M&G Investments

Quarter 2 2022

Consider this

Uncovering the Egypt opportunity page 18

Contents

Chris Sickle
Chief Executive Officer

Letter from the CEO

After the strong investment returns produced by the global recovery from Covid-19, the developments of the past quarter have proven how volatile financial markets can be, as well as the increasing impact of globalisation. As an excellent example from the second quarter (Q2) of 2022, US Treasuries, considered a global safe-haven, experienced substantial losses as investor sentiment rapidly turned negative, the highly uncertain conditions provoking a confluence of concerns over higher inflation and interest rates, as well as slower growth.

Investor pessimism and risk aversion escalated notably during Q2, as steep interest rate hikes in the US and strict Chinese Covid-19 lockdowns, as well as the ongoing destructive Russia-Ukraine war, led to downward revisions in economic growth expectations for the world's major economies. Further rises in energy and food prices also led to more speculation over extended inflationary pressures and stagflation and/or recession, even as other commodity prices lost ground. This combination of factors resulted in losses across most financial markets – both equities and bonds – giving investors nowhere to hide apart from cash investments, and marking the S&P 500's worst performance for the first six months of the year since 1970 (down 20%).

South African markets were less insulated from the global inflation and growth concerns than the previous quarter amid the fall in commodity prices and as economists predicted more aggressive local interest rate hikes ahead, extending further over the next two years, plus even slower growth ahead. Stage 4-6 loadshedding also weighed on growth prospects. However, local bond and equity losses were somewhat less severe than developed markets, more in line with those in other emerging markets. Finally, the rand weakened notably against the US dollar and other major global currencies, which would have enhanced quarterly returns from foreign-currency investments. Details on Q2 2022 market performance and our investment views are available in our latest **Market Observations** report from CIO David Knee.

M&G portfolio performance

Against this backdrop, on a relative basis our funds generally continued to deliver robust excess returns, falling less than their benchmarks or peers during the quarter. This was driven in the main by very strong performance from South African equity stock selection, and more specifically from two primary sources: An underweight exposure to basic materials in favour of oil and chemicals; and second, an increased allocation to Naspers, where an announcement of share buybacks sent the share prices of Naspers and Prosus soaring just before quarter-end. Naspers returned over 40% in the quarter.

At the same time, our global asset allocation in our multi-asset funds also continued to help protect the downside for client returns to some extent, given our continued preference for global cash assets compared to global equities and bonds.

However, the negative absolute returns from almost all assets, local and global (except cash), coupled with the acceleration in inflation from higher food and energy prices impacted negatively on our funds targeting inflation-plus returns.

Global allocations and global asset choices

During the quarter we engaged with many of our clients, both institutional and individual, on our views on the optimal strategic offshore allocation for portfolios with different investment objectives. This followed the change in the Regulation 28 offshore investment limit earlier this year to 45% from 30%. We hosted a very well-attended webinar on this topic, in which Portfolio Manager Sandile Malinga presented the findings of our latest in-depth asset allocation research. We also held numerous in-person engagements with many of our larger clients discussing this. The key message was that, for our own South African Balanced portfolios, for example, our research has shown that the optimal longer-term offshore allocation is approximately 25% -- lower than what some may have predicted. You can read more details about our findings in this edition of **Table Talk**.

This is not to downplay the role of global exposure for our clients. In fact, it is more important than ever for investors to get both their total global allocation and the underlying global holdings right. The right underlying holdings were yet another significant focus for us during the quarter in terms of which global investments we believe are currently most attractive for our clients. We hosted many of our top local clients at a day-long, in-person event at our M&G Investments offices in London in June, where six of our global portfolio managers took to the stage to share our latest views on such diverse topics as: the global macroeconomic outlook, global fixed income, sustainable investing, listed infrastructure, Japanese equities and using artificial intelligence. Clients came away with a deeper understanding of the current forces at play in global financial markets and our latest positioning across our range of M&G Global Funds, among other subjects.

We plan to bring you more of these global events and insights, both in person and online, as the decisions around global investing become increasingly complex and important for South African investors. This past quarter's market developments have certainly demonstrated this.

M&G High Yield Bond Fund changes to M&G Bond Fund

Also during Q2, we received approval from the Financial Sector Conduct Authority (FSCA) to change the name of the M&G High Yield Bond Fund to the M&G Bond Fund. While the fund's investment objective and mandate haven't changed, the new name is a more accurate descriptor, resulting from evolving conditions in the local bond market. Gareth Bern, our Head of Fixed Income, explains more about this change and the market developments in our **SA Bond update**.

CSI developments

Here I'd like to provide an update on some of our Corporate Social Investment (CSI) initiatives, given how much has happened in recent months. We believe that education is fundamental in alleviating poverty and transforming communities in our country -- hence all of our CSI programmes have education at their core.

First, although our time with the South African Education Project (SAEP) has come to an end, I'm proud to inform you that the refurbishment of the three informal day-care centres in Philippi

Township we helped to finance has been successfully completed. They now have the necessary infrastructure to become legally registered Early Childhood Development centres, and therefore able to receive financial support from government. We also helped to provide the principals and staff of these centres with training.

Replacing SAEP as our flagship beneficiary is the South African Medical and Education (SAME) Foundation, an NGO that works with primary and secondary schools across South Africa. Following the devastating floods that struck parts of Kwa-Zulu Natal, the SAME Foundation embarked on a disaster relief campaign to help repair certain schools identified by the Department of Basic Education. Here we donated desks to the value of R600,000 which will directly benefit just under 2,000 children in the area.

At the same time, we have extended our long-standing partnership with LEAP Science and Maths Schools. The organisation offers free education to students from high-need communities, who have mathematics, physical science and English as mandatory subjects. This year, we donated R300,000 towards the organisation's Gauteng operations, covering teaching, tuition fees, educational material, rent of school properties, etc.).

For the LifeMatters Foundation, we were able to contribute R300,000 towards their Academic Portfolio, which provides literacy and numeracy intervention to under-performing Grade 2 and 3 learners. The donation fully funded a learning centre in Capricorn outside Cape Town, with the balance split across several schools in the Western Cape.

A final existing beneficiary of ours is Fun Learning for Youth (FLY), a non-profit organisation providing mathematics tutoring to secondary school learners in underprivileged communities. This year we committed just over R300,000 for the tuition, board and living expenses of five university learners who are studying towards their undergraduate and post-graduate degrees.

Managing your investments

Given the opposing forces at work in global financial markets, the past quarter has yet again been one of the most difficult periods in recent memory for investment managers, particularly in global fixed income assets. In hindsight it is clear that many investors underestimated the seriousness of the impacts caused by the extended, unprecedented wave of production shutdowns and supply chain dislocations under the Coronavirus crisis, exacerbated by the inflationary pressures of the Russia-Ukraine war and its sanctions. Our articles on the **semiconductor industry** and **Resources sector** in this edition of the magazine bring more perspective to these disruptions.

Amid the current uncertainty and high levels of negative daily "noise" in financial markets, I would like to urge clients not to sell or switch their investments at such cheap prices and consequently lock in losses. We have managed these conditions on far too many occasions, sadly, and will not react by panicking. Instead, we will continue to apply our tried and tested investment philosophy and process. We promise to remain true to what we know best, which is to value companies according to the known facts and carefully construct and manage our client portfolios with both the downside risks and upside return potential in mind.

The good news is that, in our view, SA government bonds offer excellent value for income investors, and for higher-risk investors, the JSE has many well-managed SA companies with very attractive valuations to choose from. In this higher-risk environment, apart from attractive valuations, we also prefer to hold those stocks with defensive qualities such as sustainable earnings and strong balance sheets, and those with the proven ability to cope well with inflation. We believe our portfolios are still well-positioned to capture the returns on offer as sentiment improves; they are still on track to deliver to their investment objectives.

Sincerely,

Chris Sickle

Chris joined M&G Investments in 2019 as Chief Financial Officer and took over from Bernard Fick as Chief Executive Officer in October 2021. He is primarily responsible for all aspects of M&G Investments Southern Africa's operations, including Namibia. With over 22 years of asset management experience, Chris previously worked for Ernst & Young (EY) as the Regional Managing Partner in the Western Cape and was a member of the EY Africa Executive Board. His qualifications include: B.Com Accounting (University of the Western Cape); B.Acc.Sc (Hons) (University of South Africa); Chartered Accountant (SA).

Pieter Hugo
Chief Client and Distribution Officer

Table Talk

Key take-aways

- Our research indicates that the optimal long-term (strategic) allocation to offshore assets of our investor portfolios is approximately 25%, given their risk and return characteristics and how they interact with local SA assets.
- This strategic allocation needs to be actively managed and adjusted in the short term to reflect ongoing changes in asset valuations (tactical asset allocation).
- Simply because offshore assets can now comprise 45% of an investor's retirement portfolio doesn't mean that the full amount should be allocated.

Q **I heard that the government relaxed the offshore limits in Regulation 28 by allowing up to 45% of retirement portfolios to be invested offshore. Does that mean M&G Investments will be increasing the offshore exposure in its multi-asset portfolios?**

A Great question, and one that many investors have enquired about following the announcement. The answer is much more nuanced than you might think.

When determining the optimal offshore exposure for each of our multi-asset portfolios, it's important to understand the role that offshore assets play in South African multi-asset portfolios, which is both to enhance investment returns and to provide much-needed protection against the numerous risks inherent to emerging market economies such as our own.

At M&G Investments, offshore assets have always been core to our portfolios, serving as key contributors to improving our clients' investment outcomes. We were therefore very pleased when the announcement was made. It represents a significant increase from the previous 30% maximum and allows substantial additional freedom in constructing investment portfolios.

