Sustaining resilience amid slowing growth: global economic and insurance outlook 2020/21

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**Executive summary**

Global growth will slow this and next year. We are below consensus on the US and euro area, and expect emerging Asia to outperform.

Global growth remains weak and will slow over next two years. Last year marked the peak of the cycle, and our current forecasts for US and euro area growth of 1.6% and 0.9% in 2020, respectively, are below consensus. The largest down revision is to our forecasts for the euro area: the region is at risk of entering a period of low growth, low inflation and low interest rates, so-called ‘Japanification’. With lower levels of productivity and technical innovation, and an ageing population, the euro area will do well to weather the state of economic inertia as strongly as Japan has done since the 2000s. Overall, Asia will remain the engine of global growth, in particular its emerging economies: we forecast near 6% growth in India and China in 2020.

The main threat to the growth outlook is a trade war. We expect global recession will be avoided.

This year’s weakening growth came as trade tensions and geopolitical polarisation increased and, with low growth and low inflation, a U-turn in monetary policy back to easing mode. US/China trade tensions and escalation of these more broadly are the biggest risk to global growth. The risk of US recession remains elevated, but a US-led global downturn is not our baseline scenario, and the US economy remains the most resilient of the G4 nations. If there is recession, we believe it will be more moderate than that after the global financial crisis of 2008/09.

We believe targeted fiscal policy and supply-side reforms are the main factors to strengthen resilience in the next 10 years.

Globally, low and even negative interest rates are set to stay. We expect one more US interest rate cut in the first quarter of 2020. In our view, current unconventional monetary policy and negative interest rates do more harm than good, with adverse effects on the real economy and functioning of financial markets. The world economy has become less resilient, and with monetary policy options all but exhausted, a different policy mix is needed to build resilience in the next 10 years. Less central bank action, more supply-side reforms to lift productivity, and more fiscal stimulus for growth-enhancing areas like infrastructure and sustainable investments.

Insurance continues to support resilience, and we forecast 3% growth in global premiums in 2020 and 2021. China will lead.

Insurance is a key contributor to economic resilience, even more so when growth slows: when households and businesses can access financial compensation for loss events, the underlying capacity of an economy to absorb shocks is enhanced. Encouragingly, the global insurance sector continues to grow at trend. Similar to last year’s two-year view, we forecast non-life and life premiums to increase by around 3% in both 2020 and 2021. Pricing in non-life has strengthened, driven by rising loss costs in property catastrophe and US casualty, and we expect this to continue. Low interest rates will continue to pressure insurers to drive technical profitability, particularly in long-tail lines. Emerging Asia will drive global growth, in particular China, where we forecast a 9% increase in non-life and 11% in life premiums in 2020. We forecast that China will make up 60% of all additional premiums in Asia over the next 10 years. Expanding risk pools will be non-motor personal lines, and medical and health insurance for which we forecast 14% annual premium growth. The exponential growth of mid-market private medical insurance in China, with premiums up 1500% over the last two years, gives indication of the size of potential and serves as a model for resilience building in other emerging markets.

If global recession were to occur, non-life insurers would suffer. A claims disinflation impact would restrain losses in some lines, but social inflation is putting pressure on loss costs in liability.

Given risk of a possible recession, in this sigma we assess how insurers would be impacted. With economic slowdown, demand for insurance typically falls. When slowdown is compounded by trade conflict, marine and trade credit insurance tend to be hit hardest. Industry profitability would also be impacted by recession, resulting from a further drop in the yield curve, a plausible scenario in current low market yield levels. For the global non-life sector, we simulate that a 50 basis-point drop in the yield curve would widen the estimated existing sector margin gap of 6–9% of premiums by 1.2–1.5%. In part offsetting this could be a claims disinflation effect. Certain lines of business like casualty tend to benefit from reduced claims severity via economic drivers (eg, wage inflation and medical expenses). Social inflation (the impact of changes in the tort system through which most liability claims are settled) on the other hand, is putting upward pressure on loss costs, most notably in US liability. However, the low interest rate environment means investment returns will remain weak, another variable that will continue to undermine profitability, and a concern for life insurers in particular.
Key takeaways

**Trade war**
Current US/China trade tensions, and escalation of these to a more global trade war, are the biggest risk to the growth outlook.

**Low and negative interest rates are here to stay**
More than 25% of global bonds currently trade with negative yields.
**Profitability gap in non-life insurance**

In a recession scenario, falling interest rates would widen the gap, mainly due to declining investment yields.

<table>
<thead>
<tr>
<th>Falling yield</th>
<th>Baseline</th>
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<tbody>
<tr>
<td>US</td>
<td></td>
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<tr>
<td>Canada</td>
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<td>UK</td>
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<tr>
<td>Germany</td>
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<td>France</td>
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<td>Italy</td>
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<td>Japan</td>
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Note: to calculate the baseline profitability gap, short-term windfall gains/losses including realized gains due to declining interest rates are excluded, given that these are temporary and unsustainable.

Source: Swiss Re Institute

**Combined ratio in US P&C**

The drag on profitability could be partially offset by a claims disinflation effect. The combined ratio typically improves in the years after recession.

Source: Swiss Re Institute
Macroeconomic environment and outlook

We expect global growth to slow over the next two years, amid increased uncertainty and geopolitical tensions. The number one risk to the outlook is escalation of the US-China trade war. The associated uncertainties have already hit capital spending and manufacturing output, and there is risk of spillover into the services sector also. Our forecasts for US growth (1.6%) and for the euro area (0.9%) in 2020 are below consensus. Inflation has moderated and central banks are firmly back in easing mode: we expect one more rate cut from the Fed in the first quarter of next year. With policy rates set to stay very low for the longer term, so too will global bond yields. The global economy’s resilience to future shocks has declined and in our view, new growth recipes are needed. These include structural reforms, targeted fiscal spending (e.g., on infrastructure) and sustainable investment.

Economic and inflation outlook

Global growth is slowing from an already low base. The negative impact of increased uncertainty emanating from trade and geopolitical tensions, and Brexit, has hit business sentiment in manufacturing. The IMF estimates that by 2020, the US-China trade dispute – even without further escalation – will have hit global output by 0.8%, with much of the impact resulting from increased uncertainty. This has manifested most notably in a significant weakening in global capital spending from a 2018 peak, which bodes ill for future output. Similarly, the global Purchasing Managers’ Index (PMI), a leading manufacturing sector performance indicator, has dropped into contractionary territory this year, indicating that world manufacturing output is set to fall. In Germany, the industrial sector downturn has deepened, and the economy is likely to be the first among the G7 countries to be classed as already in “technical recession”.

On a positive note, the global services sector has held up well so far, with tight labour markets and solid wage growth supporting consumption. Moreover, central banks have reacted with further easing, and some fiscal easing should help extend the current growth cycle to avoid a global recession. In particular, the Chinese authorities’ shift towards more expansionary policies should cushion the global slowdown (see Headwinds from credit impulse fading gradually). However, the risk of industrial sector weakness spreading into the rest of the global economy has increased. First evidence has come from a weakening in services PMIs over the summer, albeit these remain in positive territory in most economies. Overall, we see the risk of a US recession in 2020 as elevated at 35%, though this is unchanged from our view at the beginning of the year. While we predict lacklustre growth this and in the coming years, we do not anticipate an outright economic recession.

The current slowdown in many economies raises questions about the ability of countries to absorb future shocks. Our newly-developed SRI-LSE Macroeconomic Resilience Index shows that the global economy is less resilient today than in 2007.

We anticipate lacklustre global growth this and in the coming years...

...but not outright economic recession.

Our newly-developed SRI-LSE Macroeconomic Resilience Index shows that the global economy is less resilient today than in 2007.

1 World Economic Outlook, IMF, October 2019.
2 A technical recession is defined as a decline in real GDP for two consecutive quarters
3 We define macroeconomic resilience as an economy’s ability to absorb shocks. The higher the shock absorption capacity (score), the more resilient an economy is. For more detail, see sigma 5/2019: Indexing resilience: a primer for insurance markets and economies, Swiss Re Institute.
Despite these vulnerabilities, we expect global growth to moderate only gradually in the coming two years. We expect the contribution from emerging markets to global growth will grow as the outlook for advanced economies continues to cool. We look for US real gross domestic product (GDP) growth to slow to 1.6% in 2020 (consensus: 1.8%, see Table 1) from 2.3% this year, as fiscal stimulus fades and trade tensions with China continue. We expect trade with China to remain subject to elevated import tariffs and non-tariff barriers, and see no meaningful resolution of the conflict in the coming years, with ongoing uncertainty about intellectual property rights protection, enforcement rules and codified details of the so-called "Phase 1" agreement. In 2021, we forecast that US growth will strengthen slightly to 1.8% as recession is avoided and the economy returns towards trend expansion. Elsewhere, we expect that euro area growth will slow below potential in the next two years as its export-oriented member states, most notably Germany, suffer from a decline in global demand. We have lowered our forecast for 2020 euro area growth to 0.9% (from 1.4% a year ago), again below the consensus (1.1%). For the UK, Brexit remains the number one decisive factor. We see the UK economy at a tipping point in 2020, with the risk of a broad-based slowdown rising. In Japan, the 2019 fiscal stimulus package should cushion the negative impact of October’s consumption tax hike. Overall, we expect real GDP growth in Japan to slow from an estimated 1.0% this year to 0.5% in 2020, as government stimulus and the boost from spending on the summer 2020 Olympics fade.

On aggregate, we expect emerging market growth to improve modestly over the next two years, with emerging Asia in the lead, and as crisis-hit countries like Argentina and Turkey return to slow growth or shallower recession. The outlook for some large Latin American countries, notably Brazil, is also improving. So too is growth in Africa, moderately. Asia will remain the motor of global growth, with emerging Asia continuing to outperform other regions. In India, growth worries should be alleviated by the large fiscal stimulus of 2019, bringing economic expansion back up above the 6% mark. Meanwhile, we expect growth in China to be further affected by the ongoing trade dispute with the US. While official data show that economic activity has stabilised recently, alternative measures point to a faster decline in output growth. We have revised down China’s 2020 GDP growth forecast to 5.9% from 6.1%, reflecting lower global trend growth, reduced effectiveness of monetary policy and sustained domestic structural impediments. Central and Eastern European (CEE) countries have surprised to the upside in 2019 but the mainly small open economies will not remain unscathed by the global manufacturing slowdown. We therefore expect CEE growth to moderate over the next two years, while remaining above the European average.
Macroeconomic environment and outlook

Inflationary pressures remain subdued overall. Nevertheless, we expect US inflation to increase moderately to 2.3% in 2020 and 2021, given tight labour markets and solid income growth. In September 2019, US unemployment declined to 3.5%, a low not seen since December 1969, while the participation rate remains near multi-year highs. In line with this, core inflation measures have shown some upward pressure recently, including a pass-through impact from tariffs on Chinese imports. The recent rise in wages, healthcare and social inflation are a particular concern for US liability claims inflation (see chapter Insurance market outlook 2020/21). In the euro area, at an estimated 1.2% this year, inflation remains below the European Central Bank’s (ECB) 2% target, and we do not expect prices to pick-up significantly over the next two years as GDP growth slows. In emerging markets, inflationary risks remain skewed to the upside, particularly in emerging Europe (Poland, Hungary) but also in China, where consumers are most affected by price increases following retaliatory tariffs on imports of US goods.

### Table 1
Real GDP growth, inflation, central bank interest rates and 10-year yields in select countries and regions

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019E</th>
<th>2020F</th>
<th>2021F</th>
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<tbody>
<tr>
<td><strong>Real GDP growth, annual avg., %</strong></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>US</td>
<td>2.9</td>
<td>2.3</td>
<td>1.6</td>
<td>1.8</td>
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<tr>
<td>UK</td>
<td>1.4</td>
<td>1.3</td>
<td>1.0</td>
<td>1.3</td>
</tr>
<tr>
<td>Euro area</td>
<td>1.8</td>
<td>1.1</td>
<td>0.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Japan</td>
<td>0.8</td>
<td>1.0</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td>China</td>
<td>6.6</td>
<td>6.2</td>
<td>6.1*</td>
<td>5.9</td>
</tr>
<tr>
<td><strong>Inflation, all-items CPI, annual avg., %</strong></td>
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<tr>
<td>US</td>
<td>2.4</td>
<td>1.8</td>
<td>2.3</td>
<td>2.1</td>
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<tr>
<td>UK</td>
<td>2.5</td>
<td>2.0</td>
<td>2.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Euro area</td>
<td>1.8</td>
<td>1.3</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Japan</td>
<td>1.0</td>
<td>0.8</td>
<td>1.2</td>
<td>0.8</td>
</tr>
<tr>
<td>China</td>
<td>2.1</td>
<td>2.5</td>
<td>2.3*</td>
<td>2.6</td>
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<tr>
<td><strong>Policy rate, year-end, %</strong></td>
<td></td>
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<tr>
<td>US</td>
<td>2.38</td>
<td>1.63</td>
<td>1.38</td>
<td>1.38</td>
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<tr>
<td>UK</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.70</td>
</tr>
<tr>
<td>Euro area</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>Japan</td>
<td>−0.06</td>
<td>−0.06</td>
<td>−0.06</td>
<td>−0.06</td>
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<tr>
<td><strong>Yield, 10-year govt bond, year-end, %</strong></td>
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</tr>
<tr>
<td>US</td>
<td>2.7</td>
<td>1.4</td>
<td>1.4</td>
<td>1.9</td>
</tr>
<tr>
<td>UK</td>
<td>1.3</td>
<td>0.5</td>
<td>0.6</td>
<td>0.9</td>
</tr>
<tr>
<td>Euro area</td>
<td>0.2</td>
<td>−0.6</td>
<td>−0.6</td>
<td>−0.4</td>
</tr>
<tr>
<td>Japan</td>
<td>0.0</td>
<td>−0.3</td>
<td>−0.2</td>
<td>−0.1</td>
</tr>
</tbody>
</table>

E = estimates, F = forecasts.
Note: Euro area policy rate refers to the interest rate on the main refinancing operations. *China data from IMF.
Source: Consensus Economics, Bloomberg, IMF, Swiss Re Institute

With moderate growth comes moderate inflation.
Disruptions to supply chain

Increasingly, the impact of the on-again, off-again trade war between the US and China is being felt across the global supply chain. With the widening of tariff coverage to almost all US-China trade, firms across different industries are adjusting their operations to minimise the impact of additional tariffs. In a recent survey polling 600 multinational companies across Asia, 82% of respondents and 93% of Chinese companies said they are changing their supply chains because of the trade war. Relocation of production to outside of China is one of the options being considered.

