts to 103.2%, despite large rate increases already filed by insurers. In advanced Asia-Pacific, we expect Australia and Japan combined to post an after-tax ROE of 5.8% of NPE, in line with 2021. Severe floods in Australia will likely lower the underwriting result in 2022,[39] but investment results are set to be robust in both economies.

In China, profits were stable in 2021 but are likely to ease somewhat going forward

Non-life profitability data reported by the main Chinese insurers (outside our sample of key countries) shows non-life after-tax profits in 2021 largely flat year-on-year at around 6% of NPE.[40] There were small underwriting losses (around 0 to –0.5% of NPE) from the liberalisation of motor insurance, but investment results were strong for main insurers in 2021, at around 6.5–7% of NPE. We expect profitability to ease somewhat in 2022 and after as Chinese insurers contend with anticipated falling equity and property prices, higher advanced market bond yields and slowing economic growth.

There are growing systemic risks around financial stability, but non-life insurers are most likely safe.

Financial stability risks in non-life

For non-life insurers, we see a key risk to asset prices should financial stability worsen significantly, as credit spreads have widened and could face a further hit. As illustrated by the impact of falling gilt prices in the UK in late September, financial market stress can lead to the fire sale of assets and other disorderly behaviours. Non-life insurers typically do not use leveraged derivative positions for hedging, as seen by UK pension funds.[41] They are vulnerable to falls in the price of the assets they hold, but those are usually held until maturity so only a small part of the losses is realised. Besides, strong solvency ratios and the lessons learned from the 2007–08 financial crisis mean falling asset prices and wider spreads are unlikely to be a threat to the industry's financial stability.

Cyber risk: big challenges and big opportunities for insurance

Cyber is a burgeoning risk and business line with growth opportunities.

Cyber is a burgeoning risk pool and a line of business with strong growth opportunities. Digitalisation is increasing exposure to cyberattacks throughout society and the risk landscape is rapidly becoming more complex. But as risks have risen so does awareness and demand for commercial and personal coverage. Swiss Re forecasts global cyber insurance premiums to reach USD 23 billion by 2025, from an estimated USD 10 billion in 2021.[42] In the US alone, the largest cyber market, premiums grew by 74% in 2021, with standalone policy premiums increasing 92%.[43]

Demand for new coverage will mainly originate from smaller entities at risk.

Smaller companies with lower cyber-defence capacity are at the forefront of demand. It is estimated that half of small businesses go out of business within six months of a cyberattack.[44] Whether this demand converts into premiums depends on SMEs' ability to afford coverage today. In their decision-making, they should consider that incident-related costs including forensics[45], regulatory compliance(s), legal and internal costs (eg, system/data restoration, business interruption losses, public relations) accumulate fast and can compromise operations. Cyber insurance may help to fill the protection gap with policies that typically cover most of these elements and offer privileged access to a network of specialised service providers to facilitate a prompt intervention.

[39] *Detailed industry loss footprint for February-March 2022 Eastern Australia floods*, Perils, 13 September 2022. This would be the costliest natcat event on record for the country.
[40] We use 2021 financial reports for the six largest non-life insurers, covering 70.5% of the Chinese market.
[41] In 2017, non-life insurance firms held only 3% of total insurer derivative exposure in the US. Health insurers' exposure was negligible. National Association of Insurance Commissioners, https://content.naic.org/cipr-topics/derivatives
[42] *Cyber insurance: strengthening resilience for the digital transformation*, Swiss Re Institute, 7 November 2022.
[43] Cyber insurance coverage can be provided on a standalone basis or packaged within an existing commercial multi-peril policy. The standalone market developed in response to the introduction of cyber exclusions in other policies and has grown to nearly twice the size of the packaged cyber market by direct premiums written.
[44] *The Need for Greater Focus on the Cybersecurity Challenges Facing Small and Midsize Businesses*, SEC, 19 October 2015.
[45] Forensic costs typically range from USD 20 000 to USD 100 000 for companies with turnover of less than USD 50 million. That includes costs to investigate a firm's vulnerabilities and processes as well as the nature and extent of the damage following a security breach.

But non-insurable catastrophic risks leave a market gap, impair cyber resilience, and require innovative and coordinated solutions.

But not all cyber risks are insurable. The risk of a catastrophic event stemming from geopolitical conflicts or critical infrastructure failure – along with the human nature of the risk and difficulties quantifying the potential liability – keep capacity and expansion constrained in cyber insurance. This leaves a revenue opportunity on the table for insurers and decreases society's cybersecurity resilience. A larger cybersecurity employee base, better modelling and data, and new sources of capital are all necessary for a resilient security infrastructure.

Life insurance outlook

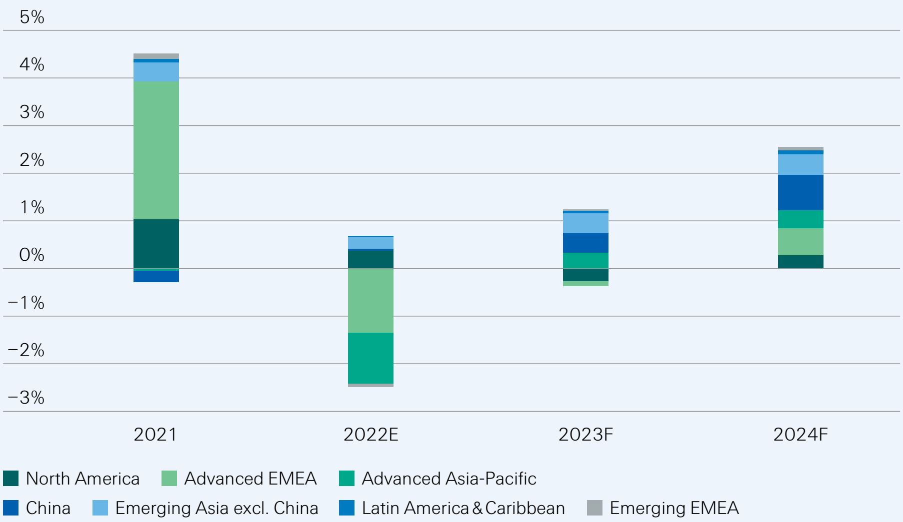
We estimate global life premiums to fall 2% in real terms in 2022.