Risk and return: Determining optimal offshore allocations

One of the key roles we perform is to determine the optimal mix of offshore and local assets for each of our portfolios, given that particular portfolio's investment objectives. By assessing the risk and return characteristics across local and offshore assets, and the interplay between them, we aim to construct a portfolio comprising the optimal mix of assets that will enable us to consistently deliver on each portfolio's investment objectives.

Given that offshore asset values are translated into rands within rand-denominated South African portfolios, the ever-changing exchange rate of the rand can have a substantial impact on SA investors' outcomes. Therefore one must have a deep understanding of the potential extra returns and risks that they can add to a portfolio, and then determine whether more offshore exposure (and how much to allocate to each offshore asset class) would help create an optimal portfolio.

Regarding returns, offshore assets provide local investors with access to regions, sectors and industries underrepresented on the JSE – a very valuable, broad and more diverse opportunity set from which to deliver returns. The MSCI All Country World Index (ACWI), the most common benchmark for global equities, is made up of over 8,000 stocks, giving us an exceptionally wide opportunity set to choose from in order to deliver returns for our clients.

In terms of risk, offshore assets are very useful in balancing the unique risks embedded in South African assets, especially within growth assets like equities and, to a lesser extent, property and bonds. They help lower risk by reducing portfolio concentration and exposure to the macro and geopolitical risks that South Africa is exposed to, including the impact thereof on the rand. For example, global bonds (especially US Treasuries) have historically provided good protection to balance out the risk of holding local equities.

Meanwhile, history has shown that the expected returns available from most local assets are meaningfully higher than those from their corresponding offshore equivalents, on a long-term “through-the-cycle” perspective. This is due to the inherently higher risk prevalent in the SA market compared to most developed markets, since investors demand higher returns for holding higher-risk assets like our equities and bonds.

We believe an optimal strategic offshore allocation is around 25%

Our most recent research has shown that for our balanced funds and other mandates aiming for returns of between CPI+4%-7%, the optimal neutral allocation is approximately 25% to offshore assets in total. For more conservative multi-asset portfolios, targeting returns of CPI+3%, for example, we found that the optimal neutral asset allocation is somewhat less, at about 20% in offshore assets.

While most investors focus on the total offshore allocation, the mix of offshore assets (equities, bonds, property, cash, etc.) is just as important to consider in order to achieve an optimal portfolio, especially as one increases the total offshore component of a portfolio.

Increased scope for alpha and TAA

While many investors may consider this 25% strategic asset allocation to offshore assets lower than expected, our tactical asset allocation (TAA) process is a critical contributor to overall investment outcomes. We actively adjust asset class allocations above and below their neutral allocations over the shorter-term as valuations change and investment opportunities present themselves. So, depending on the market opportunities available, the offshore allocations within our portfolios could deviate from the SAA level at any given time.

Currently, in our view South African equities and bonds are significantly cheaper than their foreign counterparts, and we're therefore tactically overweight South African equity and bonds relative to offshore equity and bonds. The current offshore weighting in most of our funds is therefore below 25%. However, this could change very rapidly as we respond to changes in valuations.

Before the increase in the Regulation 28 limits, we weren't able to go meaningfully overweight offshore assets to generate asset allocation alpha if we found offshore valuations attractive – going underweight was really the only feasible option. However, we are now able to go much further overweight, which will greatly assist us in generating alpha. In addition, the increased limit gives us more freedom to implement currency hedges, for example, one of the important tools we use to manage a portfolio in rands.

Both of these enhancements will assist us in generating more alpha for our clients. For now, however, we have not seen a need to move more funds offshore to implement this higher limit, given that we are comfortable with our current allocations based on relative asset class valuations.

Pieter joined M&G Investments in 2015 as Managing Director of M&G Investments Unit Trusts and Head of Retail Business. In 2019 he was appointed as Chief Client & Distribution Officer. With 23 years of industry experience, Pieter previously worked for one of the country's largest financial services groups in a range of senior management positions. He holds a B.Comm (Maths) degree from Stellenbosch University, and is a Fellow of the Institute of Actuaries (UK) and the Actuarial Society of South Africa. He completed the General Management Program at Harvard Business School in 2010 and during 2020 completed a course in Behavioral Finance from Duke University.

Analysis

Ielhaam Ismail
Equity Analyst

The Egypt opportunity uncovered

Key take-aways

- During Covid-19 and in its aftermath, valuations of Egyptian stocks have become cheap as risk aversion has caused share prices to fall even as company earnings have remained relatively stable.
- Although Egyptian inflation is rising, we believe there are high-quality companies with the experience and earnings resiliency to navigate this environment well.
- Our portfolio of Egyptian equities comprises companies with the ability to price up their goods and services in periods of high inflation; companies with a US dollar earnings base; and companies with good cash-flow generation ability and strong balance sheets.

The M&G Investments Africa team recently spent some time on the ground in Egypt, meeting with management teams and visiting the facilities of various companies listed on The Egyptian Exchange to gain a deeper understanding of the investment opportunities available for clients of the M&G Africa Equity Fund. Here we share with you why we believe Egypt could offer investors with a relatively high risk appetite the chance to add some high-quality companies to their portfolios at attractive valuations.

Our rigorous process of in-depth fundamental analysis involves engaging directly with senior company management, relevant industry participants, and in the case of our investments in Africa, country visits that allow us to get a first-hand sense of what is happening on the ground. On this week-long trip, we spoke to management teams across a broad range of industries and visited several operating facilities. This supports our investment philosophy of making decisions based on known facts.

Our visit happened to coincide with the announcement of a devaluation of the local currency and an interest rate hike, and we were able to engage management teams and local analysts on the impacts of these events and the inflationary pressures we have been seeing both globally and in the local market.

A decoupling of the market vs fundamentals

Before the trip and in months subsequent to the onset of the Coronavirus pandemic it had become clear that the Egyptian stock market had dislocated from the fundamentals - stock prices, representing the market's view of the value of companies, and earnings, representing the underlying fundamental driver of a company's value, were diverging.

Equity outflows were significant during the initial stages of the pandemic. High yields offered on local bonds, to attract foreign investment, were providing very attractive returns relative to equity. During this period of outflows, the earnings base of stocks listed on The Egyptian Exchange was not significantly impacted; in fact, earnings proved to be relatively stable. Yet market prices fell substantially. Graph 1 shows the price and 12-month forward US dollar earnings estimates over the past 10 years for the primary Egyptian index – the EXG30 representing the top 30 companies – where we can see that the traded value of the market had decoupled from the earnings of the market in early 2020. Since those initial pandemic months, that valuation gap has continued to widen such that the market is currently trading on a 6.0X price/earnings (P/E) multiple, versus its 10-year average of around 9.0X. In our view this represents a very attractive valuation.

Graph 1: Egyptian stock valuation gap is attractive

Source: Bloomberg, 14 June 2012 – 13 June 2022

The risk of inflation

Global supply chain issues and a spike in global commodity prices driven by the Russia-Ukraine conflict are currently driving inflationary pressures in the Egyptian economy and globally. This inflationary pressure creates uncertainty around economic growth and the near-term earnings potential of the companies we invest in. If we look at the earnings performance of the EGX30 in previous high-inflation periods, it is evident that the earnings base of companies listed on the exchange is quite resilient. In September 2016, the Egyptian pound (EGP) depreciated from EGP9 per US dollar to EGP18, which resulted in inflation peaking at around 30% in July 2017, and then subsequently moderating to the high-teens in 2018. Despite this massive shock, the earnings base of the EGX30 recovered steadily in USD terms. Consumption has helped to underpin corporate earnings, proving to be relatively inelastic in previous instances of high inflation. At the time of our visit in March 2022, the Egyptian pound was devalued by 15%, and we are presently seeing inflation at around 13%. Many management teams we engaged with reassured us of their ability to navigate this environment.

Our preference for quality

Within the investible universe open to the M&G African Equity Fund, we have a preference for the higher-quality names: companies with the ability to price up their goods and services in periods of high inflation; companies with a US dollar earnings base; and companies with good cash-flow generation ability and strong balance sheets -- i.e. companies that can withstand the challenging environment better. Return on equity is one measure of quality we pay attention to, and on balance the stocks we invest in generate a return on equity higher than the market average. We believe that our portfolio is therefore able to show better resilience than the broader market.

One such quality stock is Eastern Company, Egypt's monopoly cigarette manufacturer. Eastern Company produces their own cigarette brands (with a 75% market share) and roll cigarettes for international players under toll manufacturing agreements (25%

market share). The government has recently issued a second licence for cigarette manufacturing in Egypt; Eastern Company will own a 25% stake in the new manufacturer.

In our opinion, Eastern Company displays the quality characteristic of being able to price up their products in the event of cost inflation -- in the last 12-month period the company has increased prices twice without negatively impacting volumes sold. The company also has control of the value segment of the market and will likely retain this control. In the current high-inflation environment, their control of the value segment bodes well for their ability to grow volumes, since in the event the consumer wallet comes under pressure, Eastern Company will be able to gain market share from its international competitors as customers trade down. This has been demonstrated in their performance metrics in recent results announcements.

The company has a strong, unlevered balance sheet, and generates a high return on equity and strong cash flows through time. In addition to favourable quality metrics, Eastern Company is also very attractively valued, trading at around a 5x PE multiple, and delivering a 15% dividend yield.