Southeast Asian countries have become beneficiary destinations for low value-added manufacturing production out of China.

For low value-added and labour-intensive manufacturing, the trade war reinforces an existing trend as labour costs in China have risen and manufacturing capacities in other emerging Asian markets have expanded. Southeast Asian countries including Vietnam, Malaysia, Indonesia and Philippines have become beneficiary destinations for production outside of China from China-based manufacturers. According to a survey conducted by the American Chamber of Commerce, 18.5% of 430 surveyed China-based manufacturers are considering relocating to southeast Asia. Less than 6.5% are thinking about other destinations. This trend is more apparent for US firms, as revealed in another survey in which 64% said they are considering relocation mostly to southeast Asia.

While relocation in high-value added sectors has proven more challenging.

Relocation of production out of China in high-value added sectors like electronics, computers and semi-conductors, has proven challenging, and we do not expect a large-scale move abroad in this sector any time soon. Lack of skilled labour and complex supplier networks in other southeast Asian markets are key impediments. In addition, high levels of bureaucracy and infrastructure weaknesses add to the costs of production. Even so, some foreign firms in the electronics and capital machinery sectors have relocated production back home or to other locations, as observed in Taiwan and Japan. In Taiwan, in February 2019 the government has enacted supportive measures such as low-cost loans to help firms wanting to repatriate. According to media reports, from the time that these measures have taken effect, 66 firms have moved back home. Similarly in Japan, some top names (eg, Sony) have moved production back home or to other markets in Asia.

The global supply chain could be further fragmented and diversified in the longer-term.

In the longer term, and assuming no quick-fix to the global trade governance system, we believe supply chains will likely become more fragmented and more diverse. Production could be scattered to minimise the impact of tariffs and other trade barriers. Lingering bilateral trade conflicts and threat of punitive measures (eg, US-EU, Japan-Korea) could encourage more diversification of existing supply chains and the emergence of new supplier networks in specific sectors. In the case of high-tech production, and considering the risk of multiple global standards with increasing focus on 5G technologies, it is also conceivable that parallel supply chains could co-exist under different standard sets, driving up the cost of many end products.

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4 “Trade war forcing 93% of Chinese companies to transform supply chains, survey shows”, South China Morning Post, April 2019.
5 “South East Asia destinations attract China manufacturing supply chain relocation,” from ventureoutsource.com, (not dated).
6 “Many US firms in China eyeing relocation as trade war bites” survey”, Reuters, October 2018.
8 “Japan firms join exodus from China’s factories as tariffs bite”, Bloomberg, August 2019.
9 For instance, this could happen to areas in fluorinated polyimide, resist and hydrogen fluoride, where Japan dominates production but restricts related exports to South Korea. See “The Japan-South Korea dispute could push up the price of your next smartphone”, CNBC, July 2019.
Macroeconomic environment and outlook

The main central banks are back in easing mode amid slowing growth and moderate inflation.

We expect an expansionary stance in Europe is here to stay.

Many emerging market central banks have joined the easing trend.

Interest rates are likely to remain at very low levels for longer, leading to a decline in global yields.

Interest rate outlook

Central banks (CBs) have made a sharp U-turn in monetary policy this year. The major CBs had embarked on a gradual tightening path in 2018, but they are now firmly back in easing mode amid slowing growth, moderate inflation and increased downside risks. The US Federal Reserve (Fed) has already cut rates three times this year, and we expect another cut in early 2020. The Fed will also publish the results of its year-long review of the monetary policy framework, tools and communications in the first half of 2020. We do not expect a significant change to the current framework, though policymakers are likely to increase the flexibility of the current regime with some tweaking around the edges.\(^{11}\)

In Europe, the ECB also launched a comprehensive easing package in September, cutting the deposit rate to a record low of –0.5%, announcing a new open-ended quantitative easing programme of EUR 20 billion per month starting in November, and exempting a multiple of banks’ required reserves from the negative deposit rate. Moreover, its third targeted longer-term refinancing operations programme (TLTRO 3) will provide favourable financing conditions for banks. With Christine Lagarde as the new ECB President, we expect the expansionary stance to continue in the coming years, to support region growth. Under the new leadership, the ECB is also likely to perform a strategic review of its monetary policy, including its inflation target and the tools it uses (see From low to negative interest rates). As a notable exception, the Bank of England (BoE) has been the only main central bank to withstand the monetary easing tide. With inflation near target and a decision on Brexit still outstanding while GDP growth remains volatile, the BoE dropped its hiking bias this year but has remained on the side-lines. We expect it to remain data dependent and hold off major decisions until there is more clarity on Brexit. We believe the Bank of Japan (BoJ) is unlikely to change its expansionary monetary policy anytime soon.

Emerging market central banks have also joined the easing trend with several having already cut policy rates significantly (eg, in Russia, South Africa, Indonesia, Brazil) and nearing the end of the cutting cycle. Others, like in Mexico and Turkey, are likely to continue cutting rates for a while still amid weak domestic economies and falling inflation rates. In China, we expect the monetary authorities to continue to implement gradual targeted easing to counter the adverse impact from higher trade tariffs and to provide a floor to downside risks.

Given moderate inflation and slowing growth, we believe interest rates will remain at very low levels in the longer term. The U-turn in monetary policy has led to a sharp downtrend in long-term bond yields across the globe. We expect the US 10-year yield to close 2019 at around 1.4% and remain broadly unchanged in the coming two years. Slowing growth in the US will likely keep inflationary pressures in check and prevent long-term yields from rising significantly. In addition, low yields elsewhere will keep a lid on US yields. Yields in the euro area have declined significantly, dipping further into negative territory. Quantitative easing will exert additional downside pressure, increasing the scarcity of, for example, German Bunds and keeping yields in negative territory. In Japan, yields are likely to rise from their current negative value towards zero, but we see little scope for a significant improvement beyond that given no change to BoJ monetary policy stance. For re/insurers, the decline in global yields poses an ongoing challenge to investment returns and their overall profitability.

\(^{11}\) While average inflation targeting, price level targeting, nominal GDP targeting and yield curve control are all alternatives under discussion, in our view the Fed is unlikely to decide that a radical rethink is needed.
Ten years after the GFC, the world economy has reached a cross-road. With monetary policy largely exhausted and some (adverse) side effects becoming increasingly visible, new growth recipes are needed to offset increasing headwinds from demographics, protectionism and political uncertainty. To improve productivity, supply-side reform efforts should be stepped up and public investments increased. Specifically, there is a big need for infrastructure investments and actions to address climate change. In addition, when the next downturn happens there will be calls for novel approaches, such as increased coordination between fiscal and monetary policies. If structured in a smart way, this could deliver superior outcomes to independent monetary or fiscal policy. However, it could also lead to increased uncertainty and bear significant long-term risks. See From low to negative interest rates for more about the costs attached to "more of the same".

The credit impulse is a bellwether of the economic cycle.

Headwinds from credit impulse fading gradually

The credit impulse is a bellwether of the direction of economic growth. It measures the change in the flow of new credit, which is closely linked to domestic demand growth. A 1% increase in the credit impulse is estimated to boost domestic demand on average by around 0.7% in the US and the Euro area. The growth impulse from credit creation turned negative in 2018, fluctuated near zero during the first half of 2019, and lastly stood at 0.6% of GDP at the end of the second quarter of 2019. We expect it to remain moderately supportive in 2020.

Figure 1

Global credit impulse (change in flow of credit over the past 12 months), % of GDP

Source: Datastream, Bloomberg, Swiss Re Institute

12 Specifically, we define the credit impulse as the flow of credit over the past 12 months minus the credit flow in the 12 months prior to that, in percent of GDP.
Macroeconomic environment and outlook

The credit impulse has become negative in the US and has approached zero in the euro area.

In the US, the credit impulse dipped into negative territory in the second quarter of 2019 for the first time in three years. With President Trump’s fiscal stimulus, credit creation had been boosted in recent years. It remains to be seen if looser monetary policy will be enough to compensate for the fading of fiscal easing, although surveys suggest that credit growth remains supported by favourable bank lending conditions.\(^\text{13}\) In the euro area, the impulse from credit creation has shrunk to near zero in 2019, in line with a tightening in the credit standards in the second quarter, as reported in the ECB’s bank lending survey.\(^\text{14}\) With the new round of euro quantitative easing set to start in November, and the recent cut in the deposit rate, we expect the credit impulse to improve again towards 2020. However, we also believe that additional ECB easing is becoming increasingly ineffective, so any further positive impulse from easing is likely to be very limited.

After weakness over the last two years, we expect the impulse from credit creation in China to turn positive again.

Since the GFC, China has been the main driver behind the global credit cycle and its credit impulse turned significantly negative in 2017/18. However, with the government’s recent refocusing of policy priorities from deleveraging to supporting growth, the credit impulse turned positive in the second quarter of 2019, and we expect it to remain growth supportive. In particular, the Chinese government will increase spending on infrastructure projects and allow a larger share of that to be financed via debt. Hence, in the absence of large shocks, we think the headwinds from the credit impulse should fade towards the end of 2019 and should become moderately supportive again in 2020, particularly in China.

Risk considerations

Developments in geopolitics such as in Syria recently, continue to threaten global economic stability. In our view, the number 1 risk for the one- to two-year outlook is further escalation of tensions to a more global trade war.\(^\text{15}\) With respect to the US/China trade dispute, tensions have worsened this year and, despite recent signs of détente, are likely to persist.

Trade tensions between the US and China have worsened this year and, despite recent signs of détente, are likely to persist.

With the US election year approaching, growing economic pain may prompt some de-escalation, but China’s willingness to compromise seems increasingly limited. And while trade negotiations may result in partial resolution of the conflict eventually, medium- and long-term concerns such as technology transfer and intellectual property rights will prevail.

\(^\text{13}\) Senior Loan Officer Opinion Survey on Bank Lending Practices, Federal Reserve, October 2019.

Trade war remains the key risk factor in the US, and is something that could spread across the globe. Beyond the direct negative effect which tariffs have on trade flow volumes, the rise in uncertainty stemming from the trade dispute also has an adverse impact on global output as companies find it more difficult to take medium and long-term investment, production and hiring decisions. The higher uncertainty is perceived and the longer it prevails, the higher is the risk of a broader and stronger-than-expected slowdown in global growth. With the rise in uncertainty, external headwinds have already pushed the US manufacturing segment into a contraction, and forward-looking capex indicators remain soft. Moreover, the US sovereign yield curve temporarily inverted in September on the 2–10 year segment. Inversion of the yield curve has been historically a reliable indicator for US recessions. Although other key historical recession triggers are not flashing red and the yield curve segment turned positive again in October, we see the risk of the US economy entering recession in 2020 as relatively elevated at 35%.

The risk of a destabilisation of the EU has increased. Several conflict areas remain, including migration policy, national budgets and the rule of law. Most notably, Brexit-related uncertainty remains elevated and other unresolved issues, such as fragmented financial markets, fragile banking sectors and elevated debt burdens, could surface again in the next downturn. In several countries (e.g., Poland and Hungary) populist powers and nationalist parties have been cementing their power, which is likely to make it more difficult to reach compromises in the future. This could turn out to be a destabilising force in the long run. We would become more positive on the outlook for Europe, however, if governments speed up their structural reform agendas on a national level and if the institutional framework of the EU and especially in the Euro area is improved. In particular, the EU needs to advance on the capital markets union to broaden companies’ financing choices and lower their funding costs, resulting in improved risk-sharing and investment opportunities. Despite political fragmentation, new leadership at both the EU Commission and the ECB provides an opportunity to go ahead with reforms that are both productivity enhancing and improve the effectiveness of monetary policy.
Macroeconomic environment and outlook

A stronger-than-anticipated rise in inflation remains a risk, notably in the US, although the near-term risk should abate with slowing growth. Further out, if we see increased coordination between monetary and fiscal policy in the next downturn, inflation uncertainty could increase significantly. An upside surprise to inflation would unringe the current equilibrium of low growth, favourable financial market performance and expansionary monetary policies. An unanticipated increase in inflation would also be negative for re/insurers via higher than priced-in claims inflation.

