MFG ASSET MANAGEMENT

Annual Investor Report 2018

MFG Asset Management Global Sustainable Strategy

www.mfgam.com.au

Dear Investor

While global stocks have set record highs over the past 12 months, we are cautious on the outlook for equity markets and consider that risks are asymmetrical to the downside. Our caution is reflected in the defensive positioning of the MFG Asset Management Global Sustainable strategy with cash at 30 June 2018 representing 18% of the portfolio. Before discussing matters specific to our sustainable investing approach, this letter begins with an excerpt of the philosophical review on our global investment process by our Chief Investment Officer, Hamish Douglass. As this echoes sentiment across the firm, it is worthwhile sharing with current and prospective investors in our Global Sustainable strategy.

Conservative investors sleep well

Hamish Douglass, Chief Investment Officer

Some people might consider that having such a large cash holding exposes investors to underperformance if equity markets rise. We have no fear of missing the tail end of an extended bull market. Renowned investor Sir John Templeton was perhaps best known for saying: "Bull markets are born on pessimism, grown on scepticism, mature on optimism and die on euphoria. The time of maximum pessimism is the best time to buy, and the time of maximum optimism is the best time to sell." ***In our view, only conservative investors sleep well.*** Implicit in conservative investing is the focus on the conservation of capital. As Warren Buffett has said, there are two rules in investing: 1. Don't lose money. 2. Don't forget the first rule.

At MFG Asset Management, we believe in the fiduciary concept of the 'prudent man rule' in managing money for our clients (and ourselves). This rule was conceived in the 19th century when a Massachusetts judge suggested trustees should "observe how men of prudence, discretion and intelligence manage their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income, as well as the probable safety of the capital to be invested".

We have often stated that clients should be aware that we will not be overly concerned if we underperform a market benchmark in the short term. Given our approach is to build a portfolio of a small number of outstanding businesses (which, by definition, is substantially different in composition from any broad equity-market index), the probability of this occurring is a near certainty.

Performance of the MFG Asset Management Global Equity strategy as at 30 June 2018.

Annual compound results (%) per annum			
	Global Equity strategy (gross returns – $US)	Global Equity strategy (net returns – $US)	Performance objective (10% p.a.)
1 year	14.3	13.4	✓
2 years (p.a.)	17.5	16.5	✓
3 years (p.a.)	10.7	9.8	✓
4 years (p.a.)	9.9	9.0	✗
5 years (p.a.)	11.2	10.3	✓
6 years (p.a.)	13.8	12.9	✓
7 years (p.a.)	14.0	13.1	✓
8 years (p.a.)	16.1	15.2	✓
9 years (p.a.)	16.6	15.7	✓
10 years (p.a.)	13.8	12.9	✓
Since inception (% p.a.)	11.9	11.0	✓

Source: MFG Asset Management. Returns are for the Global Equity Composite in USD. Composite (Net) returns are net of fees charged to clients and have been reduced by the amount of the highest fee charged to any institutional client employing that strategy during the period under consideration.

All our investments are made in accordance with our investment philosophy; to invest in outstanding businesses that have attractive underlying business economics because they are protected by sustainable long-term competitive advantages or, in Buffett's words, an "economic moat". In our opinion, investing in terrific businesses at appropriate prices is a low-risk investment style and will produce more certain investment returns over time than many other approaches. Buffett wrote in his 1992 letter to shareholders: "Your goal as an investor should be simply to purchase, at a rational price, a part interest in an easily understood business whose earnings are virtually certain to be materially higher 5, 10 and 20 years from now." This test sounds easy, but it is hard to put into practice as there are only a relatively small number of companies in the world whose earnings are almost certain to grow significantly in coming years. We believe that many companies are entering the most disruptive business environment since the start of the industrial revolution. So now it is even harder to find such businesses. We will clearly need to be on our game in the years ahead. Sir Frank Lowy, the founder of Westfield, once gave me some sage advice on the key to being successful: "Be paranoid"; that is, spend more time on thinking about what can go wrong than what will go right.

Our two investment objectives are clear. First, we seek to deliver very satisfactory investment returns[1] over the medium to long term while minimising the risk of a permanent capital loss. We are happy to be judged on absolute returns over time and our record at minimising the risk of a permanent capital loss. We recognise that some people are fascinated with comparing investment returns over short periods of time with a share-market index, such as the MSCI World Index. If you look at our returns after fees over three years on a rolling monthly basis, which we think is the minimum time frame you should consider when assessing whether or not a manager is adding value over time, our Global Equity strategy has outperformed the MSCI World Index consistently since inception; in fact, more than 90% of the time. This places MFG Asset Management right at the top of its peer group of global equity managers on the basis of consistency of outperformance.

We feel strongly that people cannot retire on 'relative investment returns'. Only by generating investment returns that exceed the rate of inflation by a reasonable margin will investors meaningfully increase their wealth over time. As illustrated below, since inception in July 2007, our Global Equity approach has delivered consistent returns that are well above prevailing levels of inflation.

Our second investment objective is to minimise the risk of permanent capital loss. This aim can be viewed as lowering the number of investment mistakes that result in permanent investment losses and reducing the downside risk in periods when markets fall materially.