Market reforms

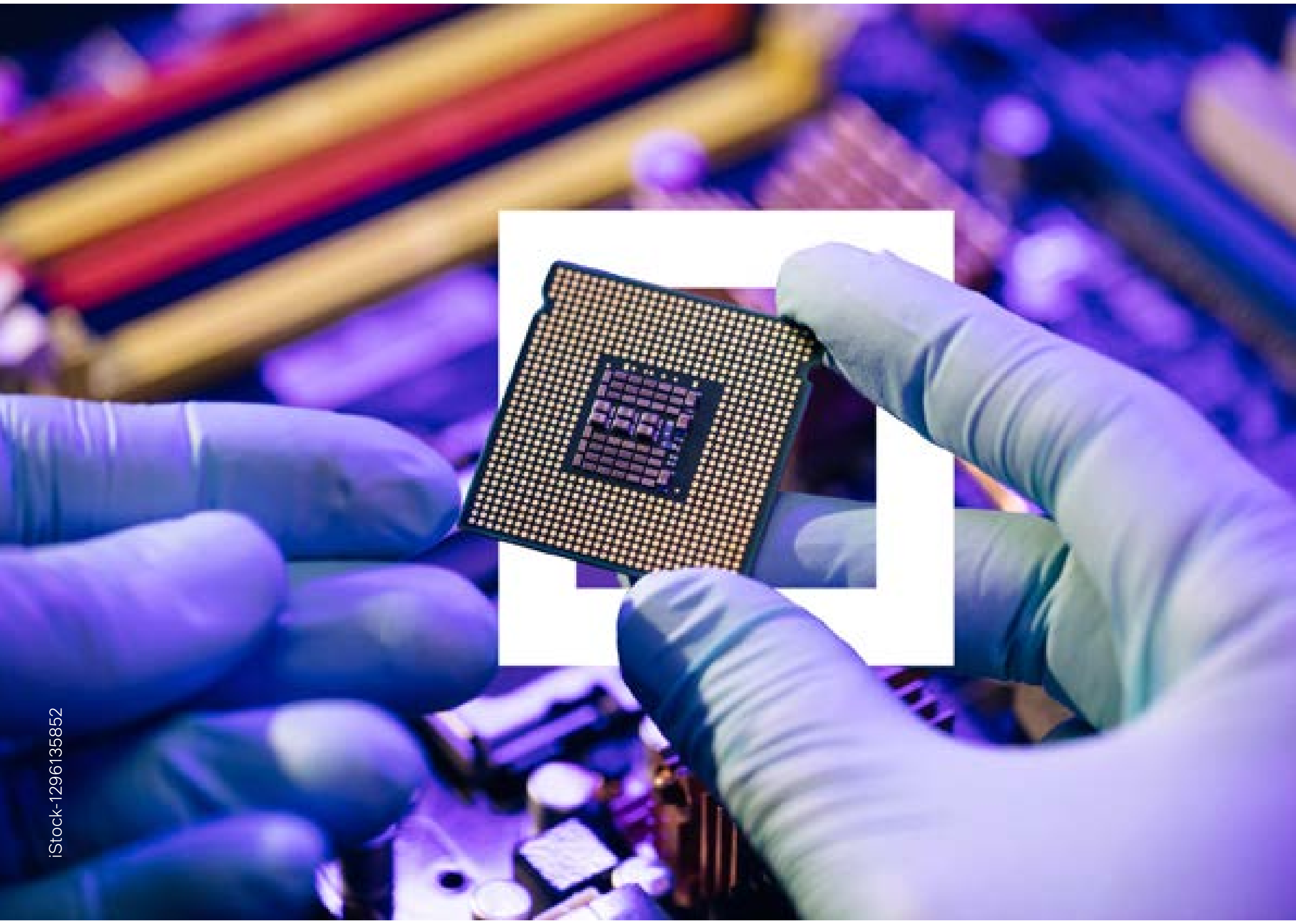
We are positive about the level of structural reform that is taking place in Egypt. The Egyptian government is taking bold steps to help the economy withstand the current pressures. The government is working on incentivizing local production in the industrial sector. They are also working to increase the private sector shareholding in state- and military-owned assets, as the army's control of significant assets has historically created a negative perception of the business environment. Going forward, increased private sector involvement in the economy should drive improved investor sentiment, as will the engagement with the IMF on a reform program.

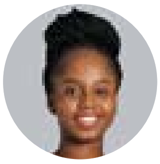
Risk versus return

It seems that market participants underestimate the ability of African companies to weather tough economic periods. A focus on both the short-term impacts of economic events and short-term trading mindsets leads to a mispricing of assets, and in that mispricing lies an opportunity for funds like ours. We construct our portfolios on a risk-conscious basis and are aware of the risks present in African markets. The level of risk is elevated versus developed markets, and concerns around political instability, currency, inflation, liquidity and market volatility are front-of-mind for us. We recognise and acknowledge the higher risk, but at the same time we are optimistic about the potential return associated with taking on such risk.

Ielhaam joined M&G Investments in 2009. As an Equity Analyst, she is currently responsible for research and analysis across a range of companies listed on the South African and various African Stock Exchanges. With 11 years of industry experience, Ielhaam previously worked at Deloitte where she qualified as a Chartered Accountant (SA). Her initial role was that of Trainee Accountant and then Audit Manager, where she performed and managed audits for various industrial companies. Ielhaam's qualifications include: B.Com (Accounting), UCT; Post Graduate Diploma (Accounting), UCT; CA (SA).

Analysis





Boitumelo Mahudu
Junior Equity Analyst

Semiconductors and the persisting shortages, two years later

Key take-aways

- One major cause of the global semiconductor shortages has been the global lockdowns during Covid-19, which caused disruptions to both supply and demand. When auto manufacturing and other key industries closed down, semiconductor suppliers shifted to fill the higher demand for consumer electronics and communications equipment. Then when businesses re-opened, there were few semiconductors available.
- Other causes of the shortages have been the scaling back of production levels during Covid-19, and the concentrated nature of the semiconductor supply market.
- Manufacturers' use of "Just-In-Time" models, and their excessive re-stocking, have exacerbated the shortages. Some manufacturers are opting to keep higher stocks going forward as one of the lessons learned from Covid-19.
- Many believe more manufacturing capacity will be added to meet an expected growing demand for semiconductors as more electric vehicles, robots, cryptocurrencies and other electronic gadgets come onto the market.

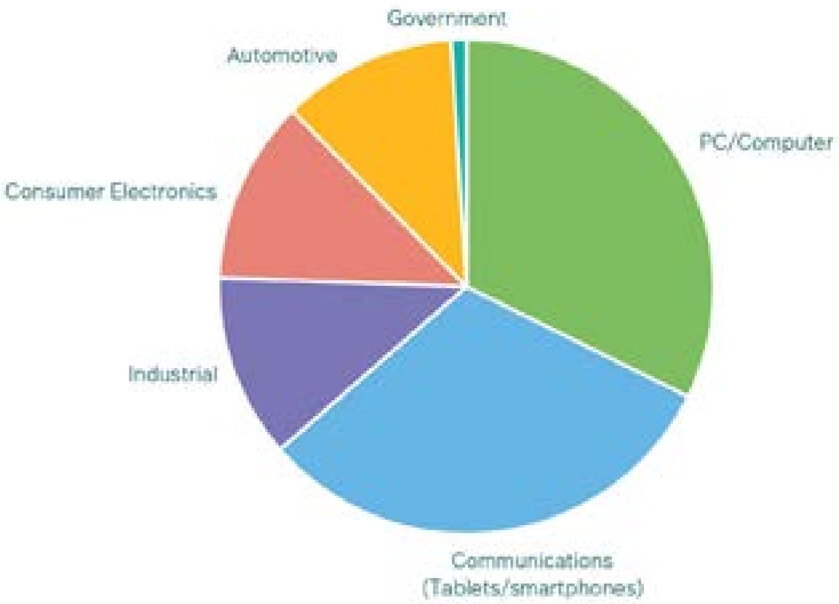
With the initial spread of Covid-19 in early 2020, life as we knew it changed almost overnight. The way we worked, socialised, and generally lived life transformed. To comply with lockdown regulations, global supply chains came to a standstill and manufacturing capacities across the world ground to a halt, as nations and businesses prioritised public health over profits and economic objectives. What was considered an essential service a month before, such as taxi or transport services, was no longer as critical, and other services, such as online meeting platforms, became more critical. It should therefore have been no surprise that, amid these conditions, dramatic supply and demand imbalances emerged as the pandemic evolved.

Fast forward to late 2020 into 2021, we began to learn of a rare development: new vehicle shortages. Car dealerships struggled to secure enough volumes of new vehicles to satisfy demand. The cause? Global shortages of those tiny but essential components in many everyday items – semiconductors.

About semiconductors

Semiconductors are silicon chips of varying sizes between 5-28 nanometers (one centimetre contains 10 million nanometers) which are packed with billions of transistors. As Graph 1 shows, these chips power the systems of all electronic devices, from cars, computers, cellphones, medical and industrial equipment to even the growing cryptocurrency market.

Graph 1: 2020 total global semiconductor demand share by end-use



Source: Semiconductor Industry Association (SIA)

The semiconductor industry can be categorized into three segments: upstream, midstream and downstream.

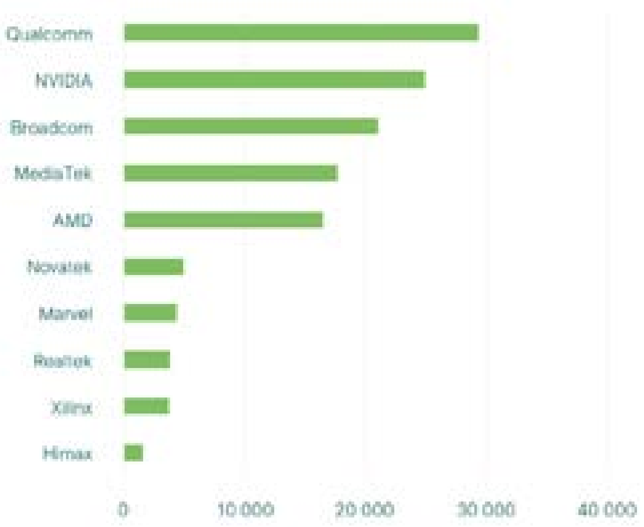
1. **Upstream** comprises the companies which design the chips and own the intellectual property, commonly known as "Fabless companies".