Finally, a recent temporary tightening in US dollar market liquidity has brought financial stability risks back in focus. The demand for US dollar liquidity has increased in the past decade due to tighter financial market regulations, compounded by the Fed’s quantitative tightening. Though recent events in US money markets have not spilled over to the offshore dollar market as of yet, US dollar funding of banks outside the US remains a source of vulnerability for the global financial system. The share of US dollar-denominated claims of non-US banks in the total banking system balance sheet has been increasing in many economies, most notably in Japan and Canada. Emerging market financial sector institutions alone held USD-denominated liabilities of USD 2.4 trillion in March 2019, compared with EUR-denominated debt worth USD 370 billion. A tightening of offshore dollar liquidity could have major repercussions to the global economy. Several dollar-leveraged emerging markets like Turkey and Argentina would be particularly affected. There could also be spill over on advanced economy banks with large claims on vulnerable emerging market countries.

15 In the overnight funds market in September 2019, rates spiked to as high as 10%.
16 Global Financial Stability Report, IMF, October 2019
17 Global debt monitor database, IIF
We forecast that global non-life and life premiums will grow by around 3% in real terms in each of 2020 and 2021, unchanged from our projections for two years out at the same time in 2018. Emerging Asia will power global industry growth. Pricing in non-life lines has strengthened this year, and we expect this to continue. Profitability as measured by return on equity has strengthened in both non-life and life, in part due to realised gains from investment management. With low interest rates set to stay, however, improvements in non-life profitability will depend on underwriting performance, where pricing improvements are being offset by increasing claims, mainly in US liability. Life insurers should continue to realign their investment activities and allocate capital to attractive product types.

Amid slowing global economic growth, we are positive on the outlook for the insurance industry, forecasting around 3% expansion of non-life and life premiums in real terms on average until 2021. Emerging markets are expected to outpace, particularly in Asia. This region will remain the main driver of growth over the next two years, with China in the lead, where we see a 9% increase in non-life (based on strong growth in non-motor personal lines) and 11% in life premiums in 2020.

Nevertheless and also in the longer term, advanced markets remain important, despite their aggregate market share forecast to fall to 67% in 2029 from 77% today. Conversely, emerging markets’ share of global premiums will increase, to 33% in 2029 from 23% today. In terms of additional absolute premium volumes until 2029, emerging markets will contribute 48% in life, and 47% in non-life.

Insurance markets continue to grow at trend as the global economy slows.

The emerging markets’ share of global premiums will increase, but advanced markets remain important too.

### Table 2
Insurance market dashboard with key indicators

<table>
<thead>
<tr>
<th>Non-life, direct</th>
<th>World</th>
<th>North America</th>
<th>EMEA</th>
<th>Asia-Pacific</th>
<th>Emerging markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium growth (real)</td>
<td>CAUR</td>
<td>3.1%</td>
<td>2.9%</td>
<td>2.7%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Premium growth (USD)</td>
<td>Diff</td>
<td>80</td>
<td>48</td>
<td>117</td>
<td>29</td>
</tr>
<tr>
<td>Profitability ROE</td>
<td>Average</td>
<td>7.3%</td>
<td>7.2%</td>
<td>7.4%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Underwriting results*</td>
<td>Average</td>
<td>1.0%</td>
<td>1.8%</td>
<td>2.0%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Investment results*</td>
<td>Average</td>
<td>10.4%</td>
<td>9.5%</td>
<td>10%</td>
<td>11.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Life, direct</th>
<th>World</th>
<th>North America</th>
<th>EMEA</th>
<th>Asia-Pacific</th>
<th>Emerging markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium growth (real)</td>
<td>CAUR</td>
<td>2.7%</td>
<td>2.3%</td>
<td>3.1%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Premium growth (USD)</td>
<td>Diff</td>
<td>56</td>
<td>3</td>
<td>144</td>
<td>12</td>
</tr>
<tr>
<td>Profitability ROE</td>
<td>Average</td>
<td>9.4%</td>
<td>10.2%</td>
<td>10.3%</td>
<td>11.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total (stock market indicators)</th>
<th>World</th>
<th>North America</th>
<th>EMEA</th>
<th>Asia-Pacific</th>
<th>Emerging markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price to book Insurance sector</td>
<td>Average</td>
<td>1.2</td>
<td>1.3</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Total market</td>
<td>Average</td>
<td>2.1</td>
<td>2.1</td>
<td>3.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Stock prices Insurance sector</td>
<td>CAUR</td>
<td>1%</td>
<td>14%</td>
<td>4%</td>
<td>15%</td>
</tr>
<tr>
<td>Total market</td>
<td>CAUR</td>
<td>1.6%</td>
<td>12.3%</td>
<td>2.7%</td>
<td>16.6%</td>
</tr>
</tbody>
</table>

* as a % of net premiums earned

Remarks: past trend (2014–2018); current (2019); outlook (2020–2021). CAGR = compound average growth rate. Colouring based on deviation from long-term trend for each region. Regional stock market indicators contain the advanced and emerging countries in each of the region.

### Deviation from long-term trend

<table>
<thead>
<tr>
<th>Colour</th>
<th>Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; -1.5%</td>
<td><img src="image" alt="Colour" /></td>
</tr>
<tr>
<td>-1.5% – 0.5%</td>
<td><img src="image" alt="Colour" /></td>
</tr>
<tr>
<td>-0.5% – 0.5%</td>
<td><img src="image" alt="Colour" /></td>
</tr>
<tr>
<td>0% – 1.5%</td>
<td><img src="image" alt="Colour" /></td>
</tr>
<tr>
<td>&gt; 1.5%</td>
<td><img src="image" alt="Colour" /></td>
</tr>
</tbody>
</table>

**Note:** Non-life insurance encompasses property/casualty, and also health insurance.

Source: Thomson Reuters, Bloomberg, Swiss Re Institute

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19 According to sigma data.
Non-life insurance

Global premium moderate growth recovery to continue
Global non-life premiums will grow by around 3% on an inflation-adjusted basis in 2019 and we forecast similar growth of around 3% over the next two years. In an environment of slowing economic growth, non-life premium growth in advanced markets will be slightly lower in 2020 and 2021 than the 2% we estimate for 2019. Rate hardening in commercial insurance this year has supported premium growth in North America and Asia Pacific in particular. Advanced EMEA registered slightly slower insurance premium expansion of around 1%. For the coming two years, we expect a slight improvement in advanced EMEA, while growth in Asia-Pacific will recede slightly, based on slowdown in Australia. The currently accelerating rate momentum there will be more than offset by decelerating exposure growth vs 2018.

The emerging markets are and will remain the engine of global sector growth. We forecast near 7% annual emerging market non-life real premium growth in 2020 and 2021, up from an estimated 5.8% this year. Once again, emerging Asia will outperform. Non-life business in China and India has been particularly strong, with premiums up 9% and 11%, respectively, this year. Agriculture insurance has been a main growth driver in both. Motor also boosted growth in India, but the segment slowed in China due to weaker car sales and intensified competition after market liberalisation. Over the next two years, we expect non-Asia emerging markets to gain traction again. With economic recovery, non-life sector dynamics in Africa are improving, and we expect premium growth in Latin America and Eastern Europe to pick up from current below long-term trend levels.

Health/private medical insurance (PMI) – which we consider part of non-life business – has been an important driver of the near-6% growth in overall emerging market premiums this year. We forecast 8-9% growth in emerging market PMI premiums in 2020 and 2021. In China, new business will support ongoing double-digit growth in PMI premiums (see also chapter Mid-market private health insurance in China: key pointers for success). We expect strong sales in India also, underpinned by growing wealth and poor-quality public healthcare. Total premiums in the advanced economies, which still account for around 95% of the global market size, will grow by about 2% annually over the next two years.

Figure 3
Global non-life insurance premium growth in real terms, actual and forecasts (2019 values in brackets)
Stronger pricing to continue

Pricing in commercial non-life strengthened again this year, and we expect this to continue in 2020. The second quarter of 2019 marked the 7th consecutive quarter of rate improvements after almost five years of softening. The upswing has broadened across both lines of business and regions. There have been strong price increases in Property and in Financial and Professional liability (FinPro) lines in almost all regions. For Property, rates have been mainly driven by cat-related covers, and in FinPro by rising D&O claims. By region, only Latin America and continental Europe still lack consistent positive up movement. After 18 quarters of decline, US casualty business showed signs of modest rate improvement in the second quarter (+0.8%), a reaction to rising claims due to social inflation (see US liability claims trends: rising concerns around social inflation). With the exception of the Pacific region (Australia and New Zealand), casualty remained largely stable across the other regions. Our positive view on rate increases carrying on into next year is based on the prospect of ongoing claims developments, ongoing low interest rates, and a still-significant profitability gap that continues to beset the non-life insurance sector.

Rates in US commercial insurance rose by 4.8% in the second quarter of this year.

Pricing in US commercial lines continued to strengthen in the second quarter of 2019. At aggregate segment level, rates were up 4.8% year-on-year amid improving underwriting discipline. According to the Council of Insurers, Agents & Brokers (CIAB), commercial property pricing had accelerated to 9% in the first quarter. Rates in commercial auto also hardened at rapid pace. Outside of commercial property and auto, other liability lines (D&O, umbrella, general liability) saw a pricing uptick, reflecting pressures from adverse reserves development due to rising claims costs. Workers’ compensation remained soft, with prices down 2.8% in the second quarter.
Among US liability lines, commercial auto has been most under pressure for many years,...

...and now social inflation effects are creeping higher.

**US liability claims trends: rising concerns around social inflation**

The recent upward movement of premium rates in various segments of US liability insurance reflects accelerating claims trends and adverse reserves development, after years of a relatively benign loss cost environment. Commercial auto has been most under pressure, with elevated combined ratios and adverse reserve development each year since 2012. Against the backdrop of a late-stage business cycle with very low unemployment, claims costs have developed more dynamically as drivers such as general inflation, wages and healthcare expenditure have accelerated. More worrisome, however, social inflation appears to be trending up.

Social inflation is the impact of changes in the tort system through which most liability claims are settled.20 Anecdotal evidence points to increasing attorney involvement in many claims, lengthening the claim development pattern and leading to higher claims severity (eg, for commercial auto bodily injury). Also, defendants face more aggressive plaintiff attorneys and higher awards due to more consumer-friendly juries. As an example, the median of the top 50 single plaintiff bodily injury awards in the US almost doubled between 2014 and 2018 due to increasing frequency of severe large losses (see Figure 5). This aspect of loss costs is also impacted by the emerging influence of litigation funding, which has increased in popularity as an alternative asset class. A rising frequency of large claims makes such liability lines harder to underwrite.

This social inflation component appears to be spreading across various casualty lines. Other Liability Occurrence, a proxy for general liability, has seen adverse reserve development in the three latest calendar years, and price trends appear to be turning up in response to social inflation. Additional lines, including D&O and medical malpractice, have seen a more recent turn for the worse. Further potential pressure points lie ahead in the form of opioid litigation and reviver statutes that have been enacted in a number of US states.21 The rising reserve and loss cost trend pain is starting to be reflected in premium rates, with a number of surveys – CIAB, MarketScout, Marsh and CLIPS – all pointing up. However, it is difficult to pinpoint whether these rate increases are enough to keep up with rising loss costs. Moreover, a rising share of business is flowing from the standard admitted market to the specialty/E&S market, and to facultative reinsurance. Such moves are historically indicators of a firming market and of increased risks that are more difficult to underwrite. All in, social inflation remains a key parameter to monitor.

![Figure 5](image_url)

**Figure 5**
Median of top 50 single plaintiff bodily injury verdicts in the US, in USD million

<table>
<thead>
<tr>
<th>Year</th>
<th>Median (USD million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>27.70</td>
</tr>
<tr>
<td>2015</td>
<td>30.74</td>
</tr>
<tr>
<td>2016</td>
<td>39.13</td>
</tr>
<tr>
<td>2017</td>
<td>41.75</td>
</tr>
<tr>
<td>2018</td>
<td>54.33</td>
</tr>
</tbody>
</table>

Source: Shaub, Ahmuty, Citrin & Spratt


21 Reviewer statutes = legislation allowing a temporary window for victims to file claims for (even decades) old sexual abuse cases.
Profitability: slight improvement but outlook remains challenging

Overall profitability in non-life insurance, as measured by return on equity (ROE), improved slightly in Europe and Asia-Pacific in the first half of this year from 2018. In North America, ROE was boosted by significant equity market gains during the first months of 2019 which made up the lion’s share of the improvement. Statutory ROE data from the US – which exclude unrealised investment gains – suggest an improvement to 8.2% in the first half of the year from 7.9% in 2018. However, the profitability outlook remains challenging given the persistently difficult investment environment with very low interest rates and high volatility in asset prices. We believe low interest rates are here to stay, and so any improvement in sector profitability will be dependent on underwriting performance. This suggests need for more rate increases and improved underwriting discipline. Last year, targeting 10% ROE, sigma estimated a profitability gap for underwriting results of major markets at 6–9% of premiums. In this report (see chapter Recession scenario: what it could mean for insurers), we show that a hypothetical drop of the yield curve by 50 bp, a plausible scenario in current low market yield levels, would widen the profitability gap by another 1.2% to 1.5%.