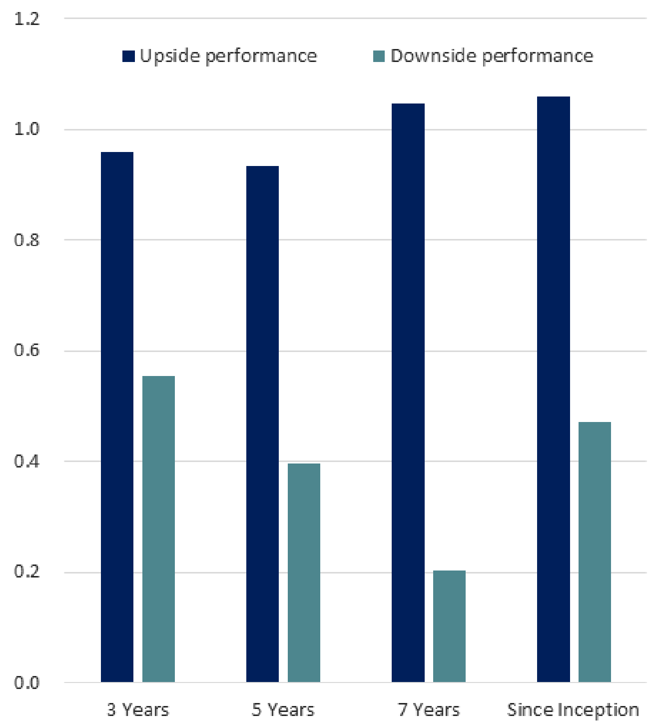
I regard our investment research as 'an inch wide and a mile deep'. We have a large team of talented investment analysts and portfolio managers whose jobs are to undertake detailed fundamental investment research and due diligence on companies and, importantly, to question why our investment case might be wrong. I am proud of the quality of our investment team's research and believe that we have a first-rate 'batting average' in terms of stock selection and minimising our error rate.

The other aspect of capital preservation is to reduce 'downside risk' in periods when markets fall materially – that is to say, to reduce the risk the portfolio might decline as much as, or more than, the market. We seek to construct our investment portfolio with a meaningful margin of safety and with risk characteristics that should enable the portfolio to have materially less downside in the event of a large market correction. Our portfolio is designed to reduce downside risk and aggregation risk (i.e. the risk attached to the aggregation of similar economic, competitive or regulatory risks within a portfolio). We seek to achieve this in three ways, via: an overall cap on the volatility and downside risk of the portfolio (materially less than the market), combining two sub-portfolios (one consisting of defensive high-quality businesses and another comprising higher-growth or cyclical high-quality businesses), and through our permanent and dynamic risk controls. We believe our approach materially reduces the likelihood that our portfolio will fall as much as the stock market in the event of a significant market correction.

I would add one important caveat to our approach: it is almost certain that this built-in 'downside protection' will result in our portfolio lagging a major market rally. We have no concerns that higher risk strategies, such as those heavily weighted to emerging markets or ones holding lower-quality or commodity companies, might outperform our strategy during a bull-market phase of the investment cycle. This is to be expected. We fear some investors are becoming unrealistically obsessed with chasing returns without an appropriate appreciation of the tendency for markets to correct without warning.

The chart to the right sets out the upside and downside performance of the MFG Asset Management Global Equity strategy since inception 11 years ago. The analysis reviews the performance of the market compared with that of our portfolio for all market periods since inception. For example, if in a three-month period the stock market (measured by the MSCI World Index) declined by 5% and our portfolio fell by 2.5% then our portfolio would have a 'downside performance' ratio of 0.5 for this period. We are pleased that our strategy

MFG Asset Management Global Equity strategy's long-term performance in rising and falling markets as at 30 June 2018.



Source: MFG Asset Management. MFG Asset Management Global Equity Composite, which represents the investment strategy, gross in US dollars relative to the MSCI World Net TR Index as at 30 June 2018 using rolling three- month returns. The inception date is 1 July 2007.

[1] The Global Equity strategy seeks a gross return of 10% p.a. through the investment cycle. The Global Sustainable strategy, which is slightly less concentrated, aims to deliver a gross return of 9% through the investment cycle.

has consistently beaten a falling share market. Since inception, the portfolio has captured about 100% of the upside performance of the market while it has only recorded about 50% of the market's decline.

Market outlook

As noted, we are cautious at present and running a defensive portfolio. This is because we face an extraordinary cocktail of circumstances that skews risks to the downside.

- Asset prices are at, or near, record levels

Prices for sovereign, corporate and high-yield bonds and equities are at, or near, record levels thanks to the ultra-low policy interest rates and the massive quantitative-easing programs of the G3 central banks (the US Federal Reserve, the European Central Bank and the Bank of Japan) over the past decade.

- Central banks have commenced quantitative tightening

In response to the strengthening economic environment, the Federal Reserve is raising the cash rate and has commenced a pre-set program to shrink its balance sheet while the European Central Bank has announced that it will cease its asset-buying program by 31 December 2018. The combined impact of announced balance-sheet activities of the Federal Reserve and the European Central Bank will remove liquidity from global markets resulting in a reduction in demand for bonds and other assets by these central banks of about US$1.5 trillion on an annualised basis from October 2017 to the end of December this year. We believe that a change in demand by the central banks of this magnitude is likely to have a meaningful impact on longer-term bond yields by early 2019.

- Late-cycle US fiscal stimulus

In our view, the Federal Reserve's strategy to tighten monetary policy in a smooth and well-foreshadowed manner has been complicated by the large fiscal stimulus being implemented by the Trump administration at the tail end of an extended economic expansion. The tax cuts and additional spending will make a fiscal injection into the US economy of nearly 2% of GDP per annum for the next two years. The US unemployment rate at 4% is near an 18-year low and the US economy has added jobs over the past 93 months, which is the longest such consecutive stretch on record. While there appear to be powerful longer-term secular forces at work that are likely to result in low inflation over the longer term, there is a significant risk that the size and timing of the US fiscal stimulus could trigger a jump in US inflation, in particular from stronger wages growth, over the next year or two. This could be highly problematic for the Federal Reserve and complicate its efforts to engineer a gradual tightening with a soft landing. We cannot think of a similar combination of circumstances in modern history. The cocktail of circumstances could be explosive. The best hope for investors is that either the US tax cuts and extra spending have limited effects on growth and inflation in coming years or the secular forces that have kept inflation low accelerate to offset any inflationary pressures from the fiscal stimulus.