Cost-of-living crisis to subdue real growth in 2022
Strong inflationary headwinds and declining purchasing power are creating a cost-of-living crisis for consumers in advanced economies, and we estimate that global premiums will contract by 1.9% in real terms in 2022. Advanced EMEA and advanced Asia Pacific will likely experience the largest declines (see Figure 18). In our view, North America will expand 1.5% in 2022. Emerging markets (incl. China) growth should stay positive at 0.9% in 2022, albeit below the historical average (2017–21: 4.4%). Tailwinds for the life insurance sector should create a recovery in real premium growth in 2023–24 and we forecast global premiums to grow 1.7%, slightly above the historical average (2017–21: 1.5%). Emerging markets (incl. China) will lead with 4.3% annual increases. Digital adoption, risk awareness and public sector support for life insurance development, particularly in Asia (excl. China), will benefit both these markets and global premium growth. However, the potential for a steeper economic deterioration or financial market instability mean downside risks are elevated.

Squeezed budgets are a headwind in advanced markets but emerging markets' growth outlook is robust.

We see premium growth drivers diverging in advanced and emerging markets. Inflation in advanced markets, particularly Europe, will squeeze household incomes and we expect consumers' propensity to save and so buy individual saving products to decline. However, individual and group savings will still underpin premium growth in some advanced markets due to regulatory and industry factors (the US, UK and France in particular). In emerging markets, we expect a growing middle class and government targets for life insurance penetration to carry saving business growth. Demand for protection products will be supported by younger, digitally-savvier emerging markets consumers who are more aware of the benefits of holding term life policies. We expect demand for long term care, disability and critical illness products to remain anchored across advanced and emerging markets, with less saturated markets driving the momentum (see *Is the pandemic boom fading?*).

Figure 17
Contributions to annual real growth rates in life premiums per region (percentage points)



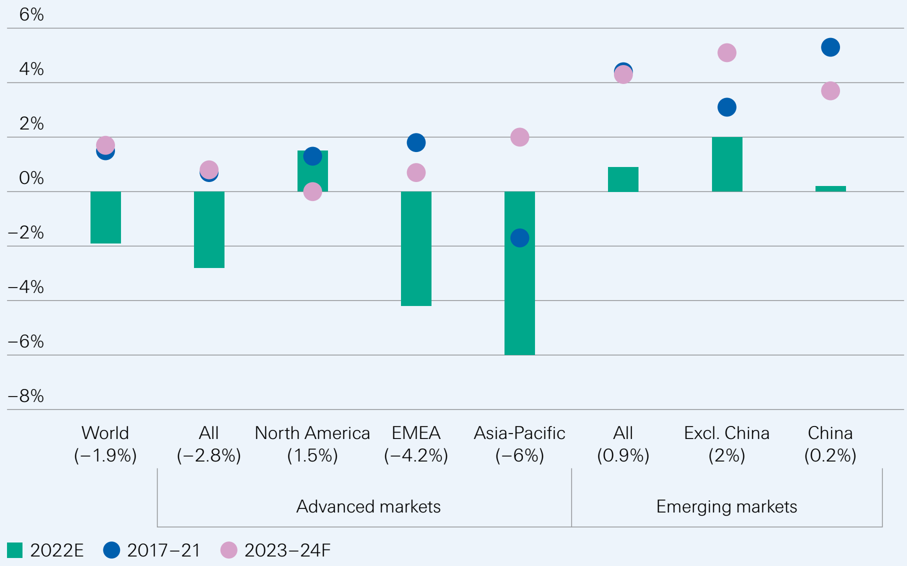
Note: E = estimates, F = forecasts. Source: Swiss Re Institute

Advanced EMEA to contract 4.2% in 2022 amidst a darkening economic outlook.

Resilience in North America, but Europe to feel cost-of-living pain

The EMEA region has a very subdued outlook due to inflationary pressure, expected recessions and geopolitical turbulence. We expect premiums to decline 4.2% in real terms this year, and recover to 0.7% annually on average in 2023–24. Households in Italy and Germany are likely to delay any saving products purchases this year as record-high inflation squeezes middle incomes' propensity to save and stock markets stay volatile. We estimate a real premium decline of 12% and 7.1% respectively in these markets in 2022 (nominal of –5.9% and –0.2%), also partly due to base effects from 2021. In France and the UK, life premium growth is expected to decline 4.3% and 4.1% respectively in real terms, as inflation erodes nominal growth (+0.7% and +4.2% respectively). The transformation of traditional savings and pension contracts into unit-linked products in France[46], and the pick-up of the bulk annuity market in the UK as de-risking of group pension contracts continues, underpins saving-linked products growth. The weak macroeconomic outlook in the region may result in increased unemployment and a further slowdown in demand for life insurance.

Figure 18
Global life insurance premium growth rates in real terms, actual and forecast (2022 values in brackets)



Source: Swiss Re Institute

North America to stay resilient in 2022 and grow 1.6%.

In contrast, North America looks to be resilient. We forecast 1.5% growth in real terms in 2022, supported by strong annuity premiums, which are aided by higher interest rates and positive US regulatory developments last year.[47]. We expect life premium growth to be almost flat in 2023 and 2024 driven by a base effect contraction in saving business (–0.4%) as regulatory tailwinds fade. We estimate protection products will continue to grow moderately (1.5% in 2023–24). Sustained high inflation would further dent disposable incomes and curb demand for annuities.

Advanced Asia-Pacific premiums to contract 6% this year from lockdowns, inflation and competitive pressure.

Advanced Asia Pacific is also under pressure. We estimate life insurance premiums to decline by 6% in real terms in 2022, led by South Korea, Taiwan, Hong Kong, and Australia. Saving business declined strongly year-to-date in South Korea, and domestic competition from alternative products is a risk to watch.[48] In Hong Kong, restricted mobility during the Omicron outbreak has reduced premium growth this year, but we expect a strong rebound next year if the border with China reopens. In Australia, we expect a contraction of 4.3% in real terms mainly due to high inflation.[49] Regulatory tightening and market volatility have reduced demand for ordinary life and annuity products in Taiwan. Growth tailwinds are coming from Japan, where digitalisation of

[46] As part of the French pension reform (transformation Loi Pacte). We encompass Eurocroissance products into the broader unit-linked products category.
[47] The US Department of Labor's new fiduciary rules came into effect last year, and the 2019 SECURE Act opened the door to annuities in 401(k)s and other retirement plans.
[48] Source: FitchRatings.
[49] Investment-linked insurance premiums have been shrinking in Australia in recent years.

sales channels is supporting life protection and we estimate 1.5% real terms premiums growth this year and next. We expect premiums in advanced Asia will grow by an annual average 2% in real terms in 2023 and 2024.