With respect to non-life sector underwriting results, catastrophe losses were below average in the first half of this year. Insured losses from natural catastrophe globally of USD 15 billion, well below the USD 31 billion-average for the first halves of the previous 10 years. An additional USD 4 billion of insured losses came from large man-made disasters. However, severe tropical cyclones in the second half of 2019 have caused multi-billion insurance losses which, together with loss creep from last year’s typhoon Jebi in Japan, will add significantly to this year’s loss burden. Underwriting results in Japan in particular will be hit by severe typhoon losses for the second year running. In September and October, typhoons Faxai and Hagibis made landfall causing more than 80 deaths, many injuries and extensive damage to infrastructure and buildings.

In the US, we expect the industry’s underwriting result to improve, with a combined ratio of around 98%, down from 99% in 2018. Our forecast is based on a more average catastrophe loss burden than in the heavy-loss year of 2018. Half-year data point to declining reserve releases. We expect the sector’s combined ratio to remain range-bound between 98–99% through 2021, and ROE to remain roughly flat. In Canada, underwriting results remain under pressure. The non-life sector combined ratio was above 100% in the first half of this year, due to elevated frequency and severity of weather events. We expect Canadian underwriting results to remain modest at best despite rate hardening. Investment income will remain under pressure as long as the low interest rate environment persists.

22 According to preliminary data from A.M. Best.
23 sigma 4/2018: Profitability in non-life insurance: mind the gap, Swiss Re Institute.
24 Swiss Re Institute estimates global economic losses of USD 44 billion from catastrophes in the first half of 2019, Swiss Re, 15 August 2019.
25 A number of wildfires in California are currently threatening thousands of properties, and have led to blackouts as the energy providers shut off electricity amid high winds to avoid additional ignitions. Given the significant uncertainty about the final impact, our analysis here does not include these events.
Insurance market outlook 2020/21

Profitability in Europe has improved slightly, but we expect little change in 2020/21.

In the first half of the year, the European non-life industry registered an improved combined ratio of 93%, down about 1 percentage point (ppt) from full-year 2018. Italy, Spain and the UK saw further improvements due to better results in motor. In Germany, motor claims are rising, and property claims subsiding from last year’s elevated levels. For 2020/21, we expect underwriting profitability to remain little changed, with current moderate rate improvements offset by rising claims costs.

The combined ratio in Australia weakened this year.

There has been a significant deterioration in underwriting results across all major non-life lines of business in Australia this year. The sector’s combined ratio climbed to 69% in the first half from 62% in the first half of 2018. The reason was double-digit claims growth in motor, property and liability, due to natural catastrophes such as the Sydney Hailstorm and Townsville Flood events, and a strengthening of claims reserves in most of the long-tail classes of business.

In China, liberalisation and fewer car sales have undermined earnings in motor, the largest line of non-life business.

In China, underwriting performance remains under pressure. The main reason is the liberalisation of the motor insurance market since 2015/16. That sparked fierce competition which, in combination with lower growth of car sales, restrained motor premium growth as claims, commissions and administration costs were on the rise. Premium growth and profitability developments in non-motor business (40% of non-life business) on the other hand, have been positive since then and accelerated to 33% yoy in 2018. Given stated government support on particular lines (especially liability and agriculture insurance) alongside China’s opening up strategy and progressing Belt and Road projects, we expect strong growth momentum in non-motor lines to continue, and forecast an average annual growth rate of 17% in 2020 and 2021. However, with the continuing dichotomy between motor and non-motor set to remain for years to come, we believe overall sector profitability will remain under pressure for a while yet.

26 The information is based on an aggregated sample of large European insurers active in Germany, France, the UK, Italy, Spain, Switzerland and the Nordic countries.
M&A activity in the insurance sector was strong in the first half of 2019 with 222 completed deals globally, up 13.2% from 196 deals in the second half of 2018 (see Table 3). That is the biggest increase in number of transactions since the first half of 2015, and the fourth consecutive six-month period of growth. The Americas remain the most active region, but much of the increase in the first half of this year has also been in Europe. There was a one-off surge in completed deals, mostly to refocus growth areas, completions having previously been put on hold on account of uncertainty generated by Brexit. In Asia Pacific, insurance M&A activities were at the highest level since 2015 with Japanese players actively expanding beyond the saturated domestic market.

Table 3
Global insurance M&A (number of deals)

<table>
<thead>
<tr>
<th>Region</th>
<th>2H 2018</th>
<th>1H 2019</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global</td>
<td>196</td>
<td>222</td>
<td>+13.2%</td>
</tr>
<tr>
<td>Americas</td>
<td>92</td>
<td>93</td>
<td>+1.1%</td>
</tr>
<tr>
<td>Europe</td>
<td>63</td>
<td>88</td>
<td>+39.7%</td>
</tr>
<tr>
<td>APAXC</td>
<td>34</td>
<td>38</td>
<td>+11.8%</td>
</tr>
<tr>
<td>MEA</td>
<td>4</td>
<td>3</td>
<td>+25.0%</td>
</tr>
</tbody>
</table>

Source: Insurance M&A mid-year update, Clyde & Co, August 2019

Technology, portfolio optimisation and further opening up of emerging markets are and will be the key themes for insurance M&A. InsurTech investment remains a key driver of activity in all regions, with many insurers preferring to buy rather than build industry-disrupting capabilities in order to boost growth and improve long-term financial performance. With InsurTechs changing the customer relationship, scale matters more than previously. For example, there is evidence that small and mid-sized mutual insurers are creating holding companies to facilitate more flexibility in deploying capital to buy other companies and invest in InsurTechs.

Portfolio optimization is another driver of current M&A activities. Small-to-medium sized firms operating in the fragmented and highly commoditised personal lines insurance markets are pursuing acquisitions to diversify their portfolio and/or customer base. At the same time, some insurers are looking at their books and divesting of underperforming lines or exiting certain markets, as a means to free up capital to better support and align with strategic direction.

We anticipate an increase in M&A in the US as re/insurers re-evaluate their international business models under the new tax laws. Elsewhere, in Australia and India recent legislative changes have triggered market consolidation and M&A transactions. In China, a slew of new, more foreign friendly regulations has led to increased interest from foreign insurers.

27 Insurance M&A mid-year update, Clyde & Co, August 2019
Life insurance

Bounce back in China to continue to drive global life premiums

Based on part-year data, we estimate that global life insurance premiums will grow by around 2% in real terms in 2019, slightly less than the average annual rate of the last five years (see Figure 7). Real premiums in the advanced markets will stagnate (+0.5%), while emerging market premium growth will again be strong (up around 9%) after exceptionally weak growth in 2018 due to tighter regulation on asset management in China. Our outlook for 2020/21 is that global life premiums will grow by around 3% per year, mainly driven by continued strong growth in the emerging (+9%) and a slightly improved situation in the advanced markets (+1.5%).

Early indicators from the advanced markets suggest that premium growth in 2019 will only be positive in North America (+2%), with real premium income in EMEA and Asia-Pacific remaining at 2018 levels. Our outlook sees average annual growth of around 2% in North America in the coming two years, and somewhat weaker growth in advanced markets from EMEA and Asia-Pacific. China remains the main driver of life premium income from the emerging markets, and developments there continue to have large impact on the emerging markets aggregate. We estimate that premium growth in China will accelerate strongly to 13% in 2019. Our 2020/21 outlook forecasts average annual emerging market premium growth of around 9% (11% in China and 6% in the other markets).

Figure 7
Global life insurance premium growth in real terms, actual and forecasts (2019 values in brackets)

<table>
<thead>
<tr>
<th>Region</th>
<th>2019</th>
<th>2014–18</th>
<th>2020–21F</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>(2.3%)</td>
<td>(0.5%)</td>
<td></td>
</tr>
<tr>
<td>Advanced markets</td>
<td>(0%)</td>
<td>(2%)</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>Emerging markets</td>
<td>(8%)</td>
<td>(3.9%)</td>
<td>(12.8%)</td>
</tr>
<tr>
<td>China</td>
<td>(12.8%)</td>
<td>(12.8%)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Swiss Re Institute
Healthy returns on equity despite low interest rates

Assessed using a sample of 22 North American, 24 European and 25 Asian-Pacific life and composite insurers, we estimate that the life sector will enjoy healthy profits – as measured by ROE – in 2019 (see Figure 8). ROE levels have been trending upwards in the US, where we estimate a shareholder-equity weighted average of 10.4% (median: 11%) using part-year data for 2019. The weighted ROE for Europe has mostly oscillated around the longer-term average, but the median has improved more recently. Our Asia-Pacific sample points at an improvement in ROE, with a weighted average of 10.6% (median: 8.5%) for 2019.

Figure 8
Return on equity (%) of a sample of life insurers, by region

<table>
<thead>
<tr>
<th>Year</th>
<th>North America (22 insurers)</th>
<th>Europe (24 insurers)</th>
<th>Asia-Pacific (25 insurers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>8.8%</td>
<td>10.4%</td>
<td>10.6%</td>
</tr>
<tr>
<td>2011</td>
<td>8.8%</td>
<td>10.4%</td>
<td>10.6%</td>
</tr>
<tr>
<td>2012</td>
<td>8.8%</td>
<td>10.4%</td>
<td>10.6%</td>
</tr>
<tr>
<td>2013</td>
<td>8.8%</td>
<td>10.4%</td>
<td>10.6%</td>
</tr>
<tr>
<td>2014</td>
<td>8.8%</td>
<td>10.4%</td>
<td>10.6%</td>
</tr>
<tr>
<td>2015</td>
<td>8.8%</td>
<td>10.4%</td>
<td>10.6%</td>
</tr>
<tr>
<td>2016</td>
<td>8.8%</td>
<td>10.4%</td>
<td>10.6%</td>
</tr>
<tr>
<td>2017</td>
<td>8.8%</td>
<td>10.4%</td>
<td>10.6%</td>
</tr>
<tr>
<td>2018</td>
<td>8.8%</td>
<td>10.4%</td>
<td>10.6%</td>
</tr>
</tbody>
</table>

Source: Bloomberg, Swiss Re Institute estimates

Life insurance sector themes

Life insurers invest in a wide range of assets but their portfolios mostly focus on fixed-income instruments, as these typically provide the best match to their long-term liabilities and regulatory capital requirements. Constantly falling government bond yields have eroded the returns of such portfolios (see *Illustrative example of four government bond portfolios*). The record low and negative interest rates remain a challenge for life insurers. As we expect that low interest rates are here to stay, the yields coming from life insurers’ bond portfolios will decline further.
Illustrative example of four government bond portfolios

Figure 9 illustrates the running yields of four portfolios composed of 10-year government bonds assuming: (1) equal shares of monthly purchased bonds; and (2) replacement of maturing bonds with same bonds at prevailing yields. It shows the material decline in portfolio yields between 2010-2019. The Japanese portfolio has the lowest returns due to long-term yields that fell below 2% as long ago as 1998.

Figure 9
Running yields of 10-year government bond portfolios

The "low-for-longer" outlook has forced life insurers to realign their investment activities.

Life insurers also need to better manage the liability side of the balance sheet.

To a certain extent, interest rate and other market risks have been shifted onto policyholders.

The low government bond yields are especially stressful for the life sector given its long-term liabilities. The low investment returns challenge the financing of interest payments on fixed-interest rate guarantee products after the bonds mature and the principal needs to be reinvested. It also creates stress on the ability to pay claims. In search for higher yields, insurers have increased their investments in alternative asset classes (eg, private equity, real estate) and lower-rated corporate bonds. However, regulatory requirements call for a balance between yield and the security of assets.

Life insurers also need to address issues on the liability side of the balance sheet and allocate capital to the most attractive product types and business lines in the low and negative interest rate environment. They apply different strategies to adjust their new business offerings, ranging from lowering guaranteed benefits, making them more flexible (not fixed for life) to abolishing guaranteed products altogether. More flexible products are also needed to be able to respond to a changing market. Some insurers have cut the degree to which the principal is guaranteed in return for higher upside that can be earned by investing premiums in riskier assets.

To a certain extent, life insurers have moved interest rate and other market risks onto policyholders and profit sharing has been reduced. Portfolios have been steered towards unit-linked or asset-management-type business, which reduces insurers exposure to financial market risks. Insurers earn a fee for managing the investments on the behalf of the policyholder. However, the charged fees are typically lower than historic earnings from traditional non-linked business.
Fewer people smoking has been a major force behind past mortality rate improvements. The number of smokers substituting conventional tobacco with e-cigarettes is likely to increase, with vaping believed to be less harmful. Hence, further improvements in mortality are possible. However, first evidence has emerged that suggests vaping could carry greater health risks than initially thought. In the US, for instance, 805 cases of lung injury and 12 confirmed deaths related to the use of e-cigarettes have been reported so far. Even though these cases — mainly young males smoking Tetrahydrocannabinol (THC) — are not representative for typical life insurance buyers, they show that the long-term effects of vaping remain unclear.

The US is in the grips an opioid crisis, but it is not alone. Canadians have the second-highest per capita consumption of opioids globally. Moreover, the crisis is becoming evident throughout the world as an international comparison recently revealed. The study found that the average of opioid-related deaths in 25 OECD countries increased by more than 20% between 2011 and 2016. The strongest increases — apart from in the US and Canada — were observed in Sweden, Norway, Ireland, and England and Wales (see Figure 10).