We assess that there are three possible scenarios for markets over the next 12 to 18 months:

- <u>The first scenario is a continued US economic expansion without triggering a material increase in US wages growth or inflation.</u> In these circumstances, we would expect the Federal Reserve to increase short-term interest rates and to shrink its balance sheet broadly in line with current expectations. In these circumstances, it would be reasonable to expect that over the next, say, 18 months the US cash rate would rise to 3% to 3.5% and the 10-year Treasury yield would increase to about 4%. In this scenario, defensive equity assets, longer-term bonds and emerging-market equities are likely to underperform growth assets and economically cyclical assets, and some commodities are likely to outperform driven by the economic expansion. We would place slightly less than a 50% probability on this scenario.

- <u>The second scenario is where the Federal Reserve is forced to act more swiftly and forcefully than expected to counter inflationary forces.</u> It would be reasonable to assume that US longer-term bond yields could jump suddenly and meaningfully (above 4% compared with 2.86% for the US 10-year Treasury bond at the end of June), which could trigger the biggest slump on world share markets since the global financial crisis. **In our view, a 20% to 30% global stock market correction in the next 12 to 18 months is conceivable.** In these circumstances all equities are likely to be affected. We would put a similar probability on this scenario to the first or, in other words, we don't know which of these two scenarios is more likely.

- <u>The third scenario is where an external event occurs that causes the Federal Reserve and the European Central Bank to reverse course and put on hold any further tightening of monetary policy.</u> We believe that this is most likely to occur in circumstances of a significant event and, therefore, this scenario is likely to be negative for share markets. There is a remote possibility of a 'Goldilocks moment' where the central banks stop their plans to tighten money policy, longer-term bond yields fall and equity markets don't fall or even rise.

During the past year we have monitored several other risks for global stocks:

- Trade tensions between the US and its major trading partners
- Uncertainty in Italy

The past 12 months have seen a dramatic increase in international trade tensions. US President Donald Trump has followed through on his demands that the US major trading partners reduce their bilateral trade surpluses and remove what he considers to be ‘unfair’ trade restrictions such as forced technology transfers and unequal tariffs. As the trade negotiations have involved the threat of tariffs on a large slice of exports to the US from major countries including China, Germany, Canada and Mexico, investors are worried about a slowing in global economic growth.

We believe that the most likely outcome is that negotiations will avert a full-scale trade war, and the US and its major trading partners will eventually agree to new trading arrangements. This view is based on an assessment that the US president is probably most inclined to do a deal as no country, including the US, would benefit from a full trade war. This appears to be what the market is pricing. However, there is a risk that we and other investors are misreading President Trump’s intentions; that he intends to fundamentally rewrite the trading relationships with the US major trading partners, and most importantly with China. This means he will not do a short-term deal until there are fundamental changes that would undermine China’s long-term technological strength. China has clearly set out its intention to dominate critical technologies in its ‘Made in China 2025’ development plan. In these circumstances, the risks of a prolonged and deep trade war are higher than we are assessing. The Trump administration has publicly claimed it would have the upper hand in any tariff war with China given the large trade deficit the US has with China. We think that this view is simplistic and naïve. We believe that China will be reluctant to agree to concessions that will hamper its ‘Made in China 2025’ development plan and Beijing has substantial means at its disposal, including devaluing the renminbi and stimulating the domestic Chinese economy via the banking system, that could counteract the damage of higher US tariffs on exports from China. We note that the trade dispute comes at a time when the economy in China appears to be slowing as the government cracks down on the large shadow banking system and the US Federal Reserve tightens monetary policy. Given the uncertainties, caution is warranted.

The past six months have seen rising investor concern on the outlook for the eurozone. The Italian elections in March that took place amid heightened voter concerns about the economy and immigration proved inconclusive, and it took more than two months for Eurosceptic political parties to form a government. During negotiations to form this coalition, it was feared that fresh elections might be needed that could usher in a government that intended to exit the euro. The new coalition government has stated it does not intend to exit the euro. It is more focused on confronting EU members on immigration and increasing government expenditure to help the economy in defiance of eurozone rules.

We think that the most likely outcome is ongoing disagreements between Italy and the eurozone but ultimately that Italy will receive some concessions and remain in the eurozone though any stand-offs during negotiations are likely to result in periods of increased market volatility. Domestic political constraints make such stand-offs likely. Greater sharing of the immigration burden is likely to be agreed but be politically difficult for some EU members such as Germany. Given Italy’s government debt burden (at about 130% of GDP) and the potential for Italy’s debt load to destabilise the eurozone, other euro-using members will be reluctant to allow Italy to substantially increase its budget deficit in the near term in the absence of meaningful microeconomic reforms, which will be politically difficult for the government. The most likely path to an agreement is a period of increased market volatility (particularly for Italian government bond yields) that will force both sides to reach a compromise.

Global Sustainable Equity strategy

Portfolio positioning

Notwithstanding our cautionary outlook, we expect that our portfolio of 28 high-quality businesses should generate a satisfactory return over the medium to long term. In a world where the pace of change is accelerating, many traditional industry structures are being redefined and many previously strong businesses are being weakened or displaced. We seek high-quality businesses with long-term competitive advantages that are well positioned for this changing world.