2. **Midstream** comprises the businesses involved in the manufacture of semiconductors. These manufacturers, referred to as "foundries", are seldom involved in the chip design and operate as contract manufacturers for the Fabless chip designers. Taiwan Semiconductor (TSMC) is the world's largest foundry, with 59% of manufacturing/foundry market share globally.

Integrated Design Manufacturers (IDMs) are those businesses which attempt to vertically integrate, by having their own in-house chip design and manufacturing. Korean electronics giant Samsung and the US technology firm Intel are two of the largest IDMs globally.

3. **Downstream** involves the testing and packaging of semiconductors.

Graph 2: Top 10 global fabless companies
(By revenue USD millions)



Source: TrendForce, March 2022

Graph 3: Top 10 global foundries by revenue
(By revenue USD millions)

Source: Gartner

What caused the shortages?

The answer to this question has continued to evolve over the past 18 months, but one can only explain it as a series of seemingly sporadic and unrelated events that have resulted in continued bottlenecks across the semiconductor supply chain. At the onset of the pandemic, auto manufacturers halted vehicle manufacturing, as vehicle demand fell to almost zero, thus not absorbing their usual share of semiconductor supply. Instead, the communications equipment and consumer electronics sector, which saw a surge in demand driven by work- and school-from-home, absorbed the capacity that ordinarily would have been allocated to auto manufacturers.

Then 12-18 months into the pandemic, as infection rates began to ease, vaccine rollouts were ramping up in most developed nations, and economies began returning to “normal” operations, pent-up demand for vehicles emerged, and auto manufacturers began to re-open for operation. However, a major hurdle emerged at this point - chip capacity that had previously been allocated to the automotive sector had been reallocated to other active sectors. Traditionally, auto manufacturers operate on a just-in-time (JIT) basis, which means they order components on an as-needed basis and keep very low inventories of components on hand. So they faced a challenge in being able to source sufficient chip volumes to meet their production schedules. Meanwhile, demand for consumer electronics was still relatively high, as businesses such as Apple, Dell and the like were taking more than their fair share of the semiconductor output.

Furthermore, not only were automakers ordering chips to meet their current production needs, but they were also attempting to build up their inventory of chips, thus ordering more than current requirements, as one does after having experienced a severe shortage. This exacerbated the supply constraints, causing demand to appear unusually high.

On the supply side, chip manufacturers were intermittently required to scale back their operating levels to comply with respective national lockdown requirements. For example, in Malaysia, where an estimated 14% of global chip packaging and testing capacity is located, in the second half of 2021 as the Omicron variant took hold, factories were required to operate with reduced workforces (at the lowest point only about 47% of the workforces in Malaysian factories were operational). So, in an environment where there was an influx of demand, some supply capacity was being sporadically removed, further contributing to the problem.

Lessons learned in the industry

A few important lessons have been learned from the ongoing supply bottlenecks that could potentially change the way businesses will operate going forward. Among these is that auto manufacturers are likely to permanently reconsider their JIT model, which has rendered them unable to operate effectively in the face of supply chain problems. Going forward they are likely to begin to carry higher component inventories on hand, which can be corroborated by the current over-procurement trends.

Also, the world's capacity for chip manufacturing is concentrated in Asia, most notably in Taiwan, which accounts for 65% of the world's production capacity. When there is a seamless flow of goods across borders, this is not a problem, but this condition did not hold during the height of the pandemic. This has resulted in major governments across the US and Europe committing billions of dollars in capital spending to build manufacturing facilities in different parts of the world – yet another form of de-globalisation.

Outlook: When will the supply constraints ease?

One school of thought has been that existing semiconductor production capacity is sufficient for normal demand, so that if customers ceased trying to build up inventories quickly and global supply chains returned to full and normal operations, we could see an easing in the current supply tightness.

However, another school of thought is that there have been structural changes on the demand side and that new supply needs to come online to correct the current tightness. One can see the merits to this argument:

- Most of the world has adopted a hybrid working environment where both a home and workplace working station is maintained, necessitating additional equipment used per person.
- With the electrification of vehicles and the move to Assisted Driving Systems (ADS), chip content within a vehicle is significantly higher today compared to a decade ago.
- Artificial intelligence, 5G, the Internet of Things... all potentially introduce multitudes of new-use cases for semiconductors. And this is not forgetting the proliferation of cryptocurrencies, where crypto mining has been a growing source of demand for semiconductors.

As it stands, a majority of the global capacity for semiconductor production is fully operational, yet shortages persist. This can be attributed to the logistics challenges we are faced with at the moment – shipping container availability, the structural demand changes discussed above and customers continuing to build up inventories. In the short term, it appears that the shortages may persist, while chip manufacturers work on building additional capacity. The complete construction of a semiconductor "fab" takes two to three years, and these specialised factories are required to have extremely clean, dust-free environments with regulated temperatures and humidity levels.

Semiconductors are to a large extent commoditised products, and due to the current supply tightness and favourable pricing, there is increased motivation to add to capacity. Several of the world's largest chip manufacturers have in the last year announced investment projects to expand capacity in various geographies: TSMC is building a fab in Arizona; Samsung plans to spend US$116 billion over the next decade developing manufacturing capacity; and Intel has committed US$20 billion for capacity expansion. Therefore we can expect to see a gradual easing of supply constraints over the next 12-24 months as this additional capacity comes online.

Impact on local auto companies

Looking at the local new vehicle market, the updates at this point from South African auto dealers indicate that the shortages in new cars are persisting. However, it is the higher-end or premium vehicle segment, with higher chip content, that is still impacted the most. Lower-end and value brands are impacted to a lesser extent. Listed auto groups Motus and CMH (Combined Motor Holdings), which we hold in our client portfolios, are geared to the value segment of the auto market and thus should be seeing a slight improvement in supply, however not anywhere near reaching pre-pandemic levels. The result is that new car prices remain high, and margins in new car sales are still at peak levels, contributing to good profitability for these companies. However, this is offset somewhat by lower sales volumes versus 2019 levels. Looking ahead, we believe that the current market valuations of Motus and CMH are still attractive amid these changing dynamics in the global semiconductor market, and continue to hold them in our client portfolios.

Boitumelo joined M&G Investments in January 2021 as a Trainee Equity Analyst, and is currently responsible for investment research in the South African and emerging markets. With three years of industry experience, Boitumelo previously worked for Allan Gray, where she completed her SAICA (CA(SA)) articles, rotating throughout the business, in finance, risk and investment analyst roles. Boitumelo's qualifications include: B.Comm (CA Stream) and Post Graduate Diploma (Accounting), both from the University of Cape Town and with distinction. She is also a qualified Chartered Accountant (SA).

Analysis

Kaitlin Byrne
Portfolio Manager

Weighing the Environmental factor in ESG investing

Key take-aways

- We fully integrate ESG factors into our investment process wherever necessary, as we have been doing for the past 25 years.
- Environmental impact considerations, although still complex to analyse, are becoming easier to cost and measure based on the growing prevalence of corporate plans, standards and concrete government taxes, policies and procedures.
- This makes some of our investment decisions easier through better measurement of the associated costs over time of achieving greater sustainability for each company. In turn, it has a greater impact on our portfolio construction than in the past.
- We also actively engage with our investee companies to better understand their challenges, monitor their sustainability journey and help influence their progress in a meaningful way.

Environmental, social and governance (ESG) considerations have always played a fundamental role in M&G Investments' valuations-based investment process, as part of the many potential risks and opportunities facing all businesses. These factors are reflected in our company valuations as they impact a company's expected future earnings and cash flows. While historically most investors have necessarily paid more attention to the governance side of ESG, in recent years the others – especially environmental – have been playing a more impactful role in some of our investment decisions. Here we explain why this is, and look at some of the specific environmental factors we analyse in building our client portfolios.

More impact from environmental considerations

In the past it was relatively difficult to quantify the future earnings impact of both a government's and a company's environmental policies (if the latter even existed). While this remains a complex area, these days we have many more sources of data, with much more detailed information to analyse regarding environmental risks and future costs for many entities. These stem from governments' clearer and more numerous regulations – including carbon taxes – and companies' own business plans to reduce their impact on the environment, as well as their greater transparency with stakeholders.

The environmental cost of companies' operations has not been taken into account accurately for decades, meaning that the damage that is being done to the planet as a result of carbon emissions and high water usage (among other unsustainable practices) is much higher than the financial cost companies have actually reflected in their financial statements. The result is that future generations will have to pay for the cost of past mistakes, which governments are becoming increasingly aware of. In turn, governments are trying to drive company behaviour towards adopting new models, and to "price" for the damage being done to the planet through different taxes, restrictions and regulations.

In the future, therefore, there will be a real cost to companies based on currently "intangible costs" like tons of carbon emitted. Some companies may so far have saved millions of rands in capital expenditure, which is a real cash cost, by having avoided converting their assets to more carbon-efficient methods, and managed to remain competitive with peers that have decarbonised to some extent. In a world of high carbon taxes, however, the cost to the environment will be reflected in the financials of carbon-emitters. The result? Companies that are more carbon-efficient will gain a major cost advantage over companies that are not, potentially putting high carbon-emitters out of business.

