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Insurance - Global

The impact of environmental, social and governance risks on insurance ratings

Environmental, social, and governance (ESG) risks are of increasing importance to insurance regulators, investors and customers worldwide. In this report, we define these three distinct but related types of risk, and explain how we incorporate them in our insurance ratings. Climate change-driven weather events, social pressures such as increased regulatory focus on treating customers fairly, and governance issues potentially leading to significant fines or reputational damage, can all affect insurers' ability to meet their financial obligations.

ESG risks are becoming more significant. ESG risks cover a range of factors related to the sustainability and social impact of insurers' activities and their risk profiles. ESG risks are not new for insurers - governance, for example, has always been part of our evaluation of insurers' credit quality - but they have become more significant in recent years due to evolving regulations and policy measures, climate change and shifting demographics.

Sustainable finance is shaping insurers' behaviour. In many parts of the world, insurers, as major investors, are under increasing pressure from policymakers, regulators and customers to play a full role in allocating capital towards the development of a sustainable economy. Failure to meet these expectations could result in reputational damage. Similar considerations have led some insurers to limit coverage of certain sectors, most prominently thermal coal, or to limit investments in certain sectors.

ESG considerations are captured in our credit analysis. We incorporate ESG risk into our ratings by (i) taking qualitative and quantitative ESG factors into account in our rating "scorecard", and (ii) considering ESG factors as part of our overall analysis of meaningful credit drivers, even if they are not explicitly captured by the scorecard, or cannot be quantified. Non-life (re)insurers are more vulnerable to environmental risk, and life insurers are more susceptible to social risks, such as higher disability claims related to the opioid epidemic in the US. Insurers' are also exposed to carbon transition risk, including potential asset stranding, through their investment portfolios.

Exposure to ESG varies by region. Insurers' ESG exposures and their focus on managing ESG risk varies by region, reflecting natural, regulatory and social differences. Risks arising from the transition to a low-carbon economy tend to be higher in Europe, where decarbonisation has been on the agenda of investors and policymakers for some time. Physical risks related to climate change tend to be higher in coastal or drought-prone regions. Insurers with extensive geographic footprints may be exposed to a greater range of ESG risks, while relying on diversification to limit individual risks.

ESG risks are becoming more significant

ESG risks are not new to the insurance industry, but they have become an area of strategic focus for many global insurers as awareness of and access to information on key sustainability trends grows among regulators, investors and consumers. This is consistent with our view that the industry recognizes the potential for ESG issues to affect investment and underwriting outcomes, and is increasingly committed to assisting in the development of a more sustainable economy.

However, the rising profile of ESG risk within the investment and regulatory communities can obscure the distinct characteristics of its components. ESG is often spoken of as a single, homogeneous category of risk. In fact, while environmental, social and governance risks overlap, they are quite distinct from one another. It is important to appreciate their distinctness if measures to address them are to be properly assessed.

Relatedly, while there are no commonly accepted definitions of ESG risks, initiatives are under way to introduce more standardised definitions and materiality considerations for ESG risks. These include the European Commission's taxonomy on ESG risks, and the Sustainability Accounting Standards Board's (SASB) guidelines. The United Nations (UN) sponsored Principles for Responsible Investment (PRI), a global task force launched in 2006 to help its global signatories incorporate ESG factors into their investment decisions, uses topics to illustrate each factor. For example, discussion of water risk resilience is used to illustrate environmental issues, while discussion of responsible labour practices is used to illustrate social issues, and anti-bribery and corruption efforts to illustrate governance issues.

One purpose of this report is to define more precisely what environmental, social and governance risks mean in the context of our analysis of insurance company credit risk. Definitional clarity is important; unlike other market participants focused on societal impact or maximizing investment returns, Moody's primary focus is to assess the incremental impact associated with ESG issues on an insurer's willingness and ability to honour its policyholder obligations and repay its debt.

In our credit analysis, we evaluate ESG risks in the same way as we do all other factors that affect insurers' credit quality. ESG risks, like any other risk, can erode insurers' creditworthiness. For instance, an insurer's credit profile could be negatively affected by an overly concentrated exposure to natural catastrophe risk that amplified the effects of climate change. In the same way, another insurer's credit profile could be negatively affected by riskier financial market exposures. Regardless of the type of risk, our objective is to identify and evaluate those that could have a material impact on an insurer's credit profile.

Sustainable finance is shaping insurers' behaviour

The insurance industry controls and manages a significant portion of global investable assets, while at the same time providing risk transfer capabilities that are fundamental to the functioning of commerce and society. This puts insurers at the forefront of the movement towards sustainable finance, defined by the European Commission as the provision of finance for investments that take into account environmental, social and governance considerations. It also exposes them to public and regulatory scrutiny. A number of international developments have accelerated the shift towards sustainable finance, including the Paris Climate Agreement (December 2015), the UN 2030 Agenda for Sustainable Development (September 2015) and the European Commission Action Plan on Sustainable Finance (March 2018).

Insurers are implementing a number of measures on both the invested asset and insurance risk side of their businesses, guided by their own assessment of ESG threats and opportunities, and in response to external pressures. Moving towards sustainable finance is complicated by the gradual nature of some ESG risks, such as climate change, and associated uncertainty about how material they might become over time. In addition, insurers must grapple with the complex task of balancing their obligations towards various stakeholders, including policyholders, shareholders and wider society.

Insurers are estimated to manage around a quarter of global invested assets[1]. The top 50 global asset managers include a number of insurers that account collectively for $16.8 trillion of assets under management (see Exhibit 1).