China is still in transition in 2022, with life premiums expected to decline by 0.3%.

China's life industry is navigating economic and structural challenges. We expect life premiums to grow by 0.2% in real terms in 2022 as uncertainty due to lockdowns weighs on consumer confidence and propensity to save. Life industry restructuring, including a shift in distribution channels from agent-led to bancassurance, and the lagged impact of critical illness (CI) pricing directives revisions, are dragging on insurance sales. These headwinds should dissipate as economic conditions improve and we forecast average annual growth of 3.7% in 2023–24.

Emerging markets excluding China to drive growth in 2022 and the medium term.

In emerging markets excluding China, life premiums should grow by an estimated 2% in real terms in 2022, with the largest increases in Asia (5%). The medium-term outlook is still brighter, with 5.1% expected average annual real growth – and 7.4% annual growth in emerging Asia (excluding China) alone, over 2023–24. In India, the second-largest life insurance market in the emerging world, we expect life premiums to grow by 8% in real terms supported by economic recovery, risk awareness and rising insurance penetration. In the light of recent regulatory developments and a strong push from regulators[50], there is a possibility of a much stronger growth rate in India in the medium to long term. In Latin America, we estimate subdued life premiums growth of 1.4% in real terms, mainly due to high inflation, particularly in Brazil and Mexico. In the emerging Europe and central Asia group of markets, we estimate premiums to decline by 15% in real terms in 2022 as supply-chain disruptions and sanctions from the war in Ukraine weigh on the outlook. We believe low insurance penetration rates and socio-economic development will support emerging markets' life insurance growth in the medium to long-term.

Is the pandemic boom fading?

The COVID boost to life insurance risk awareness may be short-lived.

The COVID-19 pandemic boosted consumer awareness of mortality and morbidity risks and the benefits of insurance among consumers.[51] In 2020 alone, the share of risk premiums in global life premiums jumped 1.2 percentage points. However, this impact may prove short-lived, as we see signs of the return of pre-pandemic structural trends in the outlook now.

Risk awareness is fading away in the US and impacting life policies, as inflation fears anchor.

Advanced economies, with relatively higher life insurance penetration rates before the pandemic, are seeing policy growth slow. For example, in the US life insurance applications were down 6.3%[52] in the year to date September 2022 compared to 2021, as the pandemic moved out of the headlines and inflation led households to reconsider discretionary spending.[53] In 2021, US risk premium growth was robust at 1.8% as higher pandemic risk awareness coincided with fiscal stimulus and favourable tax and regulatory developments. Swiss Re market research into US life insurance customers this year has found a 22% lapse rate among people who bought life insurance due to COVID-19 over the 18 months prior to being surveyed.[54] Lapse rates were higher among low- and middle-income households and people younger than 30 years old. In the US and the broader advanced economies group, growth headwinds may build as lower risk awareness, higher inflation, rising interest rates or a spike in unemployment could encourage existing policyholders to lapse or surrender a greater share of policies than previously the case.

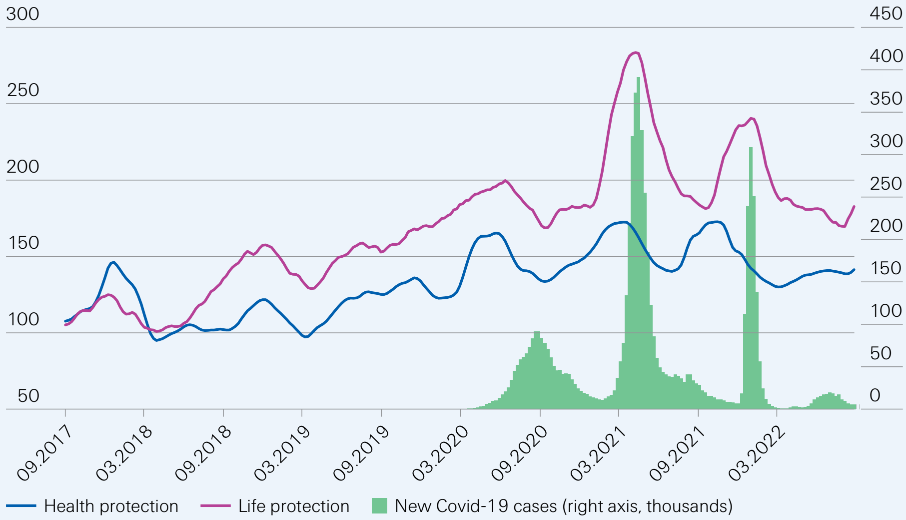
Risk awareness tailwinds in emerging markets to reshape in a structurally higher awareness of the benefits of life insurance.

In emerging markets, we expect the COVID-19 shock and its short-term risk awareness impact to fade away and a return to the pre-pandemic trend of increasing demand for life insurance as socio-economic status rises. The pandemic boosted risk perception for those lacking life and health protection. For example, in India, indexed Google searches

[50] The Indian insurance regulator IRDAI allocated growth targets to insurers.
[51] *sigma* 5/2021 – Turbulence after lift-off: global economic and insurance market outlook 2022/23, 16 November 2021.
[52] U.S. Application Activity Declines in Q3-2022 Compared to Q3-2021, but Remains Above Q3-2019, MIB Group.
[53] L. Scism, "Pandemic Boom for Life-Insurance Policies is Fading", Wall Street Journal, 26 August 2022.
[54] Swiss Re Institute Behavioral Research Unit, 2022 US life-insurance customer-survey. 1811 people surveyed over the 18 months prior to H2 2022. Findings not published publicly. Lapse is defined as people who cancelled their policy, reduced their coverage amount or shopped for cheaper providers.

for life and health protection products follow the same cycles as the waves of COVID-19 cases (see Figure 19). In parallel, life protection and health premiums grew respectively 11% and 22.5% in 2021 (real terms). But as pandemic worries decrease, we expect longer-term demand tailwinds from economic development and higher incomes to dominate again, moving emerging markets along their insurance S-curves. Underpinning factors include rising education levels, financial literacy, urban development,[55] digitalisation, market development and regulatory interventions that boost life and health insurance penetration.[56]

Figure 19
India: Indices of consumer interest in L&H protection products



Note: we proxy consumers' interest for life and health protection by standardising and averaging Google searches for the terms {"Universal life","Term life","Income protection","Death insurance","Death benefits"} and {"Health insurance"} respectively." Source: Google, Our World in Data, Swiss Re Institute

Life profitability to improve as higher rates start to materialise

Rising investment income and claims normalisation to drive life insurance profitability.