Over prescription is considered one of the most important drivers of the opioid crisis. In the US, for instance, around 80% of current heroin consumers — over half a million people — are believed to have started by misusing prescription narcotics. There has been a boom in the availability of prescription analgesic opioids in many developed countries since 2000, and there is evidence of a positive correlation between availability and higher prescriptions rates of opioids. Tackling the crisis will be challenging and take years. It will also place a financial burden on social insurance schemes, as well as on private medical reimbursement and life insurers.

28 Around 70% of patients are male, 80% younger than 35, and only 16% exclusively used nicotine-containing products. See: Outbreak of Lung Injury Associated with E-Cigarette Use, or Vaping, CDC, 27 September 2019.


30 In 2015, 240 million opioid prescriptions were dispensed, approximately one for every American. Ibid.
From low to negative interest rates

Monetary policy was effective and successful in combating the global financial crisis and facilitating economic recovery. However, continued and large-scale monetary activism combined with negative interest rates comes with significant adverse side effects, such as misallocation of capital, excessive asset price growth and higher financial stability risks. We believe the way out of this environment is targeted fiscal and less monetary action, and easing investment into sustainable finance.

Low and negative interest rates: here to stay

Unconventional monetary policy and negative interest rates are here to stay. More than 25% of global bonds currently trade with negative yields (see Figure 11). This translates into a massive USD 14 trillion of public and corporate debt that investors pay to hold. Most is government debt but a significant chunk of corporate credit is also negative yielding: almost USD 1 trillion of high-grade corporate bonds carry negative interest rates. Looking ahead, as the economic outlook remains subdued, we do not see interest rates rising sustainably any time soon.

Figure 11
Total amount (LHS) and share of negative yielding bonds (RHS) in global markets

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<tbody>
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<td>16</td>
<td>18</td>
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<tr>
<td>0%</td>
<td>5%</td>
<td>10%</td>
<td>15%</td>
<td>20%</td>
<td>25%</td>
<td>30%</td>
<td>35%</td>
<td>40%</td>
<td>45%</td>
</tr>
</tbody>
</table>

Source: Bloomberg, Swiss Re Institute

Cycllical support via monetary policy comes with a hefty price tag

For several decades, a few fundamental factors have driven interest rates structurally lower. These include ageing demographics, globalisation and technology, leading to excess savings. And, in the last 10 years, unprecedented monetary policy in the aftermath of the GFC has exerted significant pressure on short- and long-term interest rates, raising questions around the effectiveness and side effects of such policies.

Decisive monetary policy action was crucial, needed and successful during the GFC to avoid further damage. But, while such extreme and continued monetary intervention has helped facilitate economic recovery in advanced economies, it does not result in a more benign longer-term growth environment: quite the opposite. The IMF’s empirical analysis of 90 countries over 45 years shows that financial repression policies that keep interest rates artificially low by a significant margin

More than 25% of global bonds are currently negative yielding.

Negative interest rates are a consequence of structural developments and ultra-accommodative monetary policy.

Continued large-scale monetary stimulus does not structurally improve an economy: it makes things worse.

31 For a comprehensive overview of the long-term drivers of interest rates, see “Recovery Strengthens, Remains Uneven” in World Economic Outlook, IMF, 2014. Complementary and somewhat more recently, economic policy has also favoured lower interest rates. This includes monetary dominance versus fiscal policies, etc.
The report also argues that “in the long term, countries would be better-off without financial repression”. Swiss Re also highlighted the negative effects of financial repression on savers several years ago.\textsuperscript{33}

**Future monetary policy effectiveness is questionable**

The challenge with continued large-scale monetary intervention is that the more it is used, the less effective it becomes. For example, Haldane et al\textsuperscript{34} show that the BoE's quantitative easing (QE) programmes 2 and 3 had a negligible effect on domestic 10-year yields. The Bank for International Settlements cites similar results in other regions.\textsuperscript{35}

Besides financial variables, continuous monetary easing also becomes less effective in terms of real economy impact.\textsuperscript{36} Brunnermeier and Koby\textsuperscript{37} estimate that the lowest euro area interest rates can go is roughly \(-1\)%. Beyond that, central bank policy starts to have a contractionary rather than expansionary effect on growth. With the ECB policy rate already at \(-0.5\)%, and many 10-year government bond trading at negative yields, the ECB has effectively exhausted its policy tools in non-crisis times. Hence, in the future, we believe fiscal policy will play a more active role in economic management (see also *Helicopter money: coming soon to a place near you?*).

**Negative interest rates are negative**

A prolonged period of unconventional monetary policy and negative interest rates can do more harm than good. The real-economy side effects include, but are not limited to:

1. **Higher household savings**: As the 10-year euro area real yields have hit zero, the household savings rate increased by 1 ppt from its trough. This is the exact opposite of what low and negative interest rates are intended to do, namely to encourage households and corporates to spend and invest, not save.

2. **Distortion of competition and misallocation of capital**: QE programs favour companies and countries that are eligible and which consequently profit from lower funding costs. Agencies that are ineligible do not enjoy the same financial benefits, and this distorts competition. Further, low rates help keep otherwise essentially bankrupt companies alive (also known as “zombification”).

3. **Higher debt levels and leverage**: Since the first quarter of 2011, government and non-financial corporate debt levels in advanced economies have risen by USD 14 trillion, resulting in an almost 20 ppt increase in the debt-to-GDP ratio over the same period.\textsuperscript{38} In the US, meanwhile, high-grade corporate leverage has increased to almost 3x currently, from 1.9x in 2011.

4. **Lower bank profitability**: The operating environment for banks is made more challenging, with net interest margins eroding as yields go lower, economic growth slows and yield curves flatten. This may induce a negative feedback loop between the banking sector and the real economy, and can ultimately constrain the availability of credit.


\textsuperscript{33} Financial repression: the unintended consequences, Swiss Re, 2015.


\textsuperscript{35} “Unconventional monetary policy tools: a cross-country analysis”, CGFS Papers No 63, BIS, 2019.

\textsuperscript{36} See for example Negative rates: Will enough negatives ever make a positive? Citib, 2019, which shows that the cumulative impact on US and EU inflation of QE programmes has faded over time.


\textsuperscript{38} According to the IIF* global debt monitor data.
From low to negative interest rates

In terms of regional distribution, European banks are more subject to negative rates than their peers in Japan. Coupled with relatively high financial leverage, financial stability risks in Europe could be higher than suggested by traditional bank statistics, such as the strength of the banking sector’s regulatory capital metrics. This even more so as the European loan market is 80% bank-financed.

99 Euro area financial corporate debt was 124% in the first quarter of 2019, versus 152% in Japan and 78% in the US. Source: IIF Global Debt Monitor database.
Central bank activism and negative rates also distort financial markets

The negative effects of extraordinary monetary policies are especially visible in financial markets. Advanced economy central banks are not only the “buyer of last resort” during a crisis, but continued QE programmes also mean they are often the marginal buyer of assets that are price insensitive. We see five key implications:

- **Risk assets and economic growth out of sync:** Since 2009, the S&P 500 performance was two times stronger than in previous periods of post-recession recovery, while nominal GDP growth was half as strong as is usually the case.\(^{40}\) Compared to the economy, risk assets profited disproportionately from very loose monetary policy.

- **Scarcity of collateral:** Safe assets represent a declining proportion of global GDP\(^{41}\) and QE programmes accentuate this problem. For example, the stock of freely traded German sovereign bonds is now less than a fifth compared to 2010.\(^{42}\)

- **Increasing financial stability concerns:** Low yields lead investment funds, pension funds and life insurers to invest more in riskier and illiquid assets. The IMF highlights that the traditional role of funds in stabilising markets in times of stress is threatened as their portfolios are looking increasingly similar and cash buffers decrease, potentially propagating shocks.\(^{43}\)

- **Higher asset correlations:** In 2018, about 90% of all asset classes posted negative total returns in US dollar terms, the worst year on record in terms of simultaneous negative returns. The previous year was the exact opposite: in 2017, only 1% of all assets posted negative total returns in US dollar terms.\(^{44}\) In our view, higher correlation and less diversification benefits are reflections of continued central bank asset purchases.

- **Higher duration risks:** Governments have issued longer-dated debt over the past years, leading to higher index durations in US dollar and euro terms. As a result, investors face higher mark-to-market losses should interest rates suddenly rise. We estimate that a 100-basis-point (bp) parallel increase in interest rates in the USD and EUR curves would lead to theoretical mark-to-market losses of at least USD 1.2 trillion – more than twice the direct bailout costs of the 2008 financial crisis in the US.\(^{45}\) This would negatively affect financial conditions and economic activity.

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\(^{40}\) *Top of Mind: Where are we in the market cycle?* Goldman Sachs, 4 February 2019.

\(^{41}\) See also *Negative rates: a whole new world (part one)*, Credit Agricole, 2019.

\(^{42}\) “Why Germany’s bond market is increasingly hard to trade”, *Financial Times*, 2019.


\(^{44}\) *Early Morning Reid*, Deutsche Bank, 21 December 2018.

\(^{45}\) This does not take into account convexity effects, etc. Direct crisis related bailout costs at estimated at about USD 500bn, according to *Measuring the Costs of Bailouts*, Deborah Lucas, MIT, 2019.
From low to negative interest rates

We believe fiscal policy will need to pick up the baton.

Well-structured helicopter money could lead to positive longer-term economic and societal outcomes.

Figure 13
Aggregate duration in US Treasury and EUR government bond indices

Takeaways for the future
In sum, we believe a prolonged period of loose monetary policy and negative interest rates has adverse effects for the real economy and financial market functioning. In the advanced markets, as scope for further monetary action has been largely exhausted, we believe fiscal policy will pick up the baton when (and if) a more severe downturn materialises.

Some commentators mute “helicopter money” (HM) as a way forward. Monetary-fiscal coordination comes with significant risks, but we believe a well-structured approach can lead to positive economic and societal outcomes over the longer term. HM centres around the concept of monetary-financed fiscal spending. In essence, a central bank permanently creates money and hands it over to spenders (households, firms and the government) to lift growth and inflation. As fiscal and monetary authorities de facto coordinate, or at the very least collaborate, programme design is key: clear boundaries and a pre-defined exit strategy are needed to avoid undesirable outcomes such as run-away inflation, opportunistic fiscal spending or damage to institutional credibility. 46

46 See also Dealing with the next downturn, Blackrock Investment Institute, August 2019.

Source: Barclays, Swiss Re Institute

<table>
<thead>
<tr>
<th>Year</th>
<th>US Treasuries</th>
<th>EUR sovereign</th>
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<tbody>
<tr>
<td>2019</td>
<td>9 in USD m</td>
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<td>2018</td>
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Helicopter money: coming soon to a place near you?

The effectiveness of fiscal easing is estimated through multipliers, a measure of how one US dollar of fiscal spending translates into economic activity. Table 5 shows that multipliers vary depending on the activity. Often, the multiplier is less than 1, as interest rates are expected to rise as a result of stronger economic growth, offsetting some positive effects of fiscal easing. 47

Studies48 suggest that where HM is actioned, the fiscal multiplier in an economic downturn scenario with a cooperating central bank is around 2–3x larger than in normal times.49 In addition, OECD simulations show that a mixed set of policy actions (HM and structural reforms; see Figure 14) can have more sustainable long-term effect on economic growth than central bank QE policies alone.50 Key is that stimulus increases the productive capacity of an economy, for example through infrastructure investments. Less asset price inflation and higher economic activity, which would likely translate into higher wages, could also benefit social cohesion.

49 A “cooperating” central bank here means one that does not increase interest rates and where the debt is financed by the bank. “Normal times” in this context refers to interest rates not being at the effective/zero lower bound, as well as economic output being close to longer-term potential.
50 Interim Economic Outlook, OECD, 19 September 2019.

<table>
<thead>
<tr>
<th>Type of activity</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase of goods and services by the government</td>
<td>0.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Transfer payments to government for infrastructure</td>
<td>0.4</td>
<td>2.2</td>
</tr>
<tr>
<td>Transfer payments to individuals</td>
<td>0.4</td>
<td>2.1</td>
</tr>
<tr>
<td>Transfer payments to government for other purposes</td>
<td>0.4</td>
<td>1.8</td>
</tr>
<tr>
<td>Two-year tax cuts for lower-and middle-income households</td>
<td>0.3</td>
<td>1.5</td>
</tr>
<tr>
<td>One-time payments to retirees</td>
<td>0.2</td>
<td>1.0</td>
</tr>
<tr>
<td>Extension of first-time homebuyer credit</td>
<td>0.2</td>
<td>0.8</td>
</tr>
<tr>
<td>One-time tax cut for higher-income people</td>
<td>0.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Corporate tax provisions primarily affecting cash flow</td>
<td>0.0</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Source: US Congressional Budget Office
From low to negative interest rates

Helicopter money can take different shapes and forms. What matters in terms of overall impact is how the money is spent. Table 6 presents a stylised overview of how HM can be implemented, and the possible different implications. In the current and near-term environment, option 1 and 3 appear most realistic.