Our portfolio seeks:

- Non-cyclical defensive investments that are resilient to disruption risks and are attractively priced after allowing for anticipated higher interest rates.
- High-growth investments that are likely to be clear winners from change and secular tailwinds over the next five to 10 years.

The core investment themes in our portfolio at 30 June 2018 were:

- Advertising technology-platform companies (Alphabet, the owner of Google, and Facebook) that represented 13% of the portfolio.
- Enterprise-software companies (Microsoft, Oracle and SAP) that comprised 9% of the portfolio. These companies are deeply integrated within the operations of their business customers, which lowers the risk these customers will switch software vendors. They are benefitting from the transformational growth in cloud computing.
- Quick-service restaurant companies (Starbucks, Yum! Brands and Chipotle) that comprised 9% of the portfolio. We view that these companies have unique longer-term competitive advantages that make their businesses defensive and resilient to disruption.
- Payment-platform companies (Visa, American Express and Mastercard) that represented 11% of the portfolio. These are classic 'network-effect' business models that connect millions of merchants with billions of cardholders. They are the 'rails' upon which global electronic payment systems run.
- An 18% holding in cash (largely held in US dollars).

Top-10 for the Global Sustainable strategy as at 30 June 2018.

Security	Weight (%)
Facebook	6.4
Alphabet	6.2
HCA Healthcare	4.2
Microsoft	4.1
Visa	3.9
Wells Fargo	3.8
Oracle	3.7
Lowe's	3.6
American Express	3.6
Starbucks	3.6
Total top 10	**43.1**
Other	38.6
Cash	18.3
TOTAL	**100**

In seeking to manage our portfolio's exposure to significant global risks discussed earlier, we are mindful of our geographic exposures. We assess geographic exposure based on the sources of revenue for our investments, rather than the simplistic view of simply looking at domicile of listing. We view this approach as rather primitive and disconnected from reality (for example, consider US-listed Alibaba, whose business is mostly in China), particularly when assessing a portfolio such as ours that mainly comprises companies that have substantial businesses all over the world with material exposure to economies and currencies outside their home market. The underlying geographic exposure of our portfolio at 30 June 2018 comprised a 42% exposure to the US, 14% to emerging markets, 19% to Western Europe, 7% to the rest of the world, and 18% in cash.

Performance

Global stocks hit record highs in the 12 months to June 2018 as US companies posted higher-than-expected earnings, the internet giants surged on strong results and upbeat outlooks, the Federal Reserve only tightened US monetary policy in line with market expectations, US Congress slashed the corporate tax rate, and the world's major economies grew in unison for the first time in about a decade. Markets pulled back when the US president imposed import restrictions that could lead to trade wars (especially with China), concerns mounted that US inflation might accelerate enough to prompt the Fed to tighten monetary policy more than expected, and worries rose that regulators might crack down on US technology companies.

The portfolio recorded a gross return of 13.0% for the 12 months (in U.S. dollars). The stocks that contributed the most to the portfolio's return included the investments in Mastercard (+1.9% of the total portfolio return), Visa (+1.8%), Microsoft (+1.5%) and Facebook (+1.1%). Payment networks Mastercard and Visa were beneficiaries of strengthening payment volumes growth that was assisted by synchronous global growth, higher cross-border spending and the growth in ecommerce. These higher volume drivers interacted positively with operating leverage, resulting in higher-than-expected earnings growth and upgraded guidance by both management teams. Microsoft gained after margin expansion in its server software and personal computers businesses drove earnings beyond consensus and guidance. Facebook surged after an exceptionally strong first-quarter result, which showed 49% revenue growth and 63% EPS growth while thoughtful public relations by senior management caused markets to reappraise concerns that privacy issues surrounding user data and other regulatory issues would impede user and advertising growth.

Stocks that lagged included the investments in Starbucks (-0.7%), Kraft Heinz (-0.6%) and CVS Health (-0.6%). Starbucks slid when the coffee chain reduced full-year earnings guidance due to lower same-store sales growth in the US and China and store closures in the US. This news was partially offset by the announcement of a cost-cutting drive and an increase in the company's share-buyback program from US$15 billion to US$25 billion. CVS Health fell on concerns that Amazon could become a threat in the pharmacy market. Amazon in June purchased PillPack, an online pharmacy, and in January announced a venture with Warren Buffett's Berkshire Hathaway and JPMorgan Chase to provide their combined one million workers with "simplified, high-quality and transparent healthcare at reasonable cost". Kraft Heinz tumbled as market focus shifted from its extraordinary ability to reduce costs, and the possibility of a large acquisition, to poor revenue growth, which reflects challenged product exposures. These categories are exposed to the rise of private labels and a growing consumer preference for natural and organic foods.

What does sustainable investing mean to us?

Earlier this year we changed the name of the strategy from the Global Low Carbon strategy to the Global Sustainable strategy because the 'Low Carbon' moniker was too narrow a descriptor for a strategy that also considers business, economic, environmental, social and governance risks. Within the investment community, the risks captured by these last three are often abbreviated to 'ESG'. The reality is that these three letters, 'ESG' can mean different things to different people; some place passionate emphasis on specific areas, particularly within the environmental and social spectrum. What does ESG mean to MFG Asset Management? Simply, we consider all risks that could materially affect investment outcomes. We work to understand and quantify these risks, irrespective of which acronym is used to define risks. Indeed, we clearly disclose this in MFG Asset Management's ESG Policy (that can be found on our website): "As part of the assessment of a company's intrinsic value MFG Asset Management seeks to consider all issues that it is able to identify that may materially affect the investment outcomes for a company."