Environmental factors in investing

Climate change, carbon emissions, and water and energy usage are all on our list of factors we use to assess whether a company's earnings will be sustainable going into the future, and how they impact its current valuation. Companies have been getting consistently better about improving their disclosure around ESG, with many publishing their maiden Task Force on Climate-related Financial Disclosures Report (TCFD Report), in which companies detail their climate change strategy and outline different scenarios around greenhouse gas reduction ambitions. Part of our job as investors is to analyse a company's strategy and attempt to answer such questions as:

- Whether the strategy is ambitious enough to remain competitive;
- What capital expenditure (capex) will be needed in the coming years to implement the strategy;

- Whether the company's balance sheet strength (cash) will be able to carry out such capex plans without needing to raise more capital; and
- What the cash cost of carbon emissions would be for the company if carbon taxes were to be raised to levels in line with developed markets.

Banks and capital markets are also becoming more stringent in terms of lending money to companies that have a poor ESG rating, which may drive up the cost of borrowing disproportionately for different players. Certain industries will always be heavier carbon emitters than others, and therefore the key consideration is whether the company will remain competitive within its peer group if it doesn't reduce emissions sufficiently and within a reasonable amount of time. This is not a linear progression, however, given sudden shifts in taxation and the long-term nature of capital projects. Insufficient planning can place a company under significant pressure at short notice.

In reality, the ability of a company to reduce its carbon emissions is certainly not an easy task – sometimes alternatives are just not viable for different reasons, and the landscape for these options is shifting as more investments are made. Constant engagement with management teams to learn about how they are considering transitioning their businesses, learning about their challenges and engaging with them on the importance of ESG is an ongoing part of the analysis.

All these considerations may have a material impact on a company's free cash flows, its future dividends, and the valuation multiple the market will therefore assign to the company. So not only is their environmental impact an important ethical consideration for companies, but it is a key factor for investors in determining what the long-term fair value of a company is and whether we can make money by investing in its shares.

PPC and environmental considerations

PPC, one of the largest cement producers in southern Africa, is one company we are holding in our client portfolios which has large carbon emissions. Cement producers by their nature emit high levels of carbon, around half of which result from the energy-intensive nature of the process and the other half from the chemical reaction that takes place in producing the clinker (called the calcination process, where the limestone is heated to extract the calcium oxide but releases carbon dioxide as a by-product).

One area where much of the reduction in emissions can be achieved over time is from the company's energy sources, but the calcination process is very difficult to adjust: the carbon dioxide emissions from this process cannot yet be viably captured on such a large scale, but using extenders, which leads to less clinker per bag of cement, will play an important role over time.

PPC has a plan to cut its emissions from current levels by 10% by 2025 and by 27% by 2030, and has also committed to reaching net zero (or carbon neutrality) by 2050, as outlined in its latest TCFD Report. It has set aside a budget of some R664 million to achieve its 2025 target in several ways: investing in renewable energies such as wind and solar power to add to its mix of energy sources;

using alternative fuels to coal; and making its plants more efficient, among other initiatives. In time, as technology improves, the need for clinker-based cement products should be reduced; so for us, ensuring that PPC spends enough on research and development is an important element in helping them remain at the forefront of the industry as cement-alternatives become more common. Equally, the success with which they manage and meet their short-term targets is an element we regularly assess, since this gauges their commitment to and sincerity in achieving their long-term goals.

Given that PPC operates across a number of southern African countries outside of South Africa with less sophisticated economies, the group's decarbonisation efforts beyond 2025 will likely become even more costly, unless cheaper technology can be developed. At the same time, its cost of capital could be under pressure to rise should investors opt to avoid carbon emitters. The company has been de-carbonising since 1990, having already cut its CO2 emissions across its power generation system by nearly 30% since then. However, it still pays carbon taxes and faces the likelihood of paying significantly more in the years to come if they do not further reduce their emissions.

In conclusion, this is only a glimpse into the environmental considerations we take into account when conducting our analysis of PPC and other companies. These days "E" factors are playing an increasingly impactful role in our investment process given the availability of more data, and the roles of environmental regulation and taxation. It is still early days in terms of the disclosure and strategies that companies have in place, however – the investment industry has an important part to play in encouraging improvement in this area as it also improves our decision-making ability around a company's longer-term sustainability. Our ultimate goal is to determine whether the company's current market valuation makes sense in light of these additional risks, and consequently whether it is a good candidate to add to our client portfolios.

Kaitlin joined M&G Investments in early 2015 as an Equity Analyst, where she was responsible for covering stocks in the industrial and consumer discretionary sector as well as a portfolio of African stocks, primarily focused on the banking sector. In addition to being the joint-Portfolio Manager of our African Equity mandates and funds, she is also the joint-Portfolio Manager on the M&G Dividend Maximiser Fund, as well as a portfolio of specialist Select Equity mandates for institutional clients. Prior to joining M&G Investments, Kaitlin completed her articles at Ernst & Young, where she was responsible for auditing companies in the Finance, Gaming and Leisure, Real Estate and Manufacturing sectors. She holds a B.Acc (Stellenbosch), is a Chartered Accountant (CA (SA)), and a Chartered Financial Analyst (CFA Institute).

Gareth Bern
Head of Fixed Income

SA Bond update: Compelling returns on offer

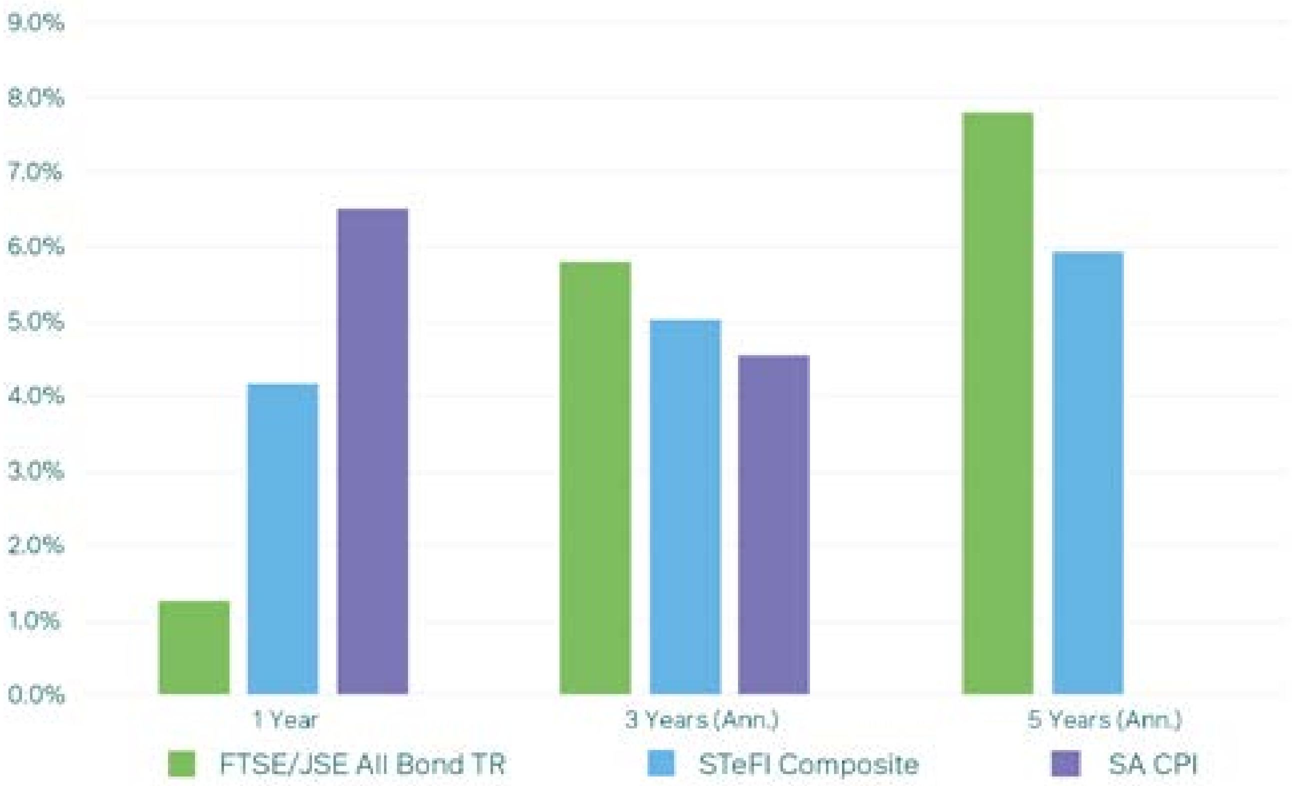
Key take-aways

- SA bonds have outperformed many of their global counterparts in the recent past, making these assets a wise choice for investors. We have been overweight SA bonds in our multi-asset portfolios for some time now.
- The strong returns have been driven by good investor demand thanks to their relatively higher yields on offer compared to many other countries, plus the improving creditworthiness of the SA government.
- SA fixed-rate corporate bonds, however, have lost some appeal due to their increasing illiquidity and their lower yields versus government bonds. In our view many are no longer offering sufficient potential reward for the risks involved in holding them.

Investors may be surprised to learn that the South African nominal bond market has delivered healthy returns to investors prepared to brave the volatility over the last few years. Over the past five years our bond market has comfortably outperformed both cash as well as local inflation. Consider that during this time investors have had to contend with the sovereign credit rating being downgraded to junk status and below, the increasingly high debt levels of the National Fiscus, the impact of Covid-19 on "SA Inc", the July 2021 riots, and who could forget load-shedding!

Given this backdrop, one could be forgiven for assuming that bonds would have been a poor investment choice, but instead the opposite has been true.