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

Exhibit 1
Insurance groups included in the top 50 global asset managers
2017 Rank ordering according to "The world's largest 500 managers" report

	AUM $'bil		AUM $'bil
Allianz Group	2,358	Manulife Financial Corp.	756
AXA Group	1,731	Ameriprise Financial	714
Prudential Financial	1,394	Nippon Life Insurance	701
Legal & General Group	1,333	Principal Financial	669
Aegon Group	983	Mitsubishi UFJ Financial	664
M&G Prudential	907	MetLife	663
Sumitomo Mitsui Trust Holdings	791	Great-West Lifeco	558
Sun Life Financial	778	Generali Group	556
MassMutual	771	New York Life Investments	543

Source: The world's largest 500 asset managers, Thinking Ahead Institute - Willis Towers Watson

Many insurers, particularly larger companies in more developed markets, have been implementing sustainable investment management strategies for a number of years, although progress has been mixed. As highlighted in our 2018 survey of European insurers' approach to ESG factors, the vast majority have adopted screening techniques to avoid investing in assets that do not meet ESG criteria. More recently, a number of European insurers have adopted a policy of not investing in sectors that are linked to thermal coal. This is partly because of thermal coal's substantial CO_2 emissions, and also reflects the risk of thermal coal assets becoming "stranded," or economically impaired due to the move towards a sustainable economy. We view positively the proactive steps taken by some insurers to moderate their exposure to carbon transition risk, including reducing exposure to assets at higher risk of being stranded.

While insurers have been incorporating ESG analysis into their investment portfolio management for some time, a number of large insurers including Swiss Re, AXA, Aviva, Allianz, Zurich, QBE and SCOR, have recently also decided to stop insuring certain clients in thermal coal-dependent industries. These decisions, the details of which vary between insurers, come in response to pressure from lobby groups as well as shifts in public opinion and the insurers' own developing views on risk. A number of insurers have also built a comprehensive analysis of ESG risk factors into their underwriting processes, predominantly for commercial P&C insurance. Insurers have historically limited their underwriting exposure to some smaller sectors, for example weapons manufacturers, due to ESG concerns. While thermal coal is a relatively large sector, we do not expect large diversified insurers' thermal coal exclusionary policies to result in a meaningful loss of business. These insurers could, in fact, benefit from reduced exposure to potential environmental liability risks associated with thermal coal industries.

We expect more insurers to follow suit as ESG risks become more immediate, and regulatory and public focus on them intensifies. While ESG factors have only had material credit implications in a limited number of cases, we are increasingly focused on the strategies insurers are adopting to manage the effects of climate change and demographic shifts, which we expect to become more material over time. We would expect more highly-rated insurers to have more advanced analysis of ESG risks, and more sophisticated strategies for managing them.

ESG factors are captured in our credit analysis

We incorporate ESG risk into our ratings by (i) taking qualitative and quantitative ESG factors into account in our rating "scorecard", and (ii) considering ESG factors as part of our overall analysis of meaningful credit drivers. In the same way that we evaluate all other risks that might have a material impact on credit quality, we identify and assess credit implications arising from all material ESG considerations, whether they have a current or a potential future impact.

If we believe an emerging ESG risk or trend is likely to result in weaker credit metrics or business risk profiles in the long term, we endeavour to build this into our analysis well before the effects are fully evident in the issuer's financial and operating performance. ESG factors that affect an insurer's credit profile are generally reflected in our insurance rating methodology scorecard factors.

However, there may be cases where certain aspects of ESG risks do not affect the measures in a specific scorecard or model, in which case they may be captured qualitatively outside the scorecard or model.

Exhibit 2
Each of the broad ESG risk categories are captured in our insurance rating scorecard

RATING FACTOR	ENVIRONMENTAL	SOCIAL	GOVERNANCE	
Business Profile				
Market Position & Brand	✓	✓	✓	P&C re/insurers can increase market share in new 'renewable' product lines, but could face social / reputational risk if they do not evaluate and control exposures to carbon emitters. Life insurers face risks and opportunities from a number of social and demographic factors. For all sectors, poor stakeholder / customer/investor relations or corporate governance can damage market position and brand perception.
Distribution		✓		Life insurers in particular rely on extensive distribution networks, often times with many independent agents/ advisors, which increases the risks associated with market misconduct and product mis-selling by third-party agents or representatives.
Product Focus & Diversification	✓	✓		P&C Insurers' may need to diversify product risk away from natural catastrophe exposures, and life insurers may need to mitigate exposure to ageing populations (longevity risk). At the same time, we expect ageing populations increase demand for health insurance and retirement products, which tend to be more profitable than some other insurance lines.
Financial Profile				
Asset Quality	✓			'Stranded asset' risk for all insurance sectors, particularly life insurers that tend to have larger exposure.
Capital Adequacy	✓			Increasing volatility, incidence and unpredictability of natural catastrophe events threatens P&C re/insurers capitalisation, while life insurers capital is exposed to 'tail scenario' claims in severe heat waves/pandemics (protection) or with rapidly increasing longevity (annuity).
Profitability	✓	✓	✓	Increasing volatility, incidence and unpredictability of natural catastrophe events threatens P&C re/insurers profitability. Life insurers profitability could be impacted at a more gradual pace but exposed to catastrophic death events. Poor management of social and governance issues can lead to fines, legal claims, which could impact profitability.
Liquidity and ALM		✓		Ageing populations lead to elevated longevity risk on existing annuity business, particularly as lengthening liability durations make asset liability matching much more difficult.
Reserve Adequacy	✓	✓		Increasing environmental damages (e.g., land / air pollution), product failure and legal liability from insured carbon emitters or polluters are often long-tail and could lead to P&C reserve deficiencies, which in turn impact profitability and capital. Social factors, including medical cost inflation, can have a meaningful impact on reserves (e.g., workers' compensation).
Financial Flexibility	✓		✓	Transparency, accountability and strong board governance are essential for financial firms' to sustain reliable investor access. In addition, weak environmental and social credentials are likely over time to lead to diminished (or more costly) financial market access as investors demand ESG compliant investments.