Given this take on ESG, we see that there are three components that provide 'sustainability' to the Global Sustainable strategy:

i. The strategy's universe is restricted to those companies that are considered 'quality'. The key barometer of quality is that a company must have sustainable competitive advantages. Sustainable competitive advantages allow a company to earn materially in excess of its cost of capital for an extended period. There are no shortages of capital or entrepreneurs in a very competitive world, so companies that can sustain excess returns for multiple decades are special. This strategy will not invest in any company without sustainable competitive advantages, no matter how 'cheap' it is.

ii. The strategy assesses all material ESG risks when considering business risks and agency risks. The assessment undertaken here often interacts with the prior component. For example, does a 'quality' company risk losing its 'social licence' to operate over coming decades? This is much more than an academic question. Consider how the behaviour of some financial companies over the past decade has triggered political, and then regulatory, backlashes, which have eroded excess returns in the industry.

iii. The strategy incorporates a proprietary low-carbon framework, which dramatically reduces investor exposure to the risks of a global economy that is decarbonising. We judge that this ESG risk is the most significant and most systemic – and perhaps the most different. It thus gains the most focus in this letter, especially in relation to the disclosure of these risks.

Before looking at carbon risks, it's worth noting that it is natural for MFG Asset Management to consider these components as essential within our investment process since they will significantly affect the strategy's returns. Issues relating to sustainability often manifest over several, and sometimes many, years. These issues will almost certainly matter, since the strategy's investment time horizon is typically five years and beyond. They are even more pertinent because the strategy runs concentrated portfolio positions, where a maximum 8% is permissible in one stock. As investors with a long-term horizon, investing in quality stocks, it seems eminently sensible to consider all material risks, including ESG ones.

Why are carbon risks different?

We think carbon-related risks deserve special attention from other ESG risks, which is why they are treated as a distinct component. Over the years, many companies will face ESG issues that are specific to them. They might experience a governance issue (management remuneration that does not align with investor interests) or a social issue (employee discrimination). Some might face issues specific to their industry (sugar within foods and drinks, or data privacy). Generally, given their competitive advantages, our companies are well-positioned to deal with ESG issues as they arise, even if cajoling, innovation or regulation are sometimes required to tackle these problems.

Carbon risks differ on two counts. First, technological innovations across the carbon chain are likely to disrupt the world's energy complex and associated industries over the coming decades, irrespective of political pressures or government policies. Further, technological innovations often occur in sharp spurts, rather than in smooth linear progressions, which carries risks for long-term investors. (This was discussed at length in last year's investor letter.) Second, any material warming in climate affects the global economy and populations and can indiscriminately hit most industries. Arguably, this is the most significant known, likely and material multi-decade systemic risk for the global economy and, therefore, investments.

The proprietary low-carbon framework employed by the Global Sustainable strategy greatly reduces carbon risks and, therefore, mitigates the investment impact of the first count. The investment risks arising from the second count will likely emerge over several decades, interdependent with societal actions to reduce man-made causes of climate change. This investment risk is much harder to mitigate. Long-term investors, and in particular asset owners who have to cater for long-term liabilities, cannot ignore this issue even though some people estimate that the most dire damage of climate change won't manifest itself until mid-century. All this seems such a long time away. But then consider that 30-year olds today would be planning to retire around 2050. The value of their retirement savings, and their financial resources over the following three decades or so of retirement, will be enormously influenced by climate risks and how the world has managed them.

For those investors interested, in the annexure to this letter we explore an emerging positive force that should increasingly enable companies, regulators, investors and asset owners to better understand and manage carbon and climate-related investment risks.

Domenico Giuliano

Deputy Chief Investment Officer and Portfolio Manager

26 July 2018

ANNEXURE

Climate risk disclosure and management

The long time frames, the myriad uncertainties, and deficiencies in company reporting and data pose challenges for long-term investors when assessing the climate-specific risks and strategies faced by companies. However, powerful forces are pressuring companies to consider their climate risks and how to disclose those material risks to investors in an appropriate fashion. As dry a topic as this sounds, these disclosures will have profound effects over the medium to long term. Investors' assessment of risks and valuation, capital flows, company strategy, executive compensation, products, services and investment spending will all be affected.

Detailed disclosure framework

While these powerful forces include growing legal, legislative and regulatory obligations related to climate change, it's worth exploring one of the most powerful forces for a new global climate-related risks disclosure regime and some of the fundamental challenges ahead for that regime, its acceptance and usefulness to investors like us.

I'm referring to the Task Force on Climate-related Financial Disclosures (TCFD), established by the G20 Financial Stability Board, and chaired by Michael Bloomberg. The TCFD was established following the conclusion of the Paris Agreement in December of 2015, recognising that the decarbonisation of the global economy and climate risks posed systemic risks to the financial system and wider global economy. The TCFD's objective is to review how the financial sector could take account of climate-related issues. A key aim of the TCFD is to enable investors, and other stakeholders, to better understand "the concentrations of carbon-related assets in the financial sector and the financial system's exposures to climate-related risks".

The TCFD's recommendations were delivered in 2017 in a thoughtful, comprehensive and lucid report. These recommendations or "core elements" around governance, strategy, risk management and metrics and targets are summarised in the graphic below. This summary is but a taste of the report, which goes into significant detail on the four elements of disclosure along with additional technical guidance.

Core elements of recommended climate-related financial disclosures

Governance
The organization's governance around climate-related risks and opportunities

Strategy
The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

Risk Management
The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets
The metrics and targets used to assess and manage relevant climate-related risks and opportunities

Source: Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures, June 2017.