Graph 1: SA Bonds outperform over longer periods



Source: Bloomberg, data to 30 June 2022

Prospective returns increasingly attractive

Unlike the healthy longer-term returns from the South African bond market, the past year has been more challenging. The war in Ukraine, much higher than expected global inflation, and a possible slowdown of the global economy has resulted in greater risk aversion, and has sent our bond yields higher. This sell-off has resulted in a 1.9% drop in the “ALBI” bond index for 2022 to date. This does however mean that prospective returns have improved for investors. With 10-year yields just over 11% and longer-term inflation expectations well contained thanks to the South African Reserve Bank's efforts, investors are looking at a prospective real return which should be above 6% p.a. – a very attractive return package, particularly when faced with a cash return which will struggle to beat inflation. The graph below illustrates the much stronger prospective real returns we expect from government bonds over the medium term compared to SA cash, SA inflation-linked bonds, SA corporate bonds and global bonds, based on their current valuations.

Graph 2: Prospective real returns

Source: Bloomberg, Reuters, M&G Investments data to 30 June 2022

These healthy returns over longer periods, as well as the attractive prospective returns, have not gone unnoticed by investors. ASISA industry statistics indicate a marked shift into bond funds through 2020 and much of 2021, and in the multi-asset space there is clear evidence of funds holding higher allocations to bonds: for example, in the Multi-Asset Income category the average fund's bond weighting rose by 6% at the expense of cash.

Given the renewed interest in bonds, we thought it might be useful to reflect on the drivers of bond fund returns, how the local bond market investment opportunity set has evolved, and how our own M&G High Yield Bond fund has responded to these changes.

Different levers for sourcing fund returns

Broadly speaking, the three primary "levers" an active manager can employ in an attempt to outperform the FTSE/JSE All Bond Index would be one or more of the following:

- Holding more corporate credit exposure than the benchmark. As corporate bonds expose investors to a higher risk of default, these bonds pay higher yields than those on similar government bonds as compensation;
- Taking views on the level and future direction of bond yield moves as interest rates change over time. This involves positioning a portfolio to be more or less sensitive to yield moves (commonly referred to a funds 'duration' positioning); and
- Taking positions on the shape of the yield curve ('curve' positioning), by identifying mis-pricing opportunities in different bonds in absolute terms and relative to each other, and looking for tactical opportunities to concentrate the portfolio in certain parts of the yield curve where analysis shows the best risk-adjusted returns are likely to be generated.

At M&G Investments we have always sought to actively use all these levers to generate returns for our clients, with market conditions, valuations and relative opportunities dictating the extent to which we employ each 'lever' in the fund to ensure we can meet the fund's investment objective.

When the M&G High Yield Bond Fund was launched in 2000, the local corporate bond market was in its infancy. The fund sought to take advantage of the growth in local credit issuance in the ensuing years, as issuers sought to take advantage of the keen investor appetite for credit, as well as low levels of compensation (interest rates) investors demanded at the time.

Over the ensuing years, returns from credit holdings were a significant driver of the fund's performance. The exposure to credit in the fund peaked following the 2008 Global Financial Crisis (GFC) at nearly 70% of the fund's holdings as it looked to take advantage of the significantly elevated yields on offer from corporate bonds on the back of the market's risk-aversion post the crisis. However, the GFC heralded the end of the strong growth in the local credit market largely due to the much higher levels of compensation investors started to demand.

Credit opportunities dwindle

Subsequently, credit exposure within the fund has been on a steady decline as attractive investment opportunities in the domestic credit market have diminished due to a combination of a lack of fixed-rate issuance (in particular a lack of new corporate issuers) and insufficient yields on fixed-rate credit (in our opinion) to compensate investors for the risk they assume – and we have commented on these aspects frequently over a number of years. As an example, in 2015 an investor could buy a fixed rate bond issued by a bank at a yield of 1.9% above the equivalent government bond. Today the same bond would pay you 0.18% less than the equivalent government bond! It needs little explanation then that we have actively reduced the fund's credit exposure steadily over time, so that it is now close to zero.

With fixed-rate credit no longer offering a compelling investment return, it should come as no surprise that we have tilted the fund towards the other two 'levers' to drive performance to a greater extent than was the case in the past. To that end, both the fund's duration and curve positioning have become the significant drivers of investment returns over the last number of years.

Duration positioning has the potential to generate significant performance for a fund, although the return profile can be quite 'lumpy' in contrast to the more-constant return profile that credit tends to deliver (assuming you avoid defaults). It is also a source of return that is more at risk from macro events that are difficult, if not impossible, to foresee such as the infamous 'Nenegate' or Covid-19. Curve positioning, on the other hand, allows one to exploit relative mis-pricings on the yield curve without necessarily exposing the fund to changing levels of the yield curve. Over the last 18 months, yield curve positioning has been a key driver of the fund's performance, and we expect this to remain true as we continue to find good opportunities in this space.

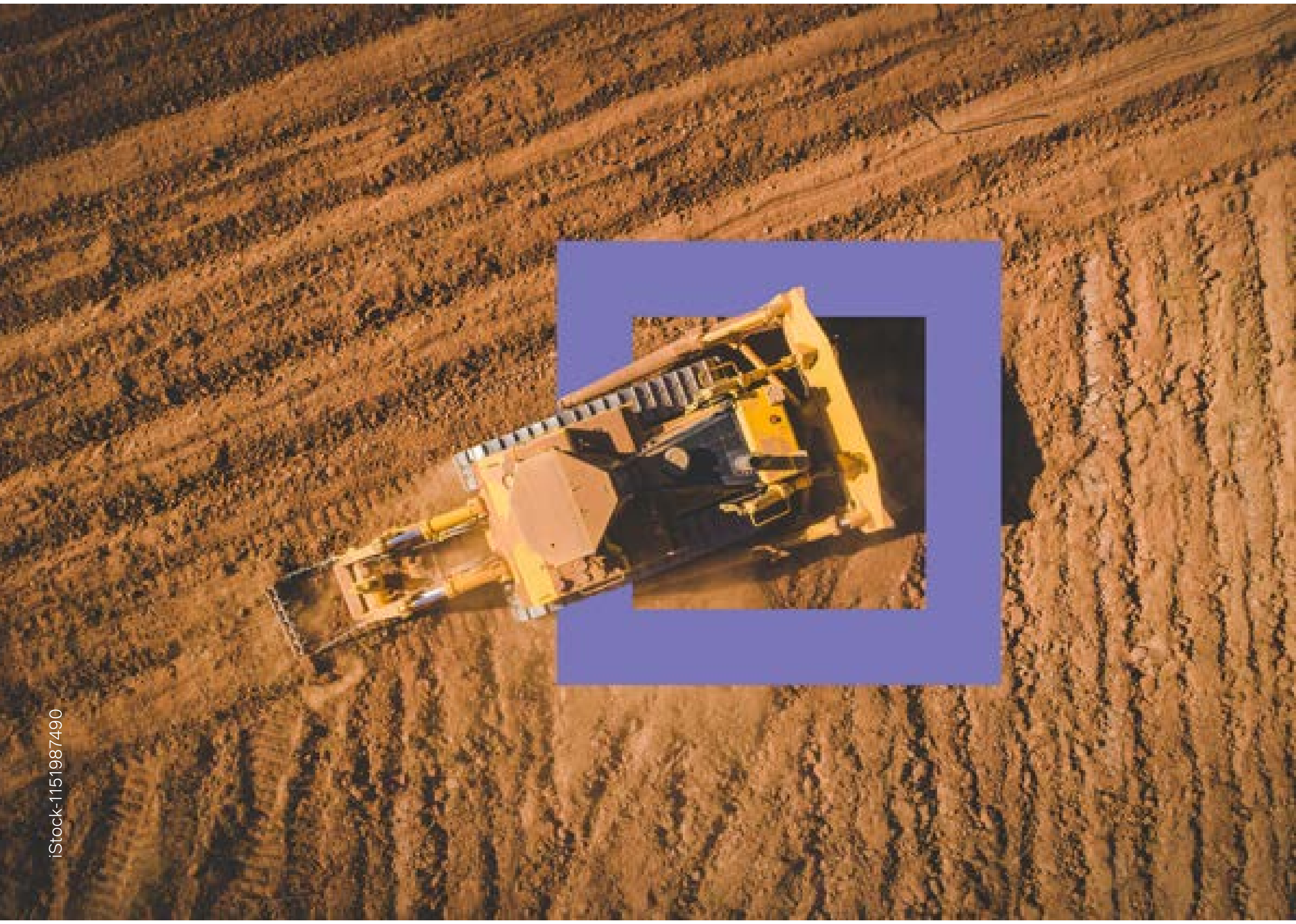
We believe credit exposure is unlikely to be a significant driver of performance for the M&G High Yield Bond Fund in the foreseeable future. However, we remain hopeful that conditions in this space will at some point revert to once again offering investors value as they did in the past, in which case the in-depth research conducted by our credit team will enable us to take advantage of such opportunities.

Fund name changed to M&G Bond Fund

To ensure our fund names were aligned with the investment objective of each fund, and because of the lack of credit opportunities in the market, we recently simplified the name of the M&G High Yield Bond Fund to the M&G Bond Fund -- a more general but also more accurate descriptor -- after having received the approval of the Financial Sector Conduct Authority (FSCA).

To conclude, we think domestic bonds as an asset class, and in particular a bond fund like the M&G Bond Fund, currently present investors with an attractive opportunity, given the elevated real returns on offer. They merit consideration for inclusion in investors' diversified portfolios – particularly those investors who may be holding too much exposure to cash. We believe the M&G Bond Fund is well-positioned to deliver benchmark-beating returns going forward, on top of the healthy returns expected from the bond market. □

Gareth joined M&G Investments in 2004 as a Credit Analyst and was appointed as Head of Fixed Interest in April 2018. In addition to overseeing M&G Investments' Fixed Income team, Gareth is also responsible for jointly managing the M&G Bond Fund and overseeing M&G Investments' fixed-income institutional mandates. Prior to joining M&G Investments, Gareth completed articles at Ernst & Young and qualified as a CA (SA) in 2003. He then spent part of 2004 working in the asset management division of Ernst & Young's New York office before returning to South Africa. He currently has 16 years' industry experience. Gareth's qualifications include: BBus Sc (Finance), UCT; BComm (Hons) Accounting, UCT; CA (SA); CFA.