Table 6
A stylised overview of how helicopter money could be implemented, and possible implications

<table>
<thead>
<tr>
<th>What</th>
<th>How</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coordinated QE and fiscal expansion</td>
<td>A central bank undertakes QE to lower borrowing costs. Fiscal authorities use lower borrowing costs to stimulate the economy through issuing debt.</td>
<td>No coordination between central banks and fiscal authorities needed. This could be considered a soft version of HM, and is already reality in some countries. Size of HM is limited by debt-to-GDP considerations.</td>
</tr>
<tr>
<td>2. Cash transfer to government</td>
<td>A central bank buys perpetual zero-coupon government debt, or creates a Treasury account which it can fill at its own discretion.</td>
<td>Depending on the fiscal channel, different multiplier effects can be expected. For example, infrastructure investments offer a higher impact on economic activity. Central bank-fiscal authority coordination is needed.</td>
</tr>
<tr>
<td>3. Haircuts on CB held debt (reprofiling)</td>
<td>A central bank takes a haircut on the government bonds it holds, increasing fiscal space, and holding interest rates low.</td>
<td>The government can issue new debt up to the haircut amount without increasing its original debt level. Depending on the fiscal channel, different multiplier effects can be expected.</td>
</tr>
<tr>
<td>4. Cash transfer/tax cut to households</td>
<td>Transfer of central bank printed money to household accounts, either directly or through government; or permanent tax cuts directly affecting individuals.</td>
<td>Depending on the fiscal channel, different multiplier effects can be expected. Transfers can be equally distributed across households, targeted to certain groups (eg, low-medium incomes) to increase spending or directed to specific uses (eg, investments). The level of central bank-fiscal authority coordination depends on the distribution channel.</td>
</tr>
</tbody>
</table>

Source: Deutsche Bank, Swiss Re Institute
Helicopter money is a delicate balancing act, more likely in Japan and the euro area than in the US.

Political, legal and institutional structures play a key role in actioning HM. In our view, what’s crucial is that HM stimulus helps generate an uptick in growth that increases the long-term potential of an economy, (ideally) takes into account environmental responsibilities (eg, green and sustainable infrastructure investment), shows public policy transparency and offers clear ex-ante exit strategies. It is a delicate balancing act. Looking ahead, HM will likely be viewed as a realistic policy option to combat a significant economic downturn. In terms of where HM could happen, Japan and the euro area appear more likely than the US and UK, mainly because monetary policy is already at its limits in these countries/regions.
Japanification: a global phenomenon, euro area most at risk

Japan has experienced three decades of low growth, low inflation and low interest rates, with an ageing population a driving factor. In that time, there have also been positive developments beyond standard GDP growth metrics, such as labour productivity growth and, in the last 10 years, growth in per capita GDP. The Japanese experience holds important lessons for other regions at risk of entering a similarly long phase of economic inertia, the euro area being the prime candidate, given similarities in age demographics. However, with lower levels of labour productivity and technical innovation, the euro area will do well to weather the state of economic inertia as strongly as Japan.

There are also learnings for insurers on the challenge of Japanification, around adjusting prices and changing asset allocation for higher yields. For life insurers, more weight on protection type products is key.

Japan has been mired in low growth and low inflation since the early 1990s...

...despite unprecedented monetary stimulus.

The bursting of Japan’s asset bubble in the early 1990s was so severe that no amount of stimulus was able to revive economic growth to former levels. Japan’s growth rate languished at around 1% in real terms annually and contracted for five of the three decade’s years. Consumer prices have risen by just 0.3% (CAGR) from 1991 to today, and Japan has experienced deflation for a total of 13 years since (see Figure 15, LHS). All this, despite massive fiscal and monetary stimulus.

Earlier this year, Japan had its 20th anniversary of 0% interest rate policy, and 2021 will mark 20 years of unconventional monetary policy. Since 2001, the BoJ has grown its balance sheet 4.85x in a bid to generate meaningful and lasting inflation, so far unsuccessfully (see Figure 15, RHS). This state of economic inertia has been termed “Japanification”.

Figure 15
Real GDP and CPI (% change y-o-y, LHS), and Bank of Japan total assets and government bond holdings since 1986 (JPY trillion, RHS)

Source: Bank of Japan, CEIC, Swiss Re Institute
Japanification is low growth, low inflation, low interest rates and high debt.

However, Japan has also enjoyed high levels of productivity and GDP-per-capita, which the euro area will be hard-pressed to match.

Lost decades? Not entirely

Japanification is synonymous with slow growth, low inflation, low interest rates, unconventional monetary policy, high debt and a rapidly ageing society, whose demand for social services and shrinking numbers exacerbate fiscal pressures. Table 7 shows a comparison of key macro variables between Japan, US and the euro area. Across all three decades, Japan had the lowest level of real GDP and inflation growth, with Europe and the US growing twice or even three times as fast.

Table 7 shows a comparison of key macro variables between Japan, US and the euro area. Across all three decades, Japan had the lowest level of real GDP and inflation growth, with Europe and the US growing twice or even three times as fast.

However, overt pessimism is unwarranted. As Table 7 shows, Japan’s labour productivity has been high relative to other regions and in more recent years, this has supported growth in GDP per capita terms. Since 2012, Japan has outperformed on the per capita GDP growth measure, and it also scores well on social metrics. For example, life expectancy in Japan is 84 years compared to 80 years in the US, and society in Japan enjoys low levels of inequality, high living standards, high levels of education and higher productivity growth than its G7 peers, already the case since 1991 due to automation. Japan is one of the most robot-dense economies in the world in terms of ratio of robots to humans in manufacturing and industry. Another noteworthy achievement is Japan’s ability to run a current account surplus through all of the last three decades. This ensured a continued inflow of funds and the accumulation of overseas assets.

Even so, Japan’s boom and bust was unprecedented in many ways. For instance, asset prices for equities and real estate increased significantly more than in Europe in the build up to the GFC (see Figure 16). The market value of real estate as share of GDP in Japan increased by 200% in the five years prior to the 1991 peak, compared with around 70% and 60% increases in the US and euro area, respectively. Still today, Japanese real estate value is just 40% of its peak. Importantly, Japanese household and non-financial debt was often collateralised by real estate.

Table 7
Development of important macroeconomic variables over the last three decades: Japan, US and euro area

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Labour productivity</td>
<td>1.9</td>
<td>1.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Real GDP per capita</td>
<td>0.8</td>
<td>2.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Real GDP</td>
<td>1</td>
<td>3.4</td>
<td>1.9</td>
</tr>
<tr>
<td>Inflation</td>
<td>0.5</td>
<td>2.4</td>
<td>2.1</td>
</tr>
<tr>
<td>Savings rate*</td>
<td>31</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
<td>Current account*</td>
<td>2.3</td>
<td>-1.7</td>
<td>-1.1</td>
</tr>
</tbody>
</table>

Note: *Savings rate (gross savings) and current account are % of GDP and an average over the period. Gross savings from World Bank for Japan from 1996 onwards only. Current account for euro area from 1998 onwards only.

Source: World Bank, OECD, national statistics, Datastream and Swiss Re Institute

Japan’s boom and bust was unprecedented, also in comparison with the GFC.

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51 Japan’s population peaked at 128 million in 2004 and has begun to shrink rapidly. The UN forecasts that the population will have declined by about 25% to below 100 million by 2050. Additionally, due to rising life expectancy, the older cohort (65 years and above) will reach nearly 40% of the total population by 2060. Data taken from UN World Population statistics.

52 Is Europe going to be the next Japan? – Part 3 – The conclusions... Deutsche Bank, June 2019.


54 Example real estate valuations: the value of the Imperial Palace in Tokyo exceeded the value of all the real-estate in California in the late 1980s. Land in Ginza 4 Chome district was reported to have traded at JPY 90,000,000 (USD 760,000 at the time) per square meter.

55 Prices have stabilised and are showed signs of increasing in 2019 (albeit growing at 0.1%).
Japanification: a global phenomenon, euro area most at risk

Household and non-financial corporate debt in Japan were also exceptionally high. For example, the ratio of non-financial corporate debt as a share of GDP in 1991 was about 130%, compared with 75% in the US and euro area. The deleveraging process thereafter remains incomplete. Japanese banks were encouraged to avoid regulatory forbearance. They continued with zombie lending and took a long time to recognise non-performing loans (NPL), which hindered bank recapitalisation. It also reduced long-term productivity growth, keeping inefficient firms alive and preventing innovative firms from entering. And, from the 1990s onwards favourable demographic trends reversed, and the working age population began to shrink.

Abenomics

Despite countless stimulus packages, successive Japanese governments have tried and failed to boost the nation’s economic fortunes. Prime Minister Shinzo Abe was elected in 2012 on a promise to boost economic growth, banish deflation, and pull Japan out of its two-decade stagnation. Abe’s government unveiled an ambitious and comprehensive policy package with the three distinct “arrows” of Abenomics:

1. Aggressive monetary policy: the BoJ began an aggressive package of QE easing measures, expanded its balance sheet, and engaged in yield curve control and forward guidance.
2. Flexible fiscal policy: there were new rounds of fiscal stimuli, with more than JPY 30 trillion in pure money spending since 2013. Given the high debt burden, consumption taxes were raised to support long-term debt sustainability.
3. Structural reforms: Abe has sought to increase labour force diversity (gender & race) and reduce labour market rigidities, slash regulation and cut corporate tax rates to improve Japan’s competitiveness.

Japan’s position at the time of the 1991 crisis was unique, including very high levels of non-financial corporate debt.

Abenomics heralded new monetary, fiscal and structural reform policies.

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Ibid.

Consumption tax increases from 4% to 8% in 2014, and from 8% to 10% in 2019.
Abenomics has raised economic growth and inflation relative to the previous decade, but obstacles remain. Since 2012, real GDP per capita growth in Japan (1.2%) has outstripped that in Germany (0.9%), and the unemployment rate has dropped from 4.5% to 2.4%. Female labour force participation is currently near record highs, and corporate profitability has increased. Japan’s public debt finally peaked in 2016 (at 243%) and has since stabilised at about 240%. All told, real GDP growth continues to lag behind that of the euro area and the US, while inflation is only halfway towards the BoJ’s 2% target, with little signs of a permanent increase. Furthermore, structural reforms (third arrow) remain limited and incomplete. Labour market rigidities remain, and there are low rates of immigration and insufficient pensions reform. On balance, we consider Abenomics to be reasonably successful but also that more structural reforms could lead to an even better outcome.

Figure 17
Labour productivity growth per hour worked (1980=100)

Source: OECD, Swiss Re Institute
Japanification: a global phenomenon, euro area most at risk

Europe is more at risk of experiencing Japanification than the US, in our view.

### Takeaways for other countries/regions

Some other countries/regions are at risk of Japanification. Given similarities in terms of ageing demographics (see Figure 18), we see the euro area economies, more so than the US, at risk of entering a similar period of low growth and low inflation in the coming decades. However, with lower levels of productivity and technical innovation, in our view the euro area could struggle more than Japan did in managing economic inertia.

**Figure 18**

Total dependency ratio of age groups 0–19 and 65+ per 100 population aged 20–64

![Graph showing dependency ratio over time for different countries](image)

Source: UN, Swiss Re Institute

Key policy takeaways from the Japan experience, as below, can help the euro area mitigate the impact of low growth, low inflation and low interest rates.

- Countries like Germany and Italy need to act today, as adverse demographic effects like increases in dependency ratios are already showing.
- Countries need a broader mix of policies to address structural issues. These should include supply-side reforms to liberalise labour markets, and encourage old age and diverse gender participation in the work force.
- Countries should raise their retirement age.
- Enable a competitive business environment that fosters R&D and investment in innovation.
- The financial system needs to be stable and well capitalised to support the investment needs of firms. To this end, we believe completing the capital markets union in the euro area is key. We need a European Savings Union to recycling savings, improve firms financing channels and reduce their dependency on bank loans.
- Policymakers should increase investment in sustainable infrastructure and green finance.

Timely action and a broad set of structural reforms are key.

European life insurers should look at the Japanese for ideas on how to cope with a prolonged period of low interest rates.

Japanese’s insurers have been grappling with Japanification for three decades now. The low interest rate environment has been challenging for life insurers in particular. They have adapted successfully by adjusting pricing (sometimes with regulatory help by retrospectively lowering guarantee rates), changing their asset allocation to achieve higher yields abroad, and adjusting their product mix towards more protection type products. European insurers can take note and learn.
Insurers and Japanification

Pricing: Lower guaranteed returns and higher premiums
The impact of unconventional monetary policy is felt most acutely by life insurers, as life insurance products depend on the investment returns generated over several decades. A key issue is negative spreads which occur when the interest rate promised by an insurer to a policyholder is higher than the rate the insurer can achieve on the policyholder assets they have invested in. When interest rates fall, assets end up being reinvested at lower returns (see Return gap and duration mismatch). Over the years, several mid-size insurers in Japan have gone bankrupt because of this, and so the government has allowed others to reduce guaranteed rates, sometimes retrospectively. Policyholders lost some of their guaranteed returns, but also benefited because their insurer was able to remain in business. Many high-return guarantee policies started to expire since 2013, and it is only now that large life insurers are reporting positive combined investment spreads again, with guaranteed rates having reached 0.25%. The situation remains challenging because as insurers have lowered guaranteed returns, their products have become less competitive.