This disclosure framework is currently voluntary. Nonetheless, it is being recommended as a sensible framework by various regulators, which no doubt will prompt adoption by regulated entities, particularly financial services companies. The framework has been backed by many large global and domestic companies, including large banks. These companies are seeking to implement the disclosures within their abilities to do so.

The report provides a useful framework and common language by which investors and stakeholders can classify and discuss climate-related risks. Such risks can be classified in two ways: 'transition risks' and 'physical risks', as summarised in the following table. Transition risks are best thought of as those risks companies face as the global economy decarbonises, whereas physical risks are those arising from changes in climate.

Transition risks	Physical risks
Policy and legal • Carbon pricing structures • Reporting obligations • Regulation of existing products and services • Exposure to litigation	Acute • Increased severity and frequency of extreme weather events like cyclones and floods
Technology • Substitution of existing products and services with lower emissions options • Unsuccessful investment in new technologies • Costs to transition to lower emissions technology	Chronic • Changes to precipitation patterns and extreme variability in weather patterns • Rising mean temperatures • Rising sea levels
Market • Changing consumer behaviour • Uncertainty in market signals • Increased cost of raw materials	-
Reputation • Shifts in consumer preferences • Stigmatisation of sector • Increased stakeholder concern or negative stakeholder feedback	-

Source: Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures, June 2017.

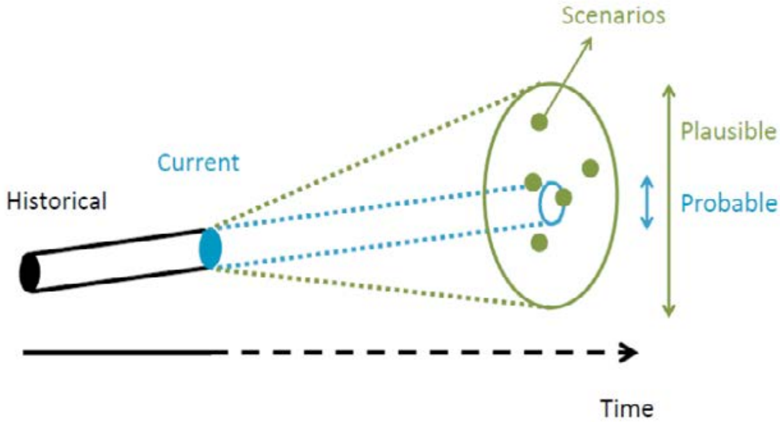
Scenario analysis – Paths to <2°C

One of the most profound new areas of disclosure encouraged by the TCFD is a component of the 'strategy core element' – the use of scenario analysis to better understand "the resilience of the organisation's strategy". Importantly, scenario analysis is not a forecast or prediction. Companies are encouraged to undertake several scenario analyses, including a "2°C or lower scenario". The intent of this specific scenario is to provide a common reference point that is generally aligned with the Paris Agreement's aim "to keep a global temperature rise this century well below 2 degrees Celsius and to drive efforts to limit the temperature increase even further to 1.5 degrees Celsius above pre-industrial levels".

What are TCFD's scenario analyses? Briefly, they are a detailed and complex review of how a business could be affected, including its adaption, to a specific future world environment. For instance, consider a hypothetical coal-mining mining company, called Company X. The management of Company X might analyse its business under a 2°C scenario. To do so, it could use one of the existing transition scenarios published by the International Energy Agency (IEA). The IEA transition scenario will have a detailed top-down pathway for how the globe can achieve 2°C that includes assumptions around carbon pricing, the phasing out of fossil fuel subsidies, measures targeting renewable energy, coal usage in global energy, and energy-efficiency measures, etc. Company X's management can then layer IEA's assumptions around its business. Company X could also examine 1.5°C and 4°C scenarios, which would have different assumptions. These scenarios then allow Company X to estimate effects on its revenues, costs, assets, etc., and so provide powerful information that permits management to strategise on how to mitigate adverse impacts, and perhaps benefit from opportunities through innovation or new products and services. Company X would then disclose certain items from the scenario analyses to investors in their annual reporting.

While this is an abbreviated description of the TCFD scenario analysis process, it shows how powerful a tool it can be for management, investors and other stakeholders in better understanding climate-related risks within a business through a longer-term lens. However, we are in the early days for the adoption of TCFD's scenario analysis. Much work needs to be

Core elements of recommended climate-related financial disclosures



Source: http://scenariohub.net/about

done to enable companies to undertake scenario analyses in a systematic fashion and for the results of the work to be credible and useful to all stakeholders. To that end, over the past year, we were proud to co-sponsor research on scenario analyses by the Centre for Policy Development (CPD), one of Australia's leading independent and non-partisan policy institutes. CPD's research papers provide excellent information for companies to consider when undertaking scenario analyses. Those interested can view CPD's research papers at the following links:

https://cpd.org.au/wp-content/uploads/2017/11/Climate-horizons-CPD-discussion-paper-November-2017.pdf

https://cpd.org.au/wp-content/uploads/2018/06/Climate-Horizons-report-2018.pdf

Fundamental challenges to disclosure and management

We are strong supporters of the significant value that TCFD scenario analyses can provide to all stakeholders to better assess climate-related risks and opportunities. However, there are several significant challenges that must be overcome for the TCFD's ambition that disclosures enable "comparability" between companies and are "decision useful" for stakeholders, including investors.