We use a proprietary model to estimate life insurance profitability for eight advanced markets. We expect life insurance profitability to benefit from rising interest rates and a normalisation in mortality claims related to COVID-19 in 2022. Since life insurance claims are driven by mortality experience and benefits are defined at the inception of the policy, inflation has a limited impact on life insurers. COVID-19 claims continued to impact life insurers' earnings in the first half of 2022, but we remain cautiously optimistic for continued normalisation. Across all markets other than Japan, yields on 10-year bonds are significantly above pre-pandemic levels and acting as long-term profitability tailwinds. Investment incomes for major global life insurers improved in the first half of 2022. Guaranteed benefit portfolios of life and annuity underwriters are particularly expected to benefit in this environment. We estimate that life insurance operating profitability in these markets, as measured by the return on operating revenues of our sample, improved to 3.7% in 2021 from 2% in 2020.

Rising investment income to support earnings in Europe this year, and claims normalisation to aid North America profitability.

In the US, we estimate return on operating revenues for the life insurance sector to improve in 2022, supported by higher investment income and declining death benefit payments as COVID-19 claims begin to drop-off from elevated 2020 and 2021 levels. In Canada, profitability will be supported by healthy nominal premium growth, supplemented by strong annuity sales. Significant reserve releases driven by COVID-19-related claims normalisation are likely to boost earnings. Across European markets we expect return on operating revenues to rise in 2022, supported by rising investment returns, especially in the UK and France. Profitability in Germany is also improving as

[55] Studies have found that rural populations in India are generally less aware about insurance plans than urban populations. As rural populations gradually migrate to urban centres, we expect structurally higher awareness of life insurance and its benefits to anchor across emerging regions. Source: A.S. Banne. S.S. Bhola, "Awareness of Life insurance among sample customers", Indian Streams Research Journal, Volume-4, Issue-7, August 2014.
[56] In India, the regulator IRDAI has set growth target for life insurance companies throughout 2027. Source: *IRDAI sets a target of 5 years for life insurance companies for greater penetration; proposes state-level committee*, Zee Business.

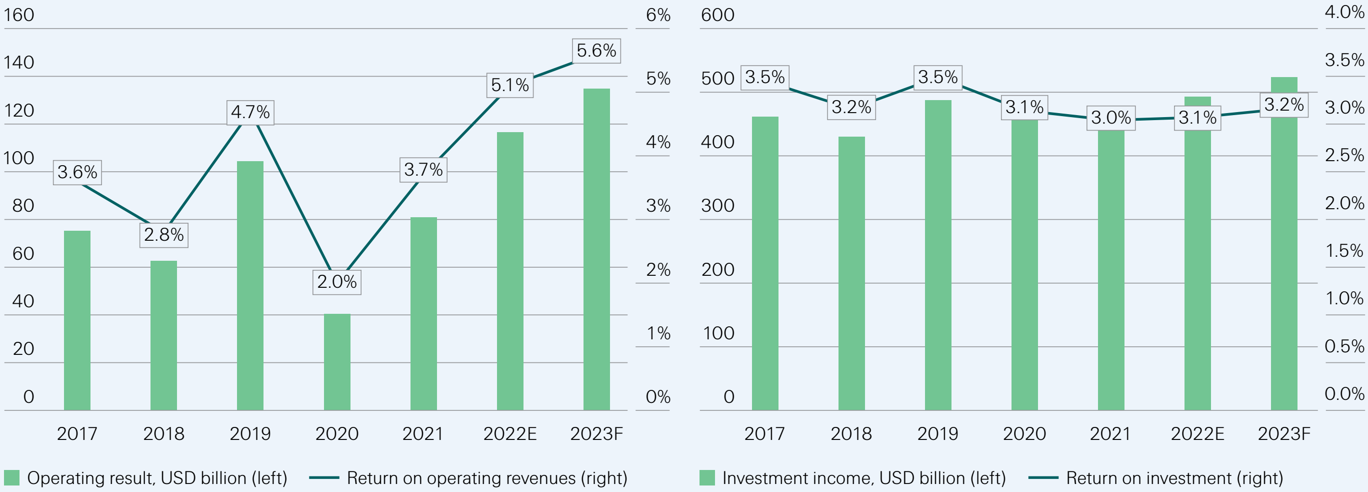
rising interest rates release some of the regulatory pressure on German life insurers to set aside additional interest reserves (ZZR) to service their long-term guaranteed liabilities.[57] In Italy, we expect the profitability improvement to be supported by lower life-linked benefits and less adverse reserves developments.

Disability margins to improve in Australia, but elevated claims set to still drag on life profitability in Japan

Australian life insurers will likely see stronger profitability in 2022. We expect margins on individual disability income products to improve after being major loss contributors for some years. Japanese life insurers are not yet seeing policy rate increases, unlike in other G8 markets. but have diversified their investment portfolios significantly into foreign interest-bearing securities in recent years, which is boosting investment returns. Japan continues to experience elevated life claims, a trend seen throughout the pandemic, and we see this continuing through 2022 as well. Given these factors, we estimate negative RoR in Japan this year, though better than in 2021. We forecast the industry to return to profitability in 2023.

Figure 20

Left: Life insurance operating results, eight advanced markets. Right: Life insurance investment results, eight advanced markets.



Note: E = estimates, F = forecasts. Our proprietary model estimates life profitability indicators under the assumptions that 10% of invested assets mature each period and unrealised gains/losses are borne by policyholders through an offsetting (life-linked) claim entry.
Source: Swiss Re Institute

Financial instability poses significant downside risk.