Aeysha Samsodien
Equity Analyst

Resources: Tricky investing amid high commodity prices

Key take-aways

- Going into 2020, the global resources sector was already tightening, with overall demand firm and inventories low, but miners struggled to ramp-up short-term supply due to their past underinvestment in capacity, pushing commodity prices higher.
- The Covid-19 lockdowns exacerbated supply shortages and logistical problems, sending commodity prices further skyward in 2021. Meanwhile, extreme weather further fuelled transport problems, as did labour shortages with the onset of the Omicron variant in late 2021.
- Resources companies have been enjoying high cash flows and margins, but at levels not likely to be sustainable. And forward valuations are not exceptionally elevated. This conundrum makes us cautious: in the sector we prefer exposure to those companies with sustainable earnings and attractive valuations.

Although it's well known that the global resources market moves broadly in cycles following global economic growth, in the last few years we've seen significant price movements. If we go back even before the Covid-19 pandemic and the Russia-Ukraine war to 2015, we can argue that some of the price impacts we are seeing now are due to supply and demand disruptions back then and the subsequent decisions made in the sector. As investment managers we seek to understand the drivers of these trends in order to better select which companies might add the most value to our client portfolios over time, and the Resources sector is particularly important here in South Africa given its outsize influence on the FTSE/JSE stock indices.

Here we offer a snapshot of conditions in the resources market in recent years, and how we have approached our clients' investment portfolios when it comes to exposure to the Resources sector. Current conditions are somewhat tricky: high commodity prices, company earnings and margins, and even valuations, are making the sector appear attractive, but we are continuously evaluating the sustainability of these favourable trends.

Background

Well before the Coronavirus crisis, we saw economic stimulus from China supporting rising demand for commodities and helping lift global commodity prices from their 2014-2015 slump. China is the world's largest importer of resources such as iron ore, for example, and the health of the Chinese economy is among the key drivers of global commodity prices.

Meanwhile, new supply has not matched rising demand. Mining companies have refrained from investing in new production capacity; they have been more selective about project approvals, instead prioritising shareholder returns via cash and share-buybacks. As a result, capital investment in the sector peaked in 2013.

Therefore, going into 2020 when the pandemic struck, the global resources sector was already tightening, with overall demand slightly higher than supply. Commodity demand was broadly firm, and prices had rallied as inventory levels were low and companies were struggling to respond to demand. They were unable to ramp-up production in the short term due to their underinvestment from the previous five years – on average it takes approximately seven years to bring new mine supply to the market.

Covid-19 arrives on the scene

From the onset of the Covid-19 lockdowns, the resources market suffered significant supply and logistical disruptions, the impacts of which are still playing through the market today. Mining activity and processing halted altogether, as did transport. Then, after the first round of lockdowns, most major markets unleashed significant economic stimulus programmes via both fiscal and monetary policies – especially China, but also in Western markets – which pushed demand to a higher level. Because supply could not keep up with demand, many commodity prices reached all-time highs in 2021.

For example, in the second half of 2021, an energy crisis developed in Europe and China as gas and coal prices soared: here again the underlying factors were underinvestment in fossil fuels compounded by logistical issues resulting from Covid, plus weather disruptions, which meant that supply could not meet rising demand in a timely fashion. In one of the more extreme cases, the shortage of truckers in the UK made global news headlines as fuel deliveries were curtailed and pumps ran dry.

At this point in 2021, the broad market view was that these higher energy and other commodity prices were likely to be short-lived, and their inflationary impacts would be transitory – as supply ramped up, it would meet demand. But given that the global lockdowns were unprecedented and such macroeconomic conditions never before experienced, investors, economists and business analysts all underestimated the deep dislocations experienced in companies, supply chains and every stage of the production process. At the same time, the unwelcome arrival of the Omicron variant of Covid-19 in late 2021 extended the disruptions even further.

The Russia-Ukraine war and inflation

Russia's tragic invasion of Ukraine in February 2022 caused another serious dislocation in resources markets, across both energy and metals, and later agricultural products as well, compounded by the widespread sanctions on Russia imposed by many countries. The initial shock in the market saw some commodity prices rise further on the recognition that there would be additional supply constraints, given that both Russia and Ukraine are large global exporters of commodities including diamonds, palladium, oil, gas, coal and agriculture products.

To date, the energy commodities – specifically oil, gas and coal – have experienced the most sustainable gains due to their supply fundamentals, but some metal prices have also risen, as have prices for fertilisers and grains. There has been a limited impact on the flow of goods out of Russia, given that only certain commodities (such as oil, gas and coal) are currently subject to sanctions that will only be fully implemented over the course of 2022, but many Ukrainian exports like wheat and corn have been blockaded in the country's ports, sparking fears of basic food shortages and rising global food prices.

Subsequent to the invasion, oil prices have risen to new multi-decade highs, and gas prices, which were already high, have also increased to even higher levels on a historic basis. We have also seen a similar pattern for coal. And while the war has been a big contributor to this latest round of price increases, the inability of energy suppliers from other regions to step into the supply breach has also played a large role. Other factors have included changing weather patterns, with rains impeding mining operations and logistics, and the ongoing Covid-19 pandemic.

As a response to Russia's aggression and its role as a major energy supplier to Europe, various European countries are initiating plans to become more self-sufficient. For example, in May 2022 the European Union (EU) introduced an ambitious and urgent plan called "REPowerEU" to "reduce dependence on Russian fossil fuels as soon as possible" through energy savings, diversification of its energy supplies and an accelerated roll-out of renewable energy sources. A month later, Germany announced its decision to fire-up idle coal-fired power stations to decrease its reliance on Russian gas.

Also since the invasion, in recent months economists, analysts and investors have become increasingly concerned that the effect of two-plus years of high commodity prices is starting to feed through to second-order inflationary factors such as demands for higher wages and rising inflation expectations. Goods prices are rising in sectors where inflationary increases can be passed on to consumers. Also, central banks have reacted by adopting more aggressive monetary tightening policies, with much higher interest rates now expected to weigh on economic growth, especially in the US. Equally, China's strict implementation of its zero-Covid policy from April 2022, including tight lockdowns notably in the key economic hub of Shanghai, has led to downward revisions to that country's growth forecasts.

What is M&G's view?

For mining companies, the prevailing high commodity prices have been extremely favourable for their cash generation and profit margins so far, but should inflationary pressures continue to rise from current levels, their own inputs are likely to become more expensive, resulting in margin compression and reduced cash generation. Slowing economic growth from higher interest rates and pressure on consumer demand in Western economies, plus ongoing Chinese lockdowns, is likely to lead to slowing commodity demand and lower prices at some point.

We acknowledge that while it is very difficult to forecast the future and we do not make any attempt to do this, we do spend a lot of time thinking about the economic cycles that various sectors are in, and where company valuations are. Our approach is to understand the fundamental drivers of company performance and to choose those with the most attractive relative valuations, while also taking into account the quality of earnings.

At this point, it is true that commodity prices and margins are relatively elevated compared to the past, making the chances of lower commodity prices more likely in the future, particularly for the energy sector (as we have discussed), as supply normalises and demand decreases over time amid the accelerating global move towards renewables. As such, we are somewhat cautious around our exposure to the broader sector since the current high company earnings are not likely to be sustainable over the medium- to longer term. At the same time, however, forward company valuations such as price-earnings and enterprise-value-to-sales ratios (assuming the same spot commodity prices going forward) are not elevated in our view. And at current commodity prices the companies are generating strong free cash flows. Given this tricky environment of mixed signals, we believe it prudent to hold those companies with attractive valuations that have supportive earnings. A few examples of our holdings in the sector include Northam Platinum, Exxaro and Sasol.

Resources exposure highlights

Our investment case for Northam Platinum is largely underpinned by the counter-cyclical capital investment that they embarked on from 2015 – they were among the few platinum miners to add production capacity when others refrained. Over the next few years the company's production profile will double as its new growth projects ramp up, giving it an advantage over many of its competitors.

While the market is concerned about the implications of Northam's recent purchase of a just-under-35% stake in smaller rival Royal Bafokeng Platinum (following Impala Platinum's 100% takeover effort), our view is that Northam's core business remains attractively valued.

Meanwhile, Exxaro's operations comprise a good-quality coal business, an associate stake in Sishen Iron Ore and a growing renewable energy business. The strong coal prices we are witnessing will be supportive for Exxaro's earnings and cash generation. At the same time, both the coal business' and the overall company's valuations are trading on very attractive multiples. Although the intent of this article is not to detail the ESG aspects of the business, these factors play a role in our investment decisions around the company. As Exxaro has completed all new investments into its coal business, going forward the cash generated from these operations will be distributed to shareholders and be reinvested into growth of its Renewables and Battery Minerals business. As part of our role as active shareholders on behalf of our clients, we are consistently monitoring its progress in meeting its stated goals and engaging with management whenever necessary.