While it is conceivable that ESG risks might impact every scorecard factor, our focus is on those intersections between E, S or G and the respective scorecard factors, that could have a material impact on an insurer's credit profile.
Source: Moody's Investors Service

The three ESG risk categories affect different insurers in different ways. For example, property and casualty (P&C) insurers are significantly more exposed to environmental risks than life insurers, which in turn tend to be more exposed to social risks such as population ageing. We believe that governance risks affect insurers of all types more or less equally, although larger insurers that are regulated in multiple jurisdictions face a more complex set of governance challenges. In some instances, the emergence of one ESG risk could give rise to another. For example, increased frequency and severity of weather events, an environmental risk, could drive up the cost of property-catastrophe (re)insurance. This could become a social issue if insurance premiums were to become unaffordable for homeowners as a result.

However, we are not always able to estimate the impact of long-term risks with a great degree of precision. This is because uncertainty increases as timeframes lengthen, and while a longer timeframe can lead to a particular ESG risk becoming more material, it also provides companies with greater opportunity to take mitigating action. For example, global diversified insurers with sufficient financial strength can alter their product and risk focus without negatively affecting their credit profiles, provided the factors that prompt them to move away from their existing products are foreseeable and gradual.

Environmental risks

Environmental risks are multi-faceted. As part of our global environmental risks heat map, we identified five categories of environmental risk, shown in Exhibit 3, that are most material to credit quality across all sectors covered by Moody's. Natural and man-made hazards are the dominant environmental risk for P&C (re)insurers. This reflects their insurance of property and corporate supply chains, which can both be severely affected by natural catastrophes.

Exhibit 3
Categories of environmental risks most material to credit quality

AIR POLLUTION
Industrial emissions with potential to harm health and habitats, excluding CO2, but including nitrous oxides, sulfur oxides, and particulate matters.

SOIL/WATER POLLUTION & LAND-USE RESTRICTIONS
Pollution from industrial, agricultural waste, and surface-water run-off. Land restrictions to preserve habitats, watersheds, species, etc.

CARBON REGULATIONS
Impact of current/future policy initiatives that seek to reduce the amount of CO2 and other greenhouse gases emitted at a national and global level.

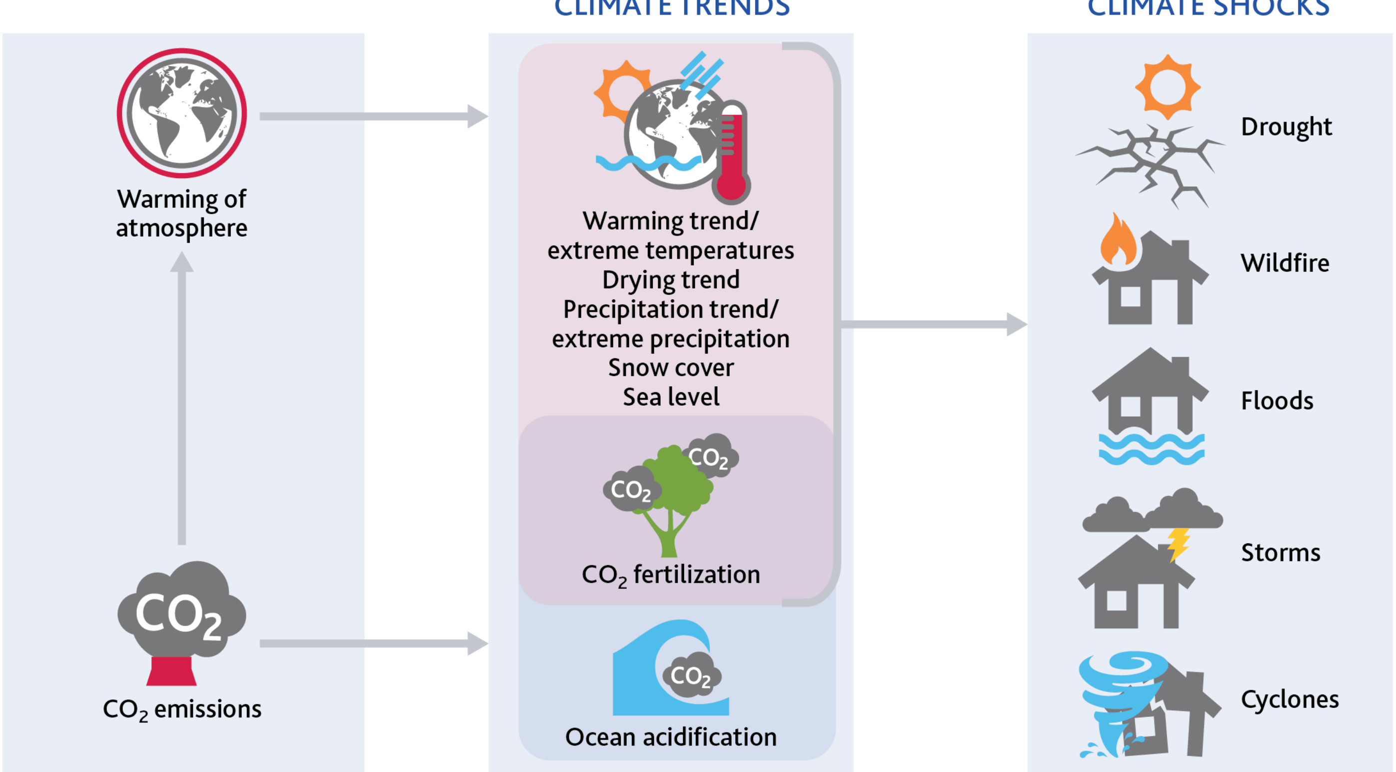
WATER SHORTAGES
Caused by a decrease in available water supplies (e.g. due to drought) or an increase in demand.