Comparability of disclosures

The TCFD recommendations permit significant flexibility in the narrative management chooses to define a certain scenario, with the caveat that the narrative is plausible. For example, the narrative in the earlier Company X example entailed examining a 2°C scenario using the IEA's transition scenario along with company-specific assumptions, perhaps around demand, stranded assets, management strategy to diversify into other energy assets, etc. Perhaps the narrative also assumed that carbon capture and storage (CCS) technology would become available and economic by 2025 and that would permit Company X's sales to increase and that assets won't be stranded. Is that a plausible assumption and who makes that determination?

What if Company Y, with a similar business to Company X, undertakes a similar scenario analysis with the only difference in narrative being that CCS only becomes economic in 2040? Company Y's conclusions and disclosures around the effect on the business would be quite different from those of Company X.

How does an investor reasonably compare the disclosures between Company X and Company Y and consider the disclosure "decision useful"? This example is purposely simple but imagine how difficult it will be for investors to wade through scores of similar companies within an industry, each of which has designed different narratives bespoke to their companies and views on technology progression, markets and global politics.

In the example above, two additional risks have been alluded to. First, there is the risk that scenario narratives are overly complex and overly bespoke, to the extent that the scenario analysis turns into an impregnable black box that loses credibility for those using TCFD disclosures. Second, there is the risk that managements dilute their strategic challenges by assuming technological innovation, which serves as a 'get-out-of-jail-free' card. It seems reasonable that while innovation might be explored in plausible scenarios, the more probable scenarios should use existing technologies, with an allowance for a decreasing cost curve (e.g., solar photovoltaic cells, which are an existing technology with a long-standing trend of declining costs).

Hopefully, in coming years, industry participants will determine a reasonable and tight range of narratives pertinent to their industry, which will then provide a greater degree of comparability between companies in the same industry. There will always be room for companies to explore 'off-piste' scenarios examining more unconventional narratives.

The cost of success and failure

The TCFD's "2°C or lower scenario" is intended to provide a common reference point that aligns to the Paris Agreement. This is a sensible scenario analysis for all companies to undertake. It will identify and assist those companies with the greatest challenges in achieving the Paris Agreement's aspirations by forewarning managements, informing investors and preparing policymakers.

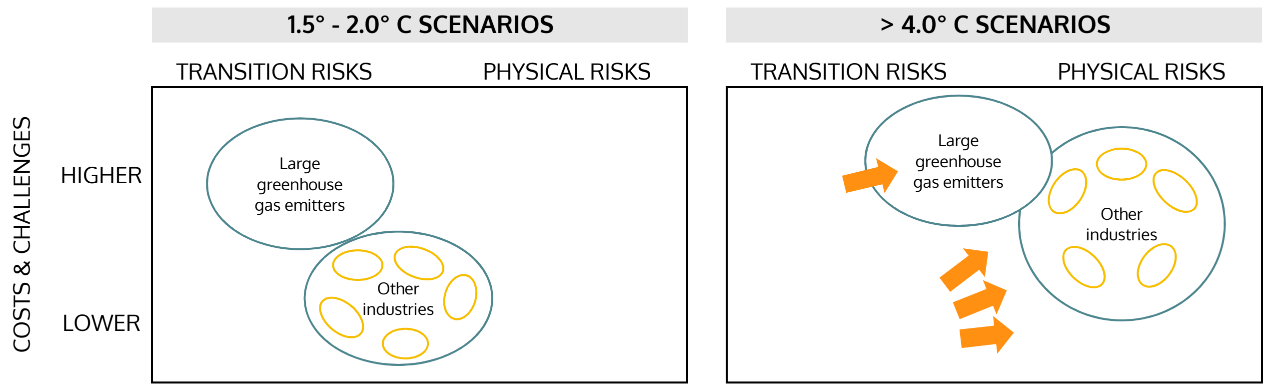
An obvious outcome for the "2°C or lower scenario" is that material disclosures on costs and challenges will centre on those industries that emit the greatest amount of greenhouse gases: fossil fuels, power utilities, automotive, steel, cement, aviation, and shipping, etc. These industries will be those most vulnerable to transition risks, as will suppliers to these industries. However, this presents a lopsided and incomplete picture to long-term asset owners, society and policymakers. This picture misses the net benefit to other industries that would have their costs and challenges greatly reduced if the world were to succeed in achieving its Paris Agreement ambitions.

This point is perhaps best illustrated if the world were to fail in its Paris Agreement ambitions. Failure, resulting in higher temperatures, means significantly higher physical risks, with challenges and costs then pivoting towards all industries, not just large greenhouse-gas-emitting industries. Undertaking scenario analyses that examine the costs of failure are important in preparing businesses for worse-case outcomes. It would provide regular evaluations of the costs of failing to meet the Paris Agreement to society, policymakers and ideologues over the course of this multi-decade challenge for the globe.

Perhaps another useful common reference point might be a 4°C scenario, where all companies consider what failure of the Paris Agreement means for their businesses. An important difficulty in the ability for all companies to comprehensively consider a 4°C scenario is that detailed standard physical scenarios[1] are not available to the degree of detail required by many companies, although much work is being done to develop these at global and national levels. Additional modelling difficulty arises from the likely severe economic, social and political upheaval arising should the Paris Agreement fail. Nonetheless, lack of consideration of these factors in scenario analysis could lead to conclusions that defy common sense. For example, an early adopter of TCFD, a large multinational with a consumer-focused business that has a large emerging-markets presence concludes in its 2017 annual report that its 4°C scenario would not require material changes to its business model and that it would have small effects on sales and manufacturing, with the largest impact being on its cost of raw materials and transportation. This conclusion seems too optimistic, given that emerging markets are expected to bear the brunt of climate-change risks and damage. Is it reasonable for the company to conclude there would be little change to sales, when this multinational's largest market exposures are to those countries most exposed to climate risks?