Financial stability risks key to watch

A deterioration in economic conditions and/or financial market instability pose significant downside risk to life insurance profitability. In recent years, life insurers have increased their exposure to illiquid assets in search of higher yields and to match liabilities in a low interest rate environment.[58] With interest rates now rising and liquid assets becoming more attractive, illiquid assets are expected to remain a material proportion of life insurers' investments. While this reaffirms the role of insurers in bringing stabilising effects as gatherers of illiquid liabilities, this also exposes them to liquidity and credit risk in rapidly deteriorating and leveraged financial market environment. Life insurers are also exposed to portfolio revaluations and mark-to market losses during periods of financial markets stress.[59] The resulting unrealised losses reduce fee income on separate account assets and impact policyholders' life-linked benefits, but can also hurt capital positions depending on the accounting treatment.[60] Still, the industry is strongly capitalised overall and able to withstand financial market turmoil.

[57] *Additional interest reserve (NPR),* Gabler Insurance Dictionary, versicherungsmagazin.de.
[58] F. Ginghina, J. Jenkins, R. Ward et al, "2021 Illiquid Asset Survey", *Milliman,* 27 April 2022.
[59] Unrealised mark-to-market losses can materialise through maturing investments, changes in investment strategies or policy lapses.
[60] This is observed in the latest half year results. The magnitude of the impact depends on the treatment of unrealised losses under different accounting regimes.

Alternative economic & insurance scenarios

Economic policies and conditions change rapidly. We monitor and revisit our signposts to identify any "early warning" that an alternative economic scenario to our baseline "inflationary recession" could materialise. We continue to focus on two downside scenarios: "1970s-style structural stagflation" and "severe global recession", and one upside: "Golden 20s". In the optimistic scenario, commercial lines would benefit most from improved economic activity; life business would see lower lapse rates, and higher interest rates and strong capital markets would improve investment returns. The severe global recession scenario would be a blow to premiums and investment results. Non-life long-tail lines would benefit from lower claims severity with lower inflation, but life saving products with guarantees and duration mismatch would see weaker profitability. In a "1970s-style structural stagflation" scenario, long-tail non-life business would be sensitive to claims inflation, while higher interest rates would improve profitability of in-force life savings products with guarantees.

Economic scenarios

An alternative economic scenario could play out.

Our baseline outlook already resembles parts of stagflation and recession. We expect the inflation tensions in key economies to abate as they enter recessions. Yet, beyond our base case, stagflation could be more persistent or a recession more severe than we envision. There is also some muted upside risk in the outlook.

We consider three alternative scenarios to the baseline.

We consider three alternative scenarios to our baseline outlook for the world economy – two pessimistic, with a combined 30% likelihood in the next 12–18 months, and one optimistic scenario, with a 10% probability. The likelihoods include both financial and economic parameters; the scenario likelihoods would be significantly higher using the economic parameters only. Monitoring enables us to assess and stress-test current economic planning for alternative (yet material) outcomes, so we can quickly adjust our baseline. The balance of risks overall is skewed toward the more pessimistic scenarios. The emergence of systemic risk for the financial market infrastructure areas manifested though higher liquidity and default risk is key to watch. Worse liquidity conditions would make government bond yields increasingly vulnerable to market shocks, while the tightening in financial conditions risks higher default rates. Furthermore, rising inequality within and between countries could damage social cohesion and international cooperation. Geopolitical tensions are high. The pandemic and war in Ukraine have deepened fragmentation and geopolitical competition.

We monitor signposts for these scenarios to detect early signs of direction of travel.

The parameters of the alternative scenarios are in Table 7 and we complement these with "signposts" that act as early signals of the direction of travel (see Table 10). Signposts are frequent indicators (monthly or quarterly) that quickly indicate new developments to allow for a timely and swift re-assessment of our baseline should this central expectation have tilted towards one of the alternative scenarios.

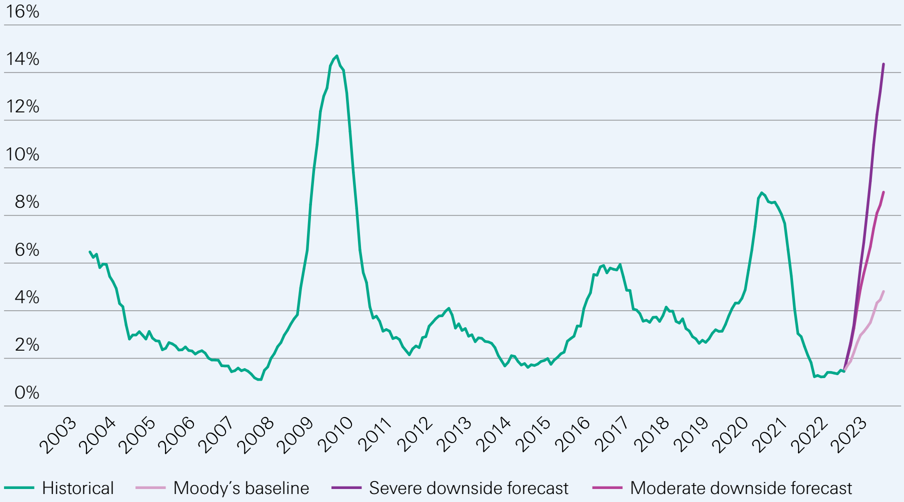
The three alternative economic scenarios in depth

Our pessimistic scenario anticipates economic contraction and financial market selloffs in 2023.

Under the severe global recession scenario, ongoing aggressive and front-loaded central bank tightening results in "hard landings" with severe economic contractions in key economies. Real global economic growth would land in the vicinity of –1% or worse. Contractions in consumer demand help keep a lid on price pressures. Policy responses attempt to support economies but weaker macroeconomic resilience and the still elevated inflation pressures constrain fiscal authorities in their ability to deliver substantial support. Risk assets suffer less from policy support and are negatively affected by the renewed uncertainty, leading to an unwind of crowded investor positions and a severe and abrupt tightening in financial conditions. This feeds back negatively into the real economy. Corporate defaults and rating downgrades increase alongside persistent high unemployment. As Figure 21 shows, we would expect default rates in high yield corporate credit to be similar to ones seen during the global financial crisis. Still-present supply bottlenecks due to unresolved geopolitical tensions mean central banks are not ready to deliver monetary policy easing as during the crises of 2008 and 2020, so interest rates remain higher than in prior severe recessions. US-

China tensions and euro area internal pressures add to geopolitical risks amid the ongoing Ukraine war.

Figure 21
High yield corporate credit default rate (historical and forecasts from Moody's)



Source: Moody's, Swiss Re Institute

In a 1970s-style structural stagflation scenario, prices spiral and growth slows.