NATURAL AND MAN-MADE HAZARDS
Includes chronic climate trends (e.g. warming, rising sea levels), extreme weather events (e.g. flooding) and industrial disasters/incidents.

Source: Moody's Investors Service

Natural catastrophes include climate shocks, acute weather-related events such as droughts, wildfires, convective storms, floods and tropical cyclones. These comprise the majority of natural and man-made hazard risk. P&C (re)insurers are also affected by longer term climate trends, or gradual, multi-decade (or multi-century) climate phenomena, that may not be discernible from one year to the next. These include rising mean temperatures globally, and other changes such as a decrease in cold temperature extremes, and a rise in warm temperature extremes. Climate trends are distinct from climate shocks, but they are interconnected (Exhibit 4).

Exhibit 4
Climate trends can influence the frequency of climate shocks



From Moody's report "Climate change risks outweigh opportunities for P&C insurers"
Source: Moody's Investors Service

The effects of climate trends on the frequency and severity of catastrophic events are difficult to predict, and scientific understanding of this area is still developing. Climate change therefore adds complexity to underwriting, and an extra layer of risk modeling and pricing uncertainty. Our view is that the annual repricing of most property and casualty insurance policies will enable (re)insurers to adjust to rising frequency and severity of natural catastrophes that could result from climate change. However, it might be difficult to appropriately price risk in the event of increasing volatility, and therefore uncertainty, in frequency and severity trends.

Although a given climate shock event cannot be predicted or specifically tied to climate change, the Intergovernmental Panel on Climate Change (IPCC) notes that the probability and frequency of such events will increase at higher temperatures and/or greater extremes in temperatures and precipitation. After an increase in the frequency of weather-related events in 2017 and 2018, a number of (re)insurers indicated that they expect climate trends to result in an increased frequency and severity of climate shocks in coming years.

Referring to the California wildfires in a recent announcement, Munich Re Board member Torsten Jeworrek stated:"Such massive wildfires appear to be occurring more frequently as a result of climate change". On a recent earnings call, the CEO of Alleghany Corp, which owns TransRe, said: "We believe that climate change is increasing the potential for severe catastrophe losses, and the reinsurance industry needs to take a less sanguine view about future catastrophic risk." Swiss Re, in a recent Sigma report (Sigma No. 2/2019), said that over 70% of global insured wildfire losses between 1980 and 2018 (estimated at over $40 billion) arose in the last three years alone, with hot and dry conditions among the contributory factors.

Many regulators are also increasingly focused on insurers' resilience to the effects of climate change. The UK's Prudential Regulatory Authority (PRA) recently stated that it will require UK insurers to consider how their businesses would be affected in different physical and transition risk scenarios, as part of industry-wide stress tests that started in June 2019. Similarly, the European Commission's (EC)

Action Plan for Sustainable Finance seeks to increase insurers' focus on sustainability, including the possibility of reflecting climate change considerations in insurers' regulatory capital requirements. We believe this increase in regulatory scrutiny is credit positive, as it requires insurers to improve their ability to manage the effects of climate change. However, it also increases the risk of regulatory non-compliance for insurers that lag behind in adapting to the effects of climate change, and is likely to lead to higher compliance costs.

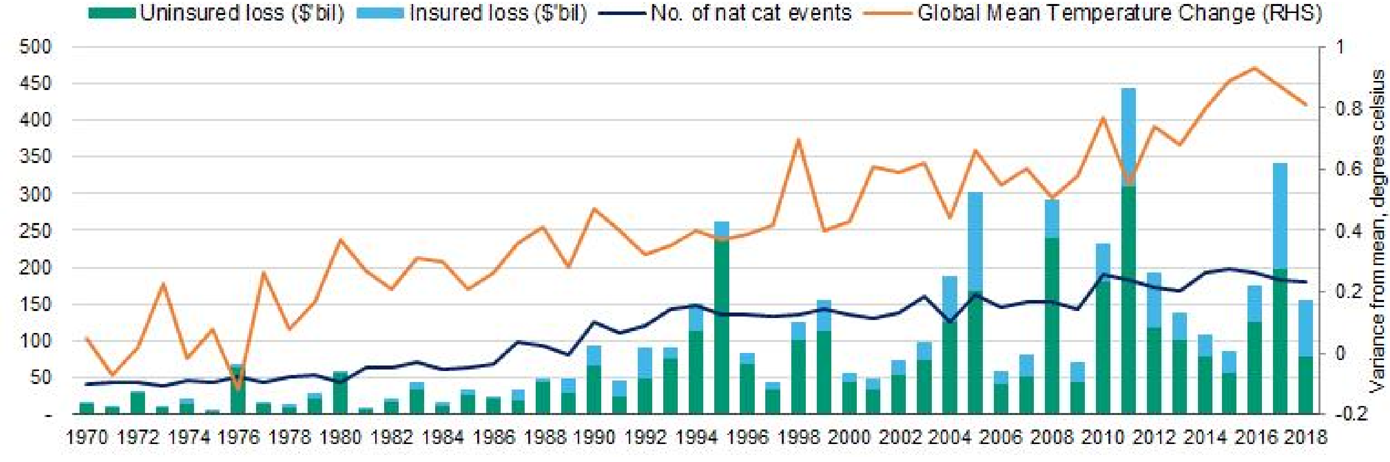
We would likely incorporate our assessment of a (re)insurer's exposure to natural catastrophes and the effects of climate change in the "Product focus & diversification", "Capital adequacy" and "Profitability" scorecard factors (Exhibit 2, above). For example, we would consider a (re)insurer with overweight exposure to property-catastrophe risk but no significant geographic diversification, to have elevated product risk relative to the average diversified insurer. This assessment of elevated product risk, and the consequent higher likelihood of more volatile catastrophe loss experience, would likely also flow into our forward-looking assessments of capital adequacy and profitability.