Asset allocation: moving abroad and into more risky investments
The asset allocation of Japanese insurers has undergone significant changes over the past three decades as a result of the low interest rates at home. Last year, 25% of Japanese life insurers’ investment assets were invested abroad, up from 13% in 1990. Domestic government bonds continue to dominate (>40%) for the purpose of duration matching requirements (see Figure 19 LHS). Between 2008 and 2017, the average investment yield for Japan’s life insurers was 1.9%. Over that period, and in parallel with falling yields globally, yields on their foreign assets fell dramatically, from more than 5.5% to 1.4%. Currently JPY-hedged 10-year US bonds offer a return of –75 bp. In response, some Japanese life insurers have increased investment in foreign bonds without currency hedge, which exposes them to yen appreciation risks. They are also increasing their investments in alternative assets, including private equity, hedge funds, real estate and infrastructure.

Japanese non-life insurers have also invested more assets abroad, with the share of total increasing from 12% in 1990 to 26% today. They have also turned more aggressive in their investment strategy, by significantly reducing cash and loans, and increasing their exposure to equities. Unlike life insurers, non-life companies have only invested 16% of their assets in domestic government bonds. The average investment yield for Japan’s non-life insurers in 2008–2017 was 2.8%.
Changing product mix: writing more risk products

In the environment of long-term low interest rates, Japanese life insurers have adopted three major changes in product and pricing strategy. They have (1) shifted the investment risks to policyholders by offering unit-linked; (2) moved towards less interest-rate-sensitive products or into protection products like health-related and living benefits products (e.g., hospitalisation and cancer coverage), as opposed to savings-type products; which has also resulted in (3) a shift towards higher-margin health products (so called third-sector health products). Figure 20 shows this increase in risk premium, which has doubled since the early 1990s. However, due to a very large portfolio of in-force business and slow growth of new business, the change in product mix has been very slow. A similar trend is also observed in Germany when long-term yields started to trend down in the mid-1990s.

Japanese life insurers have changed their product mix over the years, but the shift has been slow.

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**Figure 19**
Japanese life (LHS) and non-life insurer (RHS) asset allocation

**Figure 20**
Life insurers risk premium as % of total sum insured

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*Life insurers, for example, faced stiffer competition due to the entry of Japan Post Insurance in FY 2007, this also resulted in more lifers focusing on third sector insurance for growth.*
Industry structure: consolidating and moving abroad

Consolidation in the domestic market: Consolidation has been used to cut expenses, alongside the failure of some mid-sized life insurers due to negative spreads. On the non-life side, there has been a notable increase in market concentration. A series of consolidations took place as insurers tried to gain economies of scale and maintain market share. The share of the Top 5 players increased to 87.6% in 2017 from 77.8% in 2006, according to data from the General Insurance Association of Japan.

Expansion overseas. Over the past decade, Japanese insurers have also increased ventures overseas, seeking strategic growth opportunities in China and other emerging Asian markets as conditions at home have stagnated. Non-life insurers’ share of overseas business rose from 9.3% in 2009 to 31.3% in 2018. Japanese life insurers, meanwhile, have spent more than USD 50 billion on acquisitions over the past five years, becoming the world’s second-largest buyers of insurance assets.60

Return gap and duration mismatch

The low interest rate environment is a significant burden for life insurers, particularly those with negative spreads relative to guaranteed returns.61 Despite lower guarantee rates today, and even retrospective lowering of guaranteed rates as has happened in Japan, average guarantees remain high as in-force policies from earlier years remain in place. This has resulted in a negative return gap for many life insurers when matching policies with domestic sovereign bonds, and a duration mismatch between their assets and liabilities (see Figure 21).62

Figure 21
Life insurers guaranteed return spreads (%) and duration mismatches (years)

Source: Global Financial Stability Report, IMF, October 2019, and Swiss Re Institute

Today they sell more less interest-rate sensitive and higher-margin health products.

Japan’s insurers have also been pursuing more strategic growth opportunities overseas.

Life insurers are struggling to generate the high guaranteed returns they promised in earlier years in the low interest rate environment of today.

60 “Japan insurers to target China M&A in new phase after USD 50 billion overseas push”, reuters.com, 4 February 2019.
61 A guaranteed interest insurance policy assures the insured a guaranteed rate of interest for a specific or fixed period of the policy.
Life insurers in affected countries, Japan, Germany, South Korea and Taiwan have responded by shifting their portfolio composition. They have increased their holdings of lower-rated and long-duration bond investments in search for yield, as well as increasing their foreign investments – Japanese insurers’ asset allocation to foreign assets doubled since 1990, from 13% to 25% today. Given our outlook on interest rates, this challenging situation is set to persist for life insurers’ savings business.

For example, Asian life insurers, with relatively small domestic corporate bond markets, have been increasing their allocation to foreign assets in search for yield. In doing so, however, they risk creating new risk transmission channels. Foreign corporate bonds have seen a significant inflow of money because of their relatively attractive yield, with a significant share of such investments in US dollar credit. Asian insurers’ combined share of the market has risen to 11% from 8% over the past five years. Life insurers have thus become increasingly vulnerable to swings in foreign exchange rates — an increasing amount of investment is happening on an unhedged basis to boost returns — and declining US interest rates. For example, Taiwanese life insurers have a large holding of US dollar callable bonds. These carry an option that allows the issuer to redeem the bond early, which is more likely when interest rates decline. A chain reaction of unwinding in bond holdings could follow.

Asian life insurers for example, have been investing in US corporate credit, exposing them to greater currency and interest rate risks.

Life insurers have been shifting their portfolios towards riskier investments and a greater share of foreign assets to generate required returns, but this is building up vulnerabilities.

These greater vulnerabilities present new challenges for policy makers, but there are steps they can take. The most helpful of course would be higher interest rates, or allowing further reductions in guaranteed rates, also retrospectively. Barring these, the IMF suggests a globally-harmonised minimum solvency standard, to help reduce spillovers between jurisdictions through international capital markets and the implementation of capital requirements for insurance groups globally, to prevent regulatory arbitrage. Finally, disincentives for life insurers to write new life insurance products offering guaranteed returns could be considered, but we would rather see incentives to increase sales of protection-type products.

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Figure 22
Shareholders Equity and Foreign Investment (Percent of assets)

Short of raising interest rates, policymakers should focus on a globally harmonised minimum solvency standard and also capital requirements to reduce vulnerabilities.

Source: Global Financial Stability Report, IMF, October 2019, and Swiss Re Institute

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64 Note: the US credit market is the largest credit market globally. As of December 2018, the US dollar J.P. Morgan US Liquid index had a market capitalization of more than USD 6 trillion, compared with USD 2.5 trillion for the ICE Bank of America Merrill Lynch Euro Corporate index and less than USD 0.2 trillion for the ICE Bank of America Merrill Lynch Japan Corporate index.
66 “Japan’s giant life insurers part ways on US dollar strategy”, Financial Times, 24 April 2019
Recession scenario: what it could mean for insurers

Global recession risk remains elevated. Demand for non-life insurance typically falls in line with a GDP slowdown. From a profitability perspective, casualty lines tend to benefit from slowing claims severity via lower wage inflation and medical expenses. Trade credit and D&O normally see rising claims frequency due to increasing insolvencies and securities fraud class action lawsuits. All in, the impact of a recession on non-life sector profitability would be negative, as a drop in investment returns outweighs improvements in underwriting (but not significantly).

If economic slowdown in 2020 turns into global recession, it will be more moderate and protracted than after the GFC, in our view. Any recession, however, affects the whole insurance sector. The extent to which insurers are hit depends mainly on line of business. Among life insurers, for instance, those with large books of savings-type business will likely experience more adverse effects (e.g., higher lapse rates and lower new business) than peers writing mainly protection business. Among non-life insurers, those writing credit and directors and officers (D&O) are likely to face more negative impacts. Of the two, the impact of recession is greater for non-life insurers. In terms of profitability, for life insurers the main earnings sensitivity is low interest rates rather than recession per se. Hence in this chapter, we focus on non-life insurance, with analysis of implications for the most-affected lines of business.

Impact on premium growth

Over the longer run, premium growth is largely determined by exposure growth. Both are related to economic activity. In the short to medium term, premium growth is additionally influenced by the price cycle, although average rate changes have been moderate lately. We assume a potential global recession scenario would lead to lower premium growth in advanced economies, largely mirroring GDP declines. Recent developments in Latin America, for example, illustrate the causal relationship between premium growth and economic weakness. A recession in some Latin American countries (Brazil, Argentina) curbed the demand for non-life insurance.

If there were to be a recession next year, we think it would be more moderate than after the GFC.

Any recession, however, would hit demand for non-life insurance.

**Figure 23**
Real GDP and direct premiums written (DPW) growth in Latin America

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP Real Growth</th>
<th>DPW Real Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>14%</td>
<td>12%</td>
</tr>
<tr>
<td>2004</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>2005</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>2006</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>2007</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>2008</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>2009</td>
<td>2%</td>
<td>0%</td>
</tr>
<tr>
<td>2010</td>
<td>0%</td>
<td>-2%</td>
</tr>
<tr>
<td>2011</td>
<td>-2%</td>
<td>-4%</td>
</tr>
<tr>
<td>2012</td>
<td>-4%</td>
<td>-6%</td>
</tr>
<tr>
<td>2013</td>
<td>-6%</td>
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<tr>
<td>2014</td>
<td>-8%</td>
<td>-10%</td>
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<td>2015</td>
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<td>2016</td>
<td>-12%</td>
<td>-14%</td>
</tr>
<tr>
<td>2017</td>
<td>-14%</td>
<td>-16%</td>
</tr>
<tr>
<td>2018</td>
<td>-16%</td>
<td>-18%</td>
</tr>
<tr>
<td>2019</td>
<td>-18%</td>
<td>-20%</td>
</tr>
</tbody>
</table>

Source: Swiss Re Institute

68 For an assessment of the lower global macroeconomic resilience compared to the time before 2008, see sigma 5/2019, *Indexing resilience: a primer for insurance markets and economies*, Swiss Re, 2019
Recession scenario: what it could mean for insurers

The drop in demand is more pronounced for marine and trade credit lines of business.

Some insurance lines of business, including marine and trade credit, are particularly exposed to the economic cycle and trade developments. We believe they would suffer over-proportionally in a global recession scenario relative to other lines of non-life business. This is particularly as we see a global trade war as the key risk to global growth, and trade would decline significantly in such a scenario. Figure 24 (LHS) shows that premium income for marine cargo – which accounts for 57% of the global marine insurance business (but less than 1% of the global non-life premium income) – is closely linked to volumes of internationally traded goods. Demand for trade credit insurance is also closely linked to global trade (Figure 24, RHS). A sharp spike in premium rates in 2008/09, when insurers raised rates to compensate for the losses triggered by the GFC, cushioned the drop in premiums. Since then, gradual rate erosion in trade credit insurance has dampened premium growth.

Impact on profitability

The impact of recession on underwriting results differs by line of business. Casualty lines tend to benefit from slowing severity via economic claims drivers, particularly wage inflation and medical expenses. Work-accident related lines also benefit from lower incidence of accidents. Trade credit and D&O normally see a rise in claims frequency due to increasing insolvencies and securities fraud class lawsuits. Claims occurrence and severity in property and other short-tail lines, however, tend to remain largely unaffected by a recession.

We analysed US data from 1980 to 2018 to assess the typical effects of recessions on insurer profitability.

To better understand the effects of recession on profitability of the non-life sector, we analysed the experience of the US P&C insurance industry during past episodes of economic recession. We find that on average:

- The natural catastrophe adjusted combined ratio, which typically rises before a recession due to the build-up of inflationary pressures late in a business cycle, improved by 2 to 4 ppt in the three years after the recessions that started in 1990.

69 Global marine insurance market. IUMI, 2018.
70 We looked at data back to 1950. However, inflation and interest rates behaved very differently in the pre-Volcker era, so we decided to focus our analysis on post 1980, the years of modern monetary policy and central bank independence.
and 2007 (see Figure 25). We attribute this to the disinflationary effects of a recession and the associated build-up of slack in the economy. The disinflationary effect applies to new business through lower loss ratios, and in-force business, where it can translate into reserves releases, both benefiting underwriting profitability. Currently, we do not observe significant inflationary pressures in the advanced economies, which could imply that any disinflationary effect will be smaller than in the past. (For a discussion of the current trends in the US liability business, see also page 16).

Based on US statutory data, the total investment yield (including realised capital gains or losses) declined by 0.5 to 1.2 ppt in the three years after start of recession. Historically it already started in the year before the recession started. This is a mixture of declining bond yields, mark-to-market losses on equity investments and credit-related write-downs. Declining market rates will gradually translate into falling effective portfolio yields, since portfolios roll over only slowly. There are also offsetting positive valuation effects on bond portfolios from lower risk-free market rates, which benefit economic valuations but do not run through income statements in most major accounting regimes.

The net effect on profitability is hard to analyse due to the multiple idiosyncratic effects of each recession episode. ROE usually starts to decline in the year before recession sets in and drops cumulatively by 4 to 8 ppt three years after. The more extreme ROE loss arose during the GFC, leading to unprecedented levels of investment losses, to a degree that we do not foresee for most of our plausible recession scenarios.