The 1970s-style structural stagflation scenario envisages high inflation readings (>5%) for the first three of our forecast years (to end of 2025) driven by continued geopolitical tensions and persistent supply bottlenecks, and wage-price spirals. Major western central banks are too late to address inflation and their tools prove insufficient to address the supply issues. Longer-term inflation expectations become unanchored in a disorderly fashion. As central banks raise interest rates, consumption loses momentum, financial markets tighten, and unemployment edges higher. A prolonged inflationary period with low economic growth ensues. Wealth inequality and the erosion in purchasing power increase social tensions. Governments respond with redistributive policies that raise taxes for the rich and transfer payments to lower income households. Central banks shift their priority from achieving price stability to achieving full employment as the economy slows, resulting in renewed policy easing that adds further upward inflationary pressure. Though our alternative scenarios are on a global level, we note that we already have a stagflation-like baseline for Europe for the next two years due to the energy crisis.

We identify three sub-scenarios that could increase stagflationary pressure.

We identify three regional or country sub-scenarios with potential global repercussions that would increase stagflationary pressures. A re-tightening or prolongation of COVID restrictions in China in 2023 would be a near-term risk, while a material deterioration in Europe's energy crisis or the war in Ukraine would add risk in the longer-term (see Figure 22).

Figure 22
Sub-scenarios that would feed into an adverse stagflation scenario

		Prolonged China COVID restrictions	Worsening of Europe's energy crisis	Intensification of Ukraine war
Narrative		COVID restrictions remain in place throughout 2023	Full Russian gas cut-off to Europe beyond Nordstream 1	Nuclear strike on Ukraine
Narrative		Continued supply-chain disruptions (internal and also goods for abroad)	Very cold winter	More attacks on critical infrastructure, potentially expanding beyond Ukraine
Narrative		Lower investment into China	More government interventions (decoupling of whoesale vs retail prices)	Full Russian gas cut-off to Europe
Top 3 signposts	1	**Hospitalisations / healthcare capacity**	**Energy demand evolution (especially during colder months)**	**Communication and tone from Kremlin**
Top 3 signposts	2	**Death toll from COVID**	**Alternative sources (eg, LNG) and build-up of reserves**	**News flow around Russian attacks/actions**
Top 3 signposts	3	**Vaccination rate**	**Rationing of energy use**	**Broader international responses to the conflict (e.b., sanctions, arms provisions)**
Key forecasts impact *	**Real GDP growth**	↓ Lower consumption and business confidence	↓ Energy rationing and lower confidence	↓ Plummeting consumer confidence and stock market crashes
Key forecasts impact *	**Inflation**	↓ Softening domestic demand (continuation of current trend)	↑ Limited short-/medium-term impact, but higher for longer inflation	↑ Higher for longer given deterioration in energy situation and higher fiscal spending
Key forecasts impact *	**Policy rate**	↓ Limited easing leeway given higher pressure through financial markets	→ Unclear: more rate hikes due to higher inflation, or rate cuts over growth concerns/financial stability/ debt sustainability	→ Unclear: more rate hikes due to higher inflation, or rate cuts over growth concerns/financial stability/ debt sustainability
Key forecasts impact *	**10-year yield**	↓ Lower yields across the curve due to stimulus and lower inflation	→ Initial surge amid fears of high inflation and financial instability before ECB steps in at the longer end of the yield curve	→ Initial surge amid fears of high inflation and financial instability before ECB steps in at the longer end of the yield curve

Note: The intensification of the Ukraine war impact for Europe is very closely linked to that of a worsening in Europe's energy crisis as the latter would likely materialise under a deterioration of the war.
Source: Swiss Re Institute
* Directional impact for key metrics relative to the Baseline for the regional/economy where the scenario emanates from. China for the prolonged China zero-COVID strategy, and Europe for the worsening of the energy crisis and the intensification of the Ukraine war. The impact is over a 12–24 month horizon unless otherwise specified. The colour-coding for the direction captures the impact for the economic outlook (i.e., red = negative, purple = neutral, green = positive)

The "Golden 20s" see sustained growth and benign financial markets.

The **Golden 20s** scenario is positive, projecting a sustained growth rebound. Smart, long-term oriented spending by both governments on sustainable infrastructure, education, and research and development, and by corporates towards more capital investment, is a key driver of the outlook. Governments and corporates' strong focus on climate change supports the transition to "net zero" in line with the Paris Agreement.

Table 7
Economic and financial market assumptions under alternative scenarios

Country/Currency		Baseline				Optimistic – productivity revival (Golden 20s)			Pessimistic – 1970s structural stagflation			Pessimistic – severe global recession		
		2022	2023	2024	2025	2023	2024	2025	2023	2024	2025	2023	2024	2025
Real GDP (%)	USD	1.8	0.1	1.6	1.9	1.8	2.6	2.1	–0.7	1.1	1.2	–2.4	2.1	2.2
	EUR	3.1	–0.2	1.3	1.6	0.8	1.7	1.8	–1.0	0.8	1.5	–4.4	1.8	1.9
	RMB	3.4	4.1	4.9	4.7	4.9	5.4	5.0	3.3	4.3	4.3	2.0	5.4	5.0
Inflation (%)	USD	8.1	3.7	2.8	2.3	3.2	2.6	2.2	11.9	8.5	5.5	2.8	2.3	2.3
	EUR	8.6	6.2	3.0	2.1	5.2	3.0	2.1	12.5	9.2	5.3	6.0	2.4	2.1
	RMB	2.3	2.6	2.4	2.3	2.8	2.5	2.3	5.2	3.7	2.4	2.2	1.8	2.3
Policy rate (%)	USD	4.6	5.1	3.6	2.6	4.9	4.1	3.4	6.8	4.9	5.0	3.6	2.4	2.1
	EUR	2.8	3.5	3.3	2.8	3.3	3.3	3.0	4.8	3.8	3.8	2.8	1.8	2.3
	RMB	2.0	2.0	2.1	2.2	2.0	2.3	2.6	2.8	2.3	2.3	1.3	1.9	2.2
10y yield (%)	USD	3.9	3.6	3.4	3.6	5.0	4.6	4.2	5.4	5.2	5.4	2.4	2.4	3.0
	EUR	2.6	2.6	2.3	2.0	3.2	3.6	3.5	3.7	3.4	3.0	1.4	1.3	1.5
	RMB	2.7	2.6	2.6	2.6	2.1	2.8	3.4	4.5	4.5	4.4	2.6	2.0	2.2
Risk assets	USD IG, bps	160	150	140	130	110	115	110	235	200	170	290	195	165
	USD HY, bps	500	480	460	445	330	380	390	710	625	560	865	615	550
	US Equities, %	–20.0	6.3	6.3	6.3	15.0	10.0	6.3	–30.0	15.0	6.3	–40.0	25.0	6.3

Note: The US listed equities forecasts under the baseline are long-run over-the-cycle forecasts unlike other parameters which are either over-the-year (eg real GDP growth, inflation) or year-end levels (e.g., policy rate, 10y yield, and corporate credit spreads). Under the alternative scenarios, we take an annual view for the performance of listed equities before reverting to over-the-cycle.
Source: Swiss Re Institute as of 10 November 2022

Insurance implications

These scenarios have large implications for insurers.