The severe natural catastrophe events of 2017, particularly hurricanes Harvey, Irma and Maria (collectively, "HIM") highlighted certain reinsurers' overweight exposure to natural catastrophe risk. Aspen, Allied World, AXIS, Everest Re and XL amongst others incurred meaningful net losses for 2017, reflecting the extent of their catastrophe exposure relative to their other, diversifying business. While 2018 catastrophe losses were lower than in 2017, (re)insurers' loss frequency was higher that year, with notable catastrophe events including Hurricanes Florence and Michael as well as the California wildfires. Partly because of this weak operating performance, we changed the outlooks for Aspen and AXIS to negative from stable in February 2018 and April 2019, respectively.

As shown in Exhibit 5, the frequency (number of events) and severity (economic loss, including uninsured and insured losses) of natural catastrophe events has risen steadily over time, resulting in rising and more unpredictable environmental risk for insurers. Concurrently, global land and ocean surface temperatures - as measured by the US National Oceanic and Atmospheric Administration's (NOAA) global temperature anomalies relative to the 100 year mean - have risen steadily.

Exhibit 5

The frequency and severity of natural catastrophe events is rising over time



* Global mean temperature change based on NOAA data for Global Land and Ocean Temperature Anomalies in May, relative to 100-year mean over period 1901 to 2000

** Total economic losses (US$, inflation adjusted) from physical damage resulting from natural catastrophes, comprised of insured and uninsured loss portions

Source: Swiss Re Institute, NOAA National Centers for Environmental information, Moody's Investors Service

Insurers with large investment portfolios are also increasingly aware of the risk of impairment losses that could result from stranded assets. The transition towards a low carbon economy, including tightening carbon regulations and secular decline in demand for some fossil fuels, introduces a risk that certain assets, particularly those related to fossil fuels, may become economically unviable. According to the International Renewable Energy Agency (IRENA), reducing CO_2 emissions sufficiently to prevent global temperatures rising by more than 2°C above pre-industrial levels – a key objective of the 2015 Paris Agreement – would generate stranded assets of $10 trillion between 2016 and 2050. The most significant share of this relates to buildings, which we expect would be subject to some mitigating actions that would limit some of the loss. Moody's base case scenario with respect to carbon transition is aligned with the

International Energy Agency's New Policies Scenario (IEA NPS). This envisages a slower carbon transition than necessary to achieve the 2°C objective of the Paris Agreement, and therefore lower potential stranded asset losses than outlined in the IRENA report.

In response, several large European insurers, including Allianz SE, AXA, Swiss Re and Zurich Insurance Group, have decided to divest debt and equity investments in companies that are thermal-coal dependent. Allianz has not financed coal-based business models since 2015, and has divested equity stakes in coal-based investments made prior to 2015, while related fixed income investments are in run-off.

Insurers' exposure to stranded asset risk is typically limited by their high degree of investment diversification. However, to the extent that an insurer holds outsized exposure to assets that may become stranded, we would reflect this in the "Asset Quality" scorecard factor.

Pollution is an area where environmental and social risks overlap. Environmental risks related to pollution can give rise to liability claims for insurers, particularly (re)insurers with a commercial lines focus. A current example is the US court case against Bayer AG in which claimants allege that the active ingredient in Bayer's Roundup weed killer (acquired through its takeover of Monsanto) causes cancer. The most recent judgement has indicated, subject to appeal, a significant US$2 billion payout to the claimants. This could ultimately lead to Bayer's insurers incurring claims under product liability coverage – the result of a pollutant causing social harm.

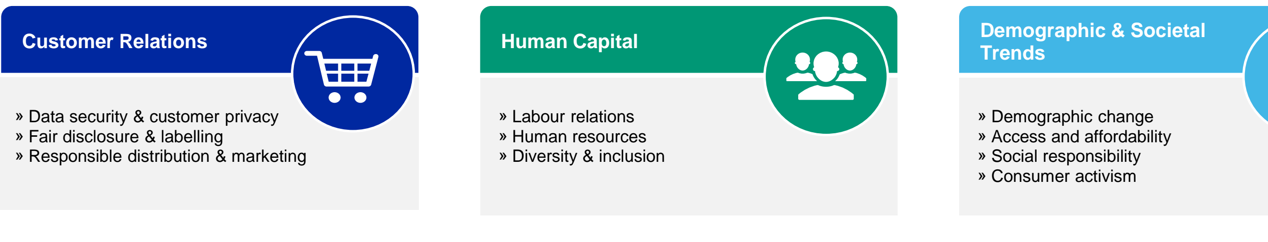
Another example of environmental risks giving rise to general liability claims for insurers is the case of Pacific Gas & Electric (PG&E), the California power utility that filed for bankruptcy in the wake of the 2018 California wildfires. If PG&E's power transmission lines are found to have contributed to the start of the Camp fire, one of the most destructive California fires last year, the company's insurers are likely to face significant liability and D&O claims.