Another simple example, using a hypothetical bank, helps illustrate the risk of a lopsided picture if higher temperature scenarios are not examined. Consider a bank reviewing its loans for climate risks under a 1.5°C scenario. It would be a straightforward matter of reviewing its loans for companies that are high greenhouse-gas emitters and then working with them to understand their transition strategies, risks and costs. The bank might have risks in the loans to consumers; for instance, loans extended to areas linked to greenhouse-gas jobs. For most large diversified banks, these risks should be manageable. On the other hand, consider a 4°C scenario, which has a narrative reflecting an ineffective emissions policy, including little change for high greenhouse-gas emitters. In this instance there might be little, if any, costs from the commercial loans associated with those high greenhouse-gas emitters. On the other hand, many consumer loans could be threatened, including those for high-value property that sit within a few metres of sea level (coastal prestige property, storm surges into downtowns, etc.), property close to forests and in hurricane zones. Their commercial loans linked to these areas would be vulnerable; for example, loans for tourism businesses. There would also be wide-ranging effects across the entire commercial book to the extent that higher temperatures stifle economic growth. The totality of these risks would likely be much larger than those under the 1.5°C scenario and much harder to manage. Clearly, extending this example across all countries, industries and companies would provide a far more complete picture to policymakers, investors and asset owners of the greater risks and costs of inaction and not just give weight to the costs of action.

Costs of failure are more severe and widespread



Source: MFG Asset Management

For higher temperature scenarios, it is crucial that we be wary of capabilities in forecasting the consequences of much higher temperatures, as the science is still developing. There may well be tipping points that lead to step changes in weather outcomes; for example, temperature rises triggering the melting of permafrost, which would release vast amounts of CO2, which would then cascade into other climate effects. The worst fears of climate scientists are that new weather equilibria are then reached, and those changes may not be reversible by man.

[1] Physical scenarios focus on the impacts on the physical environment of climate change, including temperature, precipitation, sea-levels and wind, unlike transition scenarios which examine regulatory (e.g. carbon pricing), economic and technology changes, amongst others.

Lastly, it is important to understand that even the 1.5-2°C temperature increase targeted under the Paris Agreement will come with material physical risks and should not simply be dismissed as no or low cost by companies.

Aligning management with the long term

In our view, one of the greatest challenges for a faithful adoption of TCFD's recommendations is the widespread lack of alignment between executive remuneration and long-term business outcomes. The challenges of climate change and the time spans being assessed by scenario analysis will be multi-decade, whereas executive remuneration is mostly paid out over the short term. Therefore, there are often significant incentives for management teams to weaken the assumptions underlying scenario analyses and to soften their conclusions. This could lead to strategic responses and investment programs relating to TCFD disclosures that do not detract from executive remuneration (i.e. underinvesting in climate-related resilience), but do detract from a company's resilience to climate-related risks over the longer term, ultimately costing long-term asset owners greatly.

Clearly, board directors will need to become conversant with the detail of TCFD disclosures, particularly scenario analysis. They will need to be able to test management's chosen scenarios and their underlying assumptions. Further, boards' compensation committees will need to align remuneration structures to properly reward long-term strategy and investments to deal with climate risk, even though these might come with shorter-term costs.

As the TCFD process is refined, it is likely that regulators, particularly in financial services and essential infrastructure, will come to implement elements of TCFD as mandatory. This outcome would then be a significant factor that boards would need to consider with great care, as would management teams.

Remain engaged and conversant

We are only within the first year of publication of the TCFD's recommendations. Already there has been much excellent work by myriad organisations, consultants, investors and modelling experts that aims to breathe practical life into the recommendations. Many large companies and financial institutions are committed to the TCFD's recommendations and many regulators around the globe have given their support. The next few years will probably bring an explosion of different approaches to TCFD that, over the years, will then hopefully coalesce into more standardised disclosure that is "comparable" and "decision useful".

The coalescing process will not be a spectator sport. It is incumbent upon long-term investors like us, and particularly for long-term asset owners, to provide vigorous feedback to boards, executive teams and regulators on which of their TCFD disclosures work, and which do not. Success in this endeavour will matter greatly to all those 30-somethings who are saving to retire mid-century and then enjoy several comfortable decades thereafter.

Domenico Giuliano

Deputy Chief Investment Officer and Portfolio Manager

26 July 2018

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To achieve investment objectives, the composite may also use derivative financial instruments including, but not limited to, options, swaps, futures and forwards. Derivatives are subject to the risk of changes in the market price of the underlying securities instruments, and the risk of the loss due to changes in interest rates. The use of certain derivatives may have a leveraging effect, which may increase the volatility of the composite and may reduce its returns.

Gross composite returns (includes the reinvestment of dividends and capital gain distributions), are net of transaction costs, withholding taxes and direct expenses, but before management fees, custody and other indirect expenses. Net composite returns are prepared by subtracting from the monthly gross returns one-twelfth of the maximum applicable to institutional investors (0.80% p.a.). A list of composites and descriptions, as well as policies for valuing investments, calculating performance, and preparing compliant presentations are available upon request by emailing data@ magellangroup.com.au

The representative portfolio is an account in the composite that closely reflects the portfolio management style of the strategy. Performance is not a consideration in the selection of the representative portfolio. The characteristics of the representative portfolio may differ from those of the composite and of the other accounts in the composite. Information regarding the representative portfolio and the other accounts in the composite is available upon request.

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