Insurance companies' performance (growth and profitability) is also affected by the macro environment. Table 8 illustrates the correlation between the insurance sector and developments in the financial system and real economy. We use selected key macro indicators including economic growth (GDP), inflation rate, interest rate, and defaults, and assess the implications for insurance markets. Table 9 elaborates the expected impact of the three alternative economic scenarios on insurance premium paths, claims trends and profitability relative to the baseline scenario.

Table 8
Correlation between macro factors and performance of insurance sector

Insurance market		Major macro considerations			
Sub-market	**Key performance**	**GDP**	**Inflation rate**	**Interest rate**	**Defaults**
Nonlife	Nominal premiums growth	↑	↑	→	↓
	Real premiums growth	↑	↓	→	↓
	Nominal claim costs	→	↓	→	→
	Investment Performance	↑	↑	↑	↓
Life	Nominal premiums growth	↑	↑	↑	↓
	Real premiums growth	↑	↓	↑	↓
	Nominal operating margins	→	→	→	→
	Investment Performance	↑	→	↑	↓

Note: ↑ = positive correlation, ↓ = negative correlation, → = neutral
Source: Swiss Re Institute

The severe recession scenario would hurt premium revenues across all lines and regions, in both life and non-life.

The severe global recession scenario would have a strong negative effect on premium revenues across all lines, and all regions, in both life and non-life insurance. The sharp slowdown in economic activity, large increase in unemployment and financial market losses would all lower demand for insurance substantially. The most exposed non-life lines of business would likely be trade credit contracts, as trade volumes are highly volatile to economic activity. Non-life claims would benefit from lower inflation compared to the current elevated baseline, but higher risk of insolvency, bankruptcy or default would weaken the profitability of trade credit lines. For life business, global recession would have a strong negative impact on the profitability of saving-linked business with guarantees, as a decline in interest rate would result in lower investment income and duration mismatch. The impact on the profitability of unit-linked business is more limited as the asset risk is borne by the policyholder. Protection business's premiums, liquidity and profitability would see a moderate hit, mainly due to an increase in lapse and surrender rates, a liquidity risk when paying surrender benefits/charges at the same time, and possibly adverse selection with respect to mortality and morbidity that adversely affects profitability. This scenario, especially with higher systemic risk, would leave life insurers under-reserved. Weaker investment results due to lower interest rates and stock market losses would also lower profitability and put further pressure on the liability side, including pricing of risks, for all insurers.

"1970s style stagflation" would bring lower real premium growth and weaker non-life profitability.

The 1970s style structural stagflation scenario would bring additional nominal premium growth for the non-life segment as rate increases catch up with high claims inflation. However, real premium growth (inflation-adjusted) across all P&C lines of business would be lower than under our baseline forecasts (which already assume some stagflationary pressure), given slower real exposure growth. Workers' compensation would be negatively affected as slower economic activity curbs employment levels. A stagflation scenario would weaken P&C insurers' profitability due to higher claims costs. On the life and health side, stagflation would reduce affordability for business and households, and hence negatively impact premiums from new business. Inflation would also increase life insurance lapse rates. However, stagflation is neutral or slightly positive for life insurer profitability. In-force life savings products with guarantees would see improved profitability from higher interest rates. Investment income would benefit from higher interest rates, but equity market losses and mark-to-market losses on fixed income portfolios would offset some of these gains.

In the optimistic scenario, premium growth and investment returns would be stronger than the baseline.

In the optimistic scenario, premium growth and investment returns would be stronger than the baseline. In the non-life segment, commercial lines would benefit most from improved economic activity. Improved business sentiment and lower lapse rates would support profitability. Life protection business premium growth will benefit from lower lapse rates and improved job market conditions. Higher interest rates as well as strong capital markets would improve investment returns and benefit savings-linked business.

Table 9
Impact of alternative economic scenarios on insurers' premiums and profitability (2023–2024)

	Optimistic "Golden 20s"	Pessimistic "Severe global recession"	Pessimistic "1970s structural stagflation"
Premium growth			
Non-life			
Property	Positive	Negative	Moderately positive
Liability	Positive	Negative	Moderately positive
Motor	Positive	Negative	Moderately positive
Trade credit	Positive	Negative	Negative
Life			
In-force			
Protection	Positive	Moderately negative	Moderately negative
Life savings, guarantees	Moderately positive	Moderately negative	Negative
Life savings, unit linked	Positive	Negative	Negative
New Business			
Protection	Positive	Moderately negative	Moderately negative
Life savings, guarantees	Positive	Negative	Moderately negative
Life savings, unit linked	Positive	Negative	Negative
Underwriting profitability			
Non-life			
Property [claims]	Moderately positive	Neutral	Moderately negative
Liability [claims]	Moderately positive	Moderately positive	Negative
Motor [claims]	Moderately positive	Moderately positive	Negative
Trade credit [claims]	Positive	Negative	Moderately negative
Life (operating margins)			
In-force			
Protection	Moderately positive	Moderately negative	Moderately negative
Life savings, guarantees	Neutral	Negative	Moderately positive
Life savings, unit linked	Moderately positive	Moderately negative	Moderately negative
New Business			
Protection	Neutral	Neutral	Neutral
Life savings, guarantees	Neutral	Moderately negative	Moderately positive
Life savings, unit linked	Neutral	Neutral	Neutral
Investment returns			
Current yields	Moderately positive	Negative	Neutral
Capital gains/losses	Positive	Moderately negative	Negative
Financial volatility	Positive	Negative	Negative