Water shortages and droughts have wide ranging impacts on multiple lines of insurance, including crop losses on agricultural covers, and subsidence claims on buildings insurance. More intense droughts in regions unaccustomed to them have in some cases led to significant uninsured crop losses for farmers, exposing a drought protection gap. According to the Swiss Re Institute, a sustained drought across Europe in 2018 led to combined economic losses in agriculture across Germany, France and Poland of close to US$6.9 billion. Due to low take up of agricultural insurance, including drought coverage, only a small proportion of these losses were insured.

Social risks

In a recent report, we highlighted five areas of social risk that could be material to credit strength for all private sector issuers. These are (i) customer relations, (ii) human capital, (iii) health and safety, (iv) responsible production and (v) demographic and societal trends. These five categories, shown in Exhibit 6, form our starting point for assessing insurers' exposure to social risk. We believe insurers focused on life and savings products are generally more exposed to social risks, particularly those related to demographic and societal trends.

Exhibit 6
Social risk categories most relevant for private sector (nongovernmental) issuers



Source: Moody's Investors Service

Aging populations, increasing urbanisation and rising wealth levels are key demographic trends that create both challenges and opportunities for insurers. An aging population increases demand for retirement and savings products, as well as for health cover. Many developed world life insurance industries, notably those in the US and certain European countries, have for many years been moving away from traditional insurance products (eg protection, annuity) towards hybrid or pure savings products (variable annuities, unit-linked), in line with the demands of their 'baby boomer' populations. At the same time, growing numbers of retirees provide opportunities for insurers to develop and market new products focused on the decumulation, as opposed to accumulation, of savings. We expect these trends to continue, as populations globally continue to age and, in some cases (e.g. Japan), decline.

In Japan, Korea, and increasingly in Europe, aging populations are reducing demand for protection products, which tend to be particularly profitable for life insurers, as older policyholders no longer need the same level of life insurance cover. As a result, Korean and Japanese life insurers face challenges relating to stagnant premium growth, along with low interest rates and significant competition. This has led them to actively develop health-related third-sector (Japan) or critical illness (Korea) products.

Our assessment of insurers' ability to navigate this shift from protection to retirement and savings includes consideration of whether they can provide products that meet consumers' changing demands. We also take into account their ability to manage the shift from biometric/ mortality risk to longevity and financial markets risk as they move from protection to savings and retirement products. We expect the asset-liability matching of insurers making this transition to become more complex as their liability durations lengthen, particularly in countries without a strong supply of long-dated assets.

Aging populations and a growing middle class increase demand for health insurance, particularly in countries without comprehensive public health and social care programs. While demand for health insurance creates new opportunities for insurers, it also exposes them to evolving risks, including regulatory and political risks driven by social factors. In the US, for example, political risk has increased as a number of presidential candidates are proposing "Medicare-for-all" plans. Any of the nine such proposals introduced into the current Congress would be credit negative for health insurers, and some could meaningfully limit insurers' role. Such scenarios are highly unlikely in current circumstances, but with a potential change in the political guard in 2020, a move in the direction of a single payer system is possible, and would likely be negative for the sector. In another example, diversified financial services group Discovery Limited, which administers South Africa's largest private health insurance plans, faces a potential drag on earnings if the South African government implements a national health insurance plan which could limit the size of the private health insurance market.

Insurers are also exposed to changes in regulation prompted by evolving social demands, which could have a negative impact on their profitability. For example, in France, there is a trend towards more consumer-friendly legislation, such as the recently passed PACTE Law, which introduces several measures aimed at stimulating competition among insurers and between insurers and asset managers. We expect this to increase the risk of a gradual decline in French insurers' margins over the coming years. Separately, annuity providers

in certain Latin American countries have historically been subject to political interference and discretionary regulatory intervention that negatively affects their business. Generally, insurers with a focus on consumer or personal lines tend to face greater regulatory and conduct risk than those dedicated to commercial business.

Casualty insurers are exposed to a number of social risks as legal, cultural and regulatory changes push up claims and reserving on their longer-duration liabilities. In the US, for example, workers' compensation insurance is especially susceptible to medical cost inflation and like general liability insurance, to changes in the legal and tort systems which determine compensation awards. As a result, we consider product risk to be elevated for insurers that are significant writers of workers' compensation cover.

The opioid crisis in the US is an ongoing example of a social issue generating liabilities for corporates and their insurers. Litigation against pharmaceutical companies involved in the manufacture and distribution of certain opioid painkillers could result in liability claims against insurers. In 2006, Purdue Pharmaceuticals and Steadfast Insurance Co, a US subsidiary of Zurich Insurance Group, reached a settlement on the extent to which Steadfast had to reimburse Purdue for legal defence costs against litigation related to its opioid drug, Oxycontin.

Migration and urbanisation, along with rising income levels, are further social factors which have fueled construction and increased population density, particularly in flood-prone coastal areas. This has led to a significant increase in the severity of economic losses related to weather events.

Governance risks

Governance and risk management are key considerations in our assessment of insurers' credit fundamentals, and any material weaknesses in these factors can suppress the ratings of otherwise strong insurers. Our insurance rating methodologies allow for a below-the-line adjustment to the aggregate score if we believe material governance factors are not reflected in the various scorecard factors. Considerations that might result in such an adjustment include:

» Key person risk. High dependence on a single executive or group of executives can pose increased risks, as their loss could adversely affect the insurer's fundamentals.

» Strategy and management. A radical departure in strategy, a shake-up in management, or an untested team can all increase uncertainty regarding an insurer's risk profile. An aggressive growth plan can signal high risk appetite, while clear risk management weaknesses can increase exposure to adverse developments. Any concerns regarding board or management oversight would also fall into this category.

» Dividend policy and financial policy. An aggressive dividend policy or capital structure may imply lower financial flexibility. Management teams are often slow to reduce established dividend levels due to concerns about negative signaling and adverse share price impact.