71 The recession of 2001 coincided with the severe hard market following the World Trade Center attacks. The subsequent massive insurance rate increases dominated changes in the combined ratio. Likewise, in the early 1980s recession, the liability crisis distorted the combined ratio for reasons not related to the economic cycle.
73 Recessions of 1990, and 2007, see footnote 3.
Recession scenario: what it could mean for insurers

Will a recession trigger market hardening?
We assess the possible effect of a recession on insurers against the backdrop of an industry in transition to a hardening market (in certain segments). At the same time, we look at the profitability impact of accelerating claims trends in this same environment. Last year, we had estimated a profitability gap for underwriting results of major markets at 6–9% of premiums in order to achieve a 10% ROE. All things equal, a hypothetical drop of the yield curve by 50 bp due to a recession, a plausible scenario in current low market yield levels, would widen the gap by another 1.2% to 1.5%. This suggests a need for more rate increases and underwriting discipline. Offsetting forces are the possible underwriting benefits from a (claims) disinflation surprise on new business. This effect would be less than the historic effects aforementioned, which also include reserves releases on prior-year business. All in, we do not expect a shallow recession scenario to be a major catalyst for changes in the underwriting cycle.

Lines of business respond differently to changes in inflation. Lines for which claims are driven largely by the consumer price index (CPI) and also healthcare inflation (e.g., motor, liability, workers’ compensation and health) exhibit a higher sensitivity to changes in general inflation. Hence these tend to benefit most from disinflation. They would also profit from reserve releases stemming from lower inflation trends than originally assumed. Healthcare and wage inflation run higher on average than CPI inflation, but all are likely to decline during a recession with rising unemployment and slack in the economy. Commercial liability lines and workers compensation are particularly inflation sensitive due to their long average duration of claims reserves (see Figure 27). Some lines of business have no sensitivity to inflation (e.g., life and credit insurance).

Casualty lines of business are more exposed to inflation and benefit most from disinflation.

Figure 26
Estimated baseline profitability gap as % of net premiums, and additional interest rate impact in recession scenario

<table>
<thead>
<tr>
<th>Country</th>
<th>Baseline</th>
<th>Falling yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>0%</td>
<td>-1.4%</td>
</tr>
<tr>
<td>Canada</td>
<td>-2%</td>
<td>-1.2%</td>
</tr>
<tr>
<td>UK</td>
<td>-4%</td>
<td>-1.4%</td>
</tr>
<tr>
<td>Germany</td>
<td>-6%</td>
<td>-1.4%</td>
</tr>
<tr>
<td>France</td>
<td>-8%</td>
<td>-1.7%</td>
</tr>
<tr>
<td>Italy</td>
<td>-10%</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Japan</td>
<td>-12%</td>
<td>-1.5%</td>
</tr>
</tbody>
</table>

Source: Swiss Re Institute

74 See sigma 4/2018, Profitability in non-life insurance: mind the gap, Swiss Re, 2018
Additionally, for a few lines there are direct impacts on claims frequency. For example, increased claims in D&O insurance are strongly related to stock market declines, which often coincide with recession. The underwriting results of trade credit insurers are also closely related to the economic cycle. Business insolvencies tend to increase in a slump, which leads to more frequent incidents of non-payment and so higher losses for trade credit insurers. Loss ratios for trade credit insurers typically peak within the first two years after the start of a recession (see Figure 28). The loss ratios of the three largest trade credit insurers operating globally spiked from 46.6% in 2007 to 83.1% in 2008 and 86.0% in 2009 as part of the fallout from the GFC, before dropping back to 45.8% in 2010.

Credit and D&O insurance are highly impacted by recession...

Credit and D&O insurance are highly impacted by recession...

While the precise effects differ by line of business, a recession would result in more moderate insurance premium growth overall. Profitability would likely deteriorate, too, but not too severely because improved underwriting results would partially compensate for lower investment yields. For non-life insurers, a stagflation scenario would be worse than recession, as stagflation would lead to higher claims inflation without a compensating rise in investment returns.
Mid-end private health insurance in China: key pointers for success

The health insurance market in China has been growing very rapidly. We forecast that total sector premiums will grow by 14% annually over the next 10 years, and that China’s share of global health premiums will rise from less than 2% today to 4.2% in 2029. The middle-end market in China has outperformed: mid-end premiums grew by 1500% in two years. The success of the mid-end segment can serve as a model for other emerging markets like India, which also has a large health protection gap, lack of strong universal social protection and a fast growing middle-class.

China’s health insurance market: an overview

In spite of fast-growing household incomes and also insurance penetration, we estimate a still-large health protection gap in China of USD 169 billion in premium equivalent terms in 2018. The development of private health insurance, in particular products for the fast-growing middle-income class, is a key to closing the gap. For emerging markets overall, we estimate a health protection gap of USD 448 billion. The experience of China in effecting greater uptake of private health insurance and thus reducing high out of pocket expenses, offers some useful pointers for other countries to similarly improve household and societal resilience.

Social medical insurance: the national mainstay

The availability of social security protection in China has improved significantly over the last decade, supported by government policy initiatives. This includes the establishment of an insurance-based social medical insurance (SMI) system, which has covered more than 97% of population since 2017. However, the SMI system has some limitations. Primarily, it does not offer uniform nor sufficient protection (yet). SMI reimbursement rates typically range from 50–90% of total medical expenses, depending on type of hospital visited, medication prescribed and overall treatment. Also, benefits vary across provinces and municipalities due to disparities in the availability of and accessibility to healthcare resources, and differences in local government fiscal support. Further, individuals who receive medical treatment in a location other than where they are registered may not receive full SMI benefits, mainly affecting millions of rural migrant workers in China. The same applies to the billions of people who travel each year, should they require medical attention while on the road.

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75 * sigma 5/2019: Indexing resilience: a primer for insurance markets and economies, Swiss Re Institute.
76 The ultimate goal is to establish a universal healthcare system that provides safe, efficient and affordable basic health care services to all Chinese residents by 2020. See Universal Health Coverage – the case of China, United Nations Research Institute for Social Development.
77 URBMI normally covers 50% of medical expenses in 2019 (Understanding the Policy for URBMI, NHSA June 2019). Coverage by UEBMI can reach up to 90% for employed individuals in Beijing. (“Improve SMI benefits, reduce the burden of medical treatment”, Xinhua, August 2018.
78 Rural migrant workers are persons with a rural household registration who are employed in an urban workplace and reside in an urban area.
Private medical insurance: rising demand

With China’s rapid development and rising levels of disposable income, demand for private medical insurance (PMI) has increased strongly, at a CAGR of 39% over the last five years. PMI premiums were USD 24 billion by 2018 (see Figure 30). The share of PMI in total business written by life carriers rose from 1.3% in 2000 to 5.7% in 2018. Short-term health insurance written by non-life insurers accounted for 4.8% of sector premiums in 2018, the second largest line after motor. Overall, medical insurance penetration (premiums as % of GDP) grew from nearly zero (0.01%) in 2000 to 0.17% in 2018, helping support realisation of the goals in the government’s Healthy China programme such as improving average life expectancy to 79 years by 2030.79 The medical insurance market is still at an early stage of development and we expect growth to remain robust. We forecast that premiums will grow by 14% annually over the next decade, and that China’s share of the global medical insurance market to rise from an estimated 1.8% in 2019 to 4.2% in 10 years.

79 The aim of Healthy China 2030 is to improve the nation’s health condition with specific goals to be achieved by 2030 along key focused aspects. “Promoting Private Health Insurance Development” is specifically mentioned in this document. State Council, 2016.
There are three main categories of PMI product in China:

- **Low-end PMI products** were the first to appear and dominated before 2008. They are closely linked to SMI and share the same scope of medical services and list of designated drugs. These products come with low sums assured, targeting mainly those who were not eligible for SMI before the system was firmly established. The products are now often offered as group medical benefits to employees.

- **High-end PMI products**, available since around 2008, cover all expenses irrespective of types of medical services received. This includes dental treatment, private hospitals visits, drugs and countries of treatment. They are offered to high net worth individuals and are more expensive.

- The third category is for middle income households – so-called middle-market PMI – available since 2014. It offers extended coverage and higher flexibility than low-end PMI. With the rapidly expanding middle class, this category has become the main driver of medical insurance sector.

**Middle-market private medical insurance**

Since inception in 2014, the mid-end health insurance market in China has spearheaded the strong growth of PMI overall, with segment premiums rising from CNY 500 million in 2015 to CNY 8 billion in 2017. New-generation mid-end PMI products offer a high deductible (normally CNY 10 000) and hence high cover for out-of-pocket expenses beyond the level of deductibles post-SMI reimbursement.

These products gained popularity very quickly. Specifically, annual premiums fell to around CNY 500 for middle-aged customers, equivalent to just 2.3% of per capita disposable income. The sum assured, meanwhile, was scaled up to more than CNY 1 million, creating the so-called “Million Medical” insurance products. From the insurer perspective, the new deductibles help weed out small claims and reduce the risk of adverse selection. Within one year of introduction, more than 50 insurance companies were selling Million Medical products, and premiums soon exceeded CNY 15 million, accounting for nearly 10% of the total PMI market in 2017.

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80 Mid-end medical insurance market is estimated to be CNY 20 billion in 2018, from Zhong An Insurance.

81 For instance, if total medical expenses are CNY 100 000 of which CNY 30 000 are SMI-reimbursed, the mid-end PMI reimburses CNY 60 000, after deducting CNY 10 000 from the remaining CNY 70 000.

82 According to market intelligence collected by Swiss Re.
Key success factors

A key success factor of the Million Medical product has been rising awareness of the need to have sufficient protection against health-related risks. This can be largely attributed to government health campaigns. For instance, the State Council of China published the national blueprint of Healthy China 2030 in October 2016 with a particular focus on promoting private health insurance development, followed by a pilot programme of tax-deductible health insurance products launched in 2017.

The unique features of Million Medical products are central to their success. The combination of low premiums, high sums insured, a simplified underwriting process and fewer restrictions on pre-conditions have boosted product attractiveness and affordability for a broad swathe of Chinese consumers. Meanwhile, the product’s features also benefit insurers by eliminating small claims and the reducing risk of adverse-selection by limiting coverage to inpatient treatments.

A seamless connection with SMI has been instrumental in the success of mid-market PMI. Policy terms and conditions are easily understood by customers because they have the same scope as SMI. Further, limiting coverage to mostly within the same scope of SMI, typically treatment in public hospitals, helps contain the cost of claims, as treatment in public hospitals is much less expensive than in private sector ones.

Online channels have played an integrated role in driving the sales of Million Medical products.

Last but not least, the internet has contributed to the success through use of social media as well as existing online distribution channels. The popularity of social media and its extensive reach to hundreds of millions of active users in China has played a key role in marketing the Million Medical products effectively across the country. In 2018, health insurance premiums from online sales increased by 108%, compared with 23% for offline traditional channels. In addition, cross-selling of PMIs with existing health products has added strong momentum. The sum assured of some Million Medical insurance bundled with CI can be doubled to CNY 2 million, if the insured is diagnosed with any type of listed CI. This can cover any need for income replacement for CI and medical expenses at the same time.

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Mid-end private health insurance in China: key pointers for success

Outlook for China mid-end PMI

We expect there will be more granular segmentation of the mid-end PMI market in the short- to medium term. The large mid-end sector could be further segmented into niche markets with improved product and service offering targeted to specific consumer needs. Over time, insurers are likely to focus more on service improvement and the integration of the healthcare value chain and eco-systems. Fledgling ecosystems in the healthcare sector are already taking shape, with insurers having partnered with value-added services providers such as hospitals, pharmaceutical companies, medical equipment providers and technology companies.

It is too early, for different reasons, to say the success of the mid-end PMI segment will be sustainable in the long term. For example, high deductibles have a leverage effect on medical costs, causing claims trends to be higher than would be the case for typical policies without a deductibles feature. Further, the current low loss ratio is largely driven by the rapid increase in new policies issued. As the market matures and sales of new policies slow, the ratio of in-force business will increase, further driving up costs.

Takeaways for other emerging insurance markets

China has some intrinsic advantages over many other emerging insurance markets. These include its 400 million middle-income population and high rate of internet penetration, helping insurers benefit from scale economies and low-cost online distribution. Irrespective of such advantages, the success of mid-end PMI in China to date offers some valuable insights that other markets can learn from.

- Low risk awareness is a main barrier to greater up take of insurance. National and local government can play a significant role in raising awareness on health, including the risk of catastrophic medical expenses. Social media in China has also played an effective role in raising awareness.

- With the diversity of social health insurance schemes across countries, the role of PMI in relation to such systems needs to be made clear. Products built on existing SMI benefits have been easy for consumers to understand. The clear positioning of PMI has made high deductibles palatable.

- Lacking comprehensive data, as well as underwriting and claims expertise in health and medical insurance is another obstacle in many emerging markets. Some features such as simplified underwriting and high deductibles can help to overcome these challenges. Yet insurers should continue monitoring loss experience closely, improving risk selection, and further strengthening underwriting and claims processes.

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84 For example, if total medical costs rise from CNY 11,000 to CNY 12,000 in one year, the annual claims increase is 9% for traditional medical products without deductibles. But for Million Medical product with deductible CNY 10,000 the claim would inflate from CNY 1,000 to CNY 2,000 (ie, 100% growth).

85 China creates world’s largest middle-income class. People’s Daily, March 2018.
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