Negative | Moderately negative | Neutral | Moderately positive | Positive

Note: growth rates are in nominal terms. Source: Swiss Re Institute

Appendix

Table 10
Overview of US signpost monitoring

	Signpost	Last	Z-score (latest)	Trend	1970s structural stagflation	Severe global recession	Today
Economic activity	Real GDP growth (yoy %)	1.8	−0.1	▼			
	Disposable income (yoy % sa)	−4.5	−1.5	▼			
	Household savings (yoy % sa)	−62.8	−1.4	▲			
	Unemployment rate (U-3) (% sa)†	3.5	−1.1	=			
	Initial jobless claims (Persons sa)†	219.0	−0.3	▼			
	Labour force participation (% sa)	62.3	−0.7	=			
	Consumer sentiment (level)	59.8	−1.9	▲			
	Manufacturing PMI (level)	52.0	−0.5	=			
	Services PMI (level)	49.3	−0.5	=			
Inflation	Headline CPI (yoy % nsa)†	8.2	2.9	▼		Inflation dynamics under a recession will see inflation prints below the baseline forecast as demand is less, however, supply issues remain highly uncertain and could linger thus pushing certain indicators higher. This, however, is not a criterion for us to move into a recessionary environment	
	Core CPI (yoy % nsa)†	6.6	3.5	▲			
	Real wages (weekly, private nonfarm) (yoy % sa)	−3.8	−2.3	▲			
	Rents (CPI component) (yoy % sa)†	5	3.1	▲			
	Food (CPI component) (yoy % sa)†	11	3.8	=			
	Energy (CPI component) (yoy % sa)†	24	1.6	▼			
	Brent crude futures (price level)†	88	0.4	▼			
	Natural gas futures (price level)†	7	2.7	▼			
	Shipping costs (Baltic Dry Index) (index level)†	1 760	0.6	▲			
	PPI (yoy % nsa)†	8.5	2.0	▼			
	Consumers' expected inflation during next 5y (UoM) (%)†	3.3	0.6	▼			
	Fed Common Inflation Expectations (CIE) (%)†	2.2	2.1	=			
	Supplier delivery times (slower) (% respondents)†	16.8	−0.2	▼			
	10y breakeven (%)†	2.2	0.4	▼			
Policy stance	Economic policy uncertainty (index nsa (long-term avg = 100))†	87	−0.4	▼			
	Central bank (CB) policy rate (%)	3.1	3.2	▲			
	Difference between CB rate and Taylor Rule (absolute)†	7.3	2.0	=			
	Monetary policy uncertainty (index nsa (long-term avg = 100))†	138	1.1	=			
	Fiscal policy uncertainty (index nsa (long-term avg = 100))†	65	−0.8	▼	N/A	N/A	
	Regulatory policy uncertainty (index nsa (long-term avg = 100))†	84	−0.9	▼	N/A	N/A	
Financial conditions	Financial conditions (level)†	100.8	1.9	=			
	10y yield (%)	3.8	2.6	▲			
	Equity performance (YTD return %)	−20.6	−3.0	▼			
	IG credit spreads (%)†	1.6	0.7	▲			
	Equity valuation (P/E ratio)†	16.0	−0.5	▼			
	30y mortgage rate (%)†	6.7	4.4	▲			
	Real estate (index nsa (1977=100))†	5 045	2.2	▲	N/A	N/A	

† These signposts are those for which a lower reading is more desirable at this present point in time. For instance, while low inflation may not be more desirable over high inflation, we are currently experiencing very high inflationary readings and currently, seeing inflation come down would provide some relief.

* The last reading of each signpost is brought into a historical context (i.e., backward looking). For this, the z-scores and percentiles since the global financial crisis (i.e., 2011) are reported. Note that the Z-score shows the distance and direction of an observation away from the historical average, while the percentile indicates the percentage of observations that fall below that same observation.

** The assessment is forward looking and is a reflection of Swiss Re Institute's view.

*** Monetary and fiscal policy spaces are extracted from the macroeconomic resilience index which is updated once a year. The index goes back to 2007, therefore z-scores and percentiles are computed between then and current year. Reported figures and statistics are using the preliminary 2021 index.

Notes: (1) Throughout this monitor, the use of traffic lights are used to summarise the assessment (both backward looking via the z-scores and percentiles under the macro cyclical picture but also forward-looking). The colours range from green>yellow>red as we move from a more desirable reading/assessment to a less desirable one. (2) Trend is the recent historical trend over the last 3 months for monthly or daily data series or over the last 3 quarters for quarterly time series. (3) For the implications of our downside alternative scenarios, it is important to keep in mind that data used in this dashboard goes back to 2011 only. As such, a percentile of 95% for headline CPI has already been breached and inflation looks as though we are very near to that scenario, but the historical context is much narrower and focuses on a time period (post-global financial crisis) during which inflation surprises were virtually non-existent.

Source: Bloomberg, Swiss Re Institute

Published by

Swiss Re Management Ltd
Swiss Re Institute
Mythenquai 50/60
P.O. Box
8022 Zurich
Switzerland

Telephone +41 43 285 2551

Authors
Fernando Aizpun Casanova
Lucia Bevere
James Finucane
Hendre Garbers
Fiona Gillespie
Loic Lanci
Roman Lechner
Charlotte Mueller
Patrick Saner
Rajeev Sharan
Ayush Uchil
Diana Van der Watt
Arnaud Vanolli
Dr Li Xing
Weijia Yao
John Zhu

The authors would like to thank Dr Chandan Banerjee, Caroline De Souza Rodrigues Cabral, Xin Dai, Dr Jessie Guo, Dr Thomas Holzheu, Dr Thilak Venkatesan and Sunnie Wang for their contributions to this research.

***sigma* editor**
Alison Browning

Managing editor
Dr Jerome Jean Haegeli
Swiss Re Group Chief Economist

Explore and visualise *sigma* data on natural catastrophes and the world insurance markets at *www.sigma-explorer.com*

The editorial deadline for this study was 29 October 2022.

sigma is available on Swiss Re's website: *www.swissre.com/sigma*

The internet version may contain slightly updated information.

Graphic design and production:
Corporate Real Estate & Logistics / Media Production, Zurich

Swiss Re Management Ltd.
Swiss Re Institute
Mythenquai 50/60
P.O. Box
8022 Zurich
Switzerland

Telephone +41 43 285 3095
swissre.com/institute