» Compensation policy. Similarly, an aggressive compensation policy - for example high bonus payments relative to salaries that are skewed towards cash - may encourage short-term risk taking, or growth over profitability, to the detriment of bondholders.

Governance weaknesses or failures have contributed to a significant weakening of insurers' credit profiles, resulting in a number of negative rating actions. For example, we recently placed a negative outlook on the rating of Australian insurer AMP Life, and subsequently downgraded it, due to the potential for reputational damage and legal costs associated with allegations of governance failures made during Australia's Royal Commission enquiries. These include charging fees to customers when no service was provided, and misleading the Australian Securities and Investments Commission.

The impact of governance on insurers' credit profiles is not new. In 2005, a regulatory investigation by the New York Attorney General's office and the Department of Justice resulted in a legal settlement and restatement of financial results for American International Group. The company was found to have improperly accounted for certain finite reinsurance contracts, which were primarily used to smooth the earnings without transferring significant insurance risk.

In some cases, we have taken the view that an insurer's credit profile is negatively affected due to its ownership by, or affiliation with, groups that lack transparent control and governance structures, or are facing regulatory challenges. Last year, we changed the

outlook for VIVAT NV's main operating subsidiaries, SRLEV NV and REAAL Schadeverzekeringen NV, to negative from stable following regulatory action against its parent, Anbang Insurance Group Co. Ltd. (Anbang) and concern over VIVAT's future ownership.

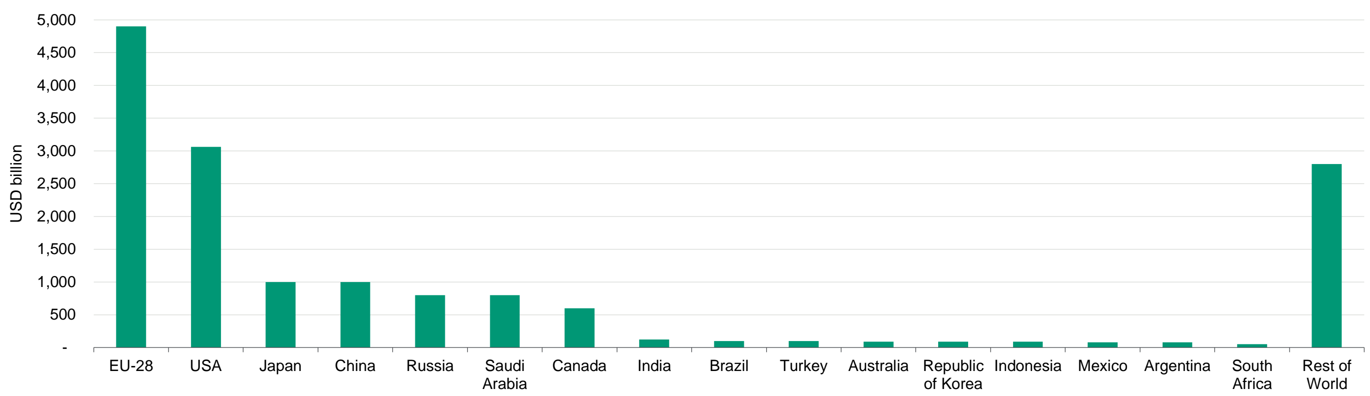
In another example, we withdrew the rating of Nest Investments (Holdings) Limited, after previously downgrading it, to reflect ongoing regulatory reviews of its main reinsurance subsidiary, Bahrain-based Trust Re. When Sirius International Group Ltd. was acquired by China Minsheng Investment Group (CMIG) in 2015, we took no negative rating action, but noted that majority ownership by privately-owned CMIG potentially increases risks related to corporate governance.

Exposure to ESG varies by region

Both the type of ESG exposure and the extent to which insurers are focused on ESG risks varies by region, reflecting regional differences in social, regulatory and natural/meteorological conditions. Large global insurers, and reinsurers in particular, tend to be exposed to a far broader set of ESG risks than national or regional insurers, although they also benefit from greater diversification. Geographic diversification and concentration of exposure in areas of higher ESG risk are captured in our "Product Focus & Diversification" methodology sub-factor.

Environmental risks for insurers can be broadly divided into those arising from environmental regulation or policy initiatives, and from direct environmental hazards. We regard European insurers as more exposed to environment-related regulatory and social pressures, given the generally higher public profile of climate change issues in Europe. Evidence of these pressures includes regulatory initiatives to assess insurers' resilience to climate-related stress scenarios, and some large European insurers' decision to discontinue coverage of thermal-coal dependent clients. Additional regulatory restrictions and rising public expectations increase the risk of regulatory non-compliance and reputational damage, along with increased risk of stranded assets. However, these pressures also incentivize insurers to respond effectively to the challenges of climate change. To some extent, this reduces their susceptibility to the associated risks, relative to insurers in regions without the same regulatory pressures. While environment-related regulatory and social pressures might be higher in Europe, as shown in Exhibit 7, the risk of assets becoming stranded due to de-carbonisation is more widespread.

Exhibit 7
Breakdown of stranded assets by region, 2016 - 2050

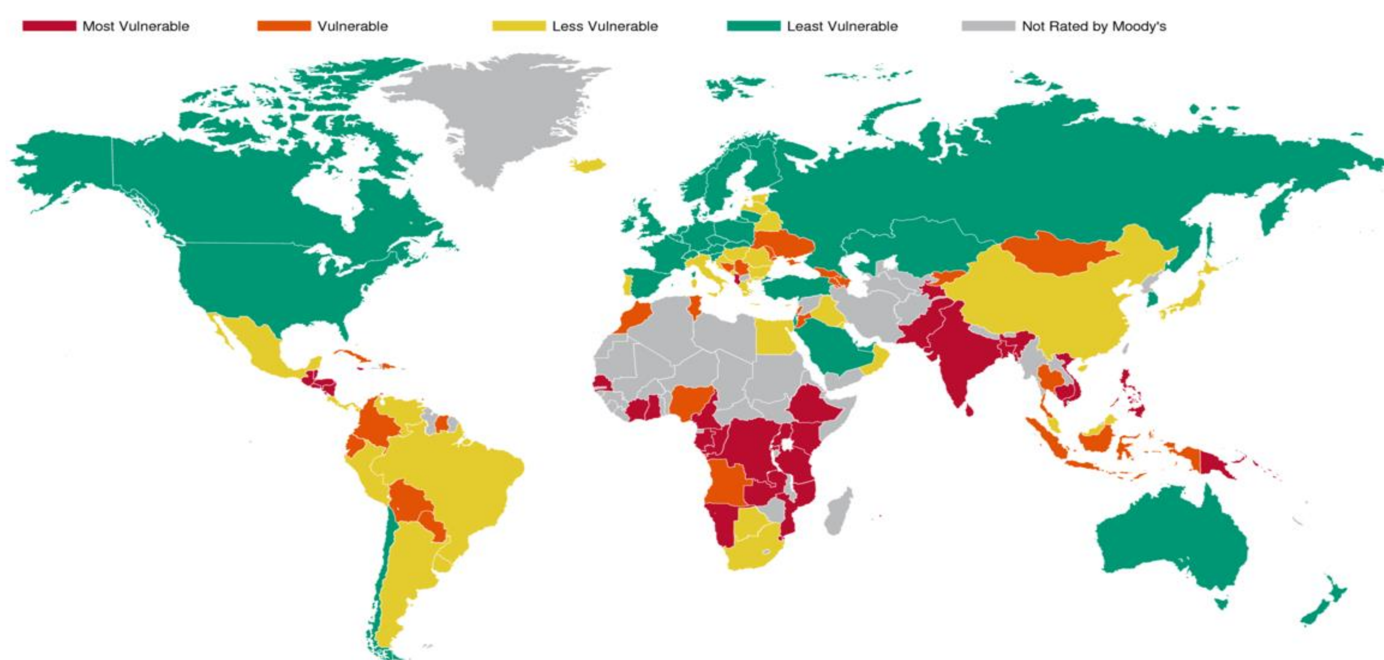


Source: International Renewable Energy Agency

Physical exposure to environmental risk is generally higher in developing economies, which tend to be more reliant on agriculture and have less diversified economies. They are therefore disproportionately affected by the increasing frequency and/ or severity of natural disasters, and also lack the means to mitigate their effects. Exhibit 8 shows the countries we rate shaded according to the degree of susceptibility of their credit quality to the physical effects of climate change. However, insurance penetration in developing countries tends to be relatively low, moderating the risk exposure of insurers that operate there.

Exhibit 8

Susceptibility of Moody's-rated sovereigns' credit quality to the physical effects of climate change



From Moody's publication "Credit profiles of small, agriculture-reliant sovereigns most susceptible to climate change risk". See this document for additional explanatory footnotes and sources.

Source: Moody's Investors Service

Conversely, since insured risk is concentrated in developed economies such as the US, parts of Europe and Japan, insurers in these regions tend to have the greatest direct claims exposure to environmental risk. This has risen due to more frequent and severe natural catastrophe events, as well as more dense coastal construction. A significant portion of this risk is transferred to global reinsurers, which pool risk from across the world and benefit from significant risk diversification.

While geographic diversification moderates exposure to environmental risk, the rising frequency and severity of catastrophic weather events around the world could limit its benefits. Natural catastrophe losses in 2018 were the fourth highest on record, and were also notable for their broad geographic dispersal. Wildfires in California, Typhoon Jebi in Japan, Hurricanes Florence and Michael in the US, and drought-induced wildfires and agricultural losses in Europe were some of the year's main loss events.

Insurers worldwide are exposed to social risks, but the social issues that are important to regulators and the public differ considerably by region. For example, there is significant pressure on European insurers to divest investments in thermal-coal linked assets and to stop insuring companies in this sector. In Asia, insurers are under pressure to reduce their involvement with the palm oil industry, a significant contributor to deforestation, and ultimately climate change.

Social factors also help explain variations in demand for insurance and savings products between countries. Middle-to-high income countries without comprehensive social welfare programs are characterized by increasing demand for retirement and health-related insurance products. This is evident in the very strong markets for private health insurance in the US, Australia and South Africa, for example. In China and Hong Kong, tax incentives offered by the governments are encouraging demand for health and retirement products.

Moody's related publications

» Moody's environmental, social and governance (ESG) webpage

» General Principles for Assessing Environmental, Social and Governance Risks

- » FAQ on the credit impact of hurricanes on US-based issuers
- » Cross-Sector: Frequently asked investor questions about environmental, social and governance issues
- » Social issues can be material to private issuers' credit quality but are not typically the primary driver
- » Environmental Risks – Global: Heat map: 11 sectors with $2.2 trillion debt have elevated environmental risk exposure
- » Sovereigns – Global: Environmental, social and governance risks influence sovereign ratings in multiple ways
- » How demographics will shape labor markets and credit trends
- » Insurance - Europe: Insurers increasingly engaged as ESG risks and opportunities come into focus
- » Life Insurance – US: Sustainable investment strategies focus companies on long-term risks, boost brands
- » P&C Insurance and Reinsurance – Global: Climate change risks outweigh opportunities for P&C (re)insurers

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Endnotes

1 Willis Towers Watson, Global pension assets study 2018

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