Finally, Sasol's earnings are being supported by strong chemical and oil prices. Also strengthening the investment case is its improving balance sheet risk, with debt levels falling and cash levels rising due to the stronger commodity prices and its asset sales over the last few years. In our view, company valuations are still relatively attractive, even after its exceptionally strong share price gains since the worst of the Coronavirus crisis. Sasol is keenly aware of its greenhouse gas emissions and is undertaking a "Just Transition" approach, in which it is targeting to reduce its Scope 1 and 2 emissions by 30% by 2030 and reach net-zero by 2050. As with other holdings, we consistently monitor its progress, and engage with Sasol management to understand its challenges, options and decisions to help ensure that it achieves its goals.

Aeysha joined M&G Investments in April 2013. As an Equity Analyst, she is primarily responsible for conducting research on the Mining sector. Prior to joining M&G Investments, Aeysha spent three years completing her articles at PwC, and currently has nine years' industry experience. Her qualifications include: B. Com Accounting; CA (SA).

Analysis

Aadil Omar
Head of Equity Research

Not all volatility is created equal

Key take-aways

- High downside volatility in a share is undesirable because it can lead to permanent loss, and bigger losses require exponentially bigger subsequent gains to get back to break-even.
- High upside volatility, which can result after a share has sold off sharply and is not likely to fall much further (leaving it with an extreme dislocation between its share price and fundamental value), is very desirable for its potential returns, but happens rarely.
- We aim to recognise and exploit these volatilities in order to enhance gains and limit losses in client portfolios, so that total gains are much bigger than total losses. Outperformance can be achieved through a portfolio's superior win/loss ratio (total gains/total losses), so that the actual number of winning trades doesn't have to exceed losing trades.
- As famous investor George Soros explained: *"It's not whether you're right or wrong, but how much money you make when you're right and how much you lose when you're wrong."*

Mathematician Ed Thorp had an intuitive sense for numbers. Thorp used this intuitive sense to beat the game of blackjack and would later use his mathematical prowess to become an investor of some celebrity, racking up among the most impressive returns in the industry over a multi-decade period.[1] He had the mental dexterity to observe and fully appreciate the very small pattern signature in mathematical constructs, like spotting anomalies across tight series of numbers.

Ed Thorp is well known and respected among the hedge fund community as being an accomplished money manager. What he is not often credited with was his ability to spot both potential greats (he was an early investor and proponent of Warren Buffet) and more presciently, frauds.

Thorpe identified Bernie Madoff as a fraud almost a decade before the world would come to know of his now-infamous shenanigans. "Back in 1991, I was invited to review the portfolio of McKinsey and Co. back in New York, and they had a profit-sharing and a pension plan," he said. "But there was one very strange investment, they had it printed out one or two percent a month, every month. They had a record going back into the late 1960s, supposedly, and I said,

[1]Since the late 1960s, Thorp has used his knowledge of probability and statistics in the stock market to discover and exploit a number of pricing anomalies in the securities markets, making a significant fortune in the process. His first hedge fund was Princeton/Newport Partners from 1969 to 1989, based on Market Neutral Derivatives Hedging. His second hedge fund was called Ridgeline Partners, and it ran from August 1994 through September 2002 based on Statistical arbitrage. Thorp reported that his personal investments yielded an annualised 20% rate of return averaged over 28.5 years.

'How do they do this?' And they said, 'Well, we don't know exactly, they tell us that they won't explain what their method is but we can show you our accounts."

Thorp discovered that the options strategy Madoff claimed to be running should lose in a down month, yet Madoff won every month. "And the reason they went up every month was because a mysterious trade was put on, involving S&P 500 index options, and it was always in the right direction." It was the absence of volatility in the breadcrumbs of Madoff's returns that was conspicuous to Thorp, ultimately leading him to conclude that something was horribly amiss.

Expect volatility

Volatility is inherent in return series over time as sure as salt accompanies the solvent properties of seawater. They're kindred spirits.

A key part of our investment process considers the negative ramifications of excess volatility and how to avoid too much downside volatility, which leads to painful outcomes. Permanent loss is what happens when downside volatility becomes too much to recover from. Consider the drawdowns experienced in crypto currencies or profit-less tech over the last nine months – Bitcoin has lost 72% since November 2021, while the Goldman Sachs Future Growth Leaders Index ETF (GSFGL) has wiped out 45% of investor capital since listing in October 2021. The harsh reality now is that Bitcoin holders require a 257% increase from current prices to get back to the highs, and investors in the GSFGL ETF would need to see the index double just to break even.

Graph 1: Subsequent market return required to make up for loss

Source: M&G Investments

Graph 1 reflects the return required to break even after you have suffered a drawdown. These returns required scale exponentially, so if you've lost 10% of your portfolio, a return of 11% will get you to break-even; but if you've lost 90% of your portfolio value you will need a 900% return to get back to break even. After extreme drawdowns, the return requirements become so onerous that the distribution of returns drift towards option-style pay-off structures. The traded price of a security at that point is often viewed by investors as an option premium, not necessarily because the price will run down to nil (a concept known as theta decay in option theory), but rather due to the wide distribution of potential outcomes (or fat tails) embedded in prices. Intuitively, a wide distribution of outcomes will have the effect of increasing volatility, but there are instances where that volatility can be harnessed for the benefit of portfolios (detailed further below).

Closer to home, we witnessed a few of these dynamics in the months leading into the pandemic, with stock price dislocations reaching extremes. One such example was Sasol, which suffered a drawdown of 93% in the first three months of 2020, from a price of R323/share to R20.77/share at the trough.

When security prices rapidly dislocate from established anchors (a phenomenon we at M&G Investments refer to as an "episodic" event), it creates rare opportunities for outsized returns. Buying at this point is obviously not without risk, but with the right fundamentals and under the correct portfolio construction framework, these acquisitions can substantially enhance client returns.

Volatility for performance

> "It's not whether you're right or wrong, but how much money you make when you're right and how much you lose when you're wrong."
>
> — George Soros

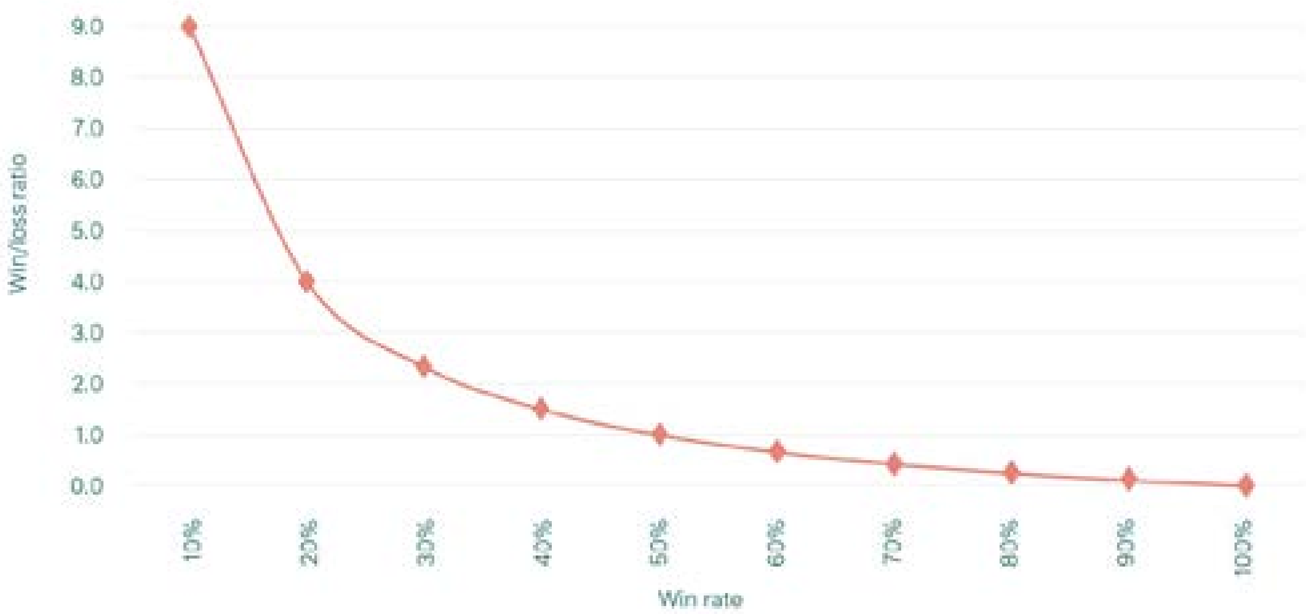
In the investment world, "win rates" draw much attention, and indeed the proportion of winning trades to losers matters for portfolio returns, especially at the extremes. Portfolio returns are, however, dependent on both win rates and the extent to which wins outpace losses. Technically, portfolio returns can be deconstructed as follows:

- The win rate: The proportion of winning trades to total trades; and
- The win/loss ratio: The return from a winning trade versus the loss from a losing trade (expressed as a ratio). This can be better understood as the total amount of rands won for each winning trade versus rands lost on losing trades. Here, the size of every trade becomes important.

Many well-regarded money managers and traders (rightfully) overemphasise the win/loss ratio, as alluded to in the George Soros comment above. The idea that a money manager could get the majority of his trades wrong, yet still deliver above-market returns flies in the face of our intuitive understanding of what is required to win. But the trend is rather consistent among legendary investors: Soros is said to have a win rate of no more than 35%, while Stanley Druckenmiller estimates his win rate at about 50%.

Outperformance from a superior win/loss ratio is the other side of the coin in terms of the return required to break-even from a drawdown (as highlighted in Graph 1). The higher your win/loss ratio, the fewer trades you need to get right (all else being equal); said another way: as the win/loss ratio increases the win rate required decreases at an exponential rate. Graph 2 illustrates this relationship: With a higher win/loss ratio of 4.0, for example, you would need a win rate of only 20% to break even, whereas a lower win/loss ratio of just over 3.0 means you would require a higher win rate of 30% to break even.

Graph 2: Required win/loss ratio for break-even



Source: M&G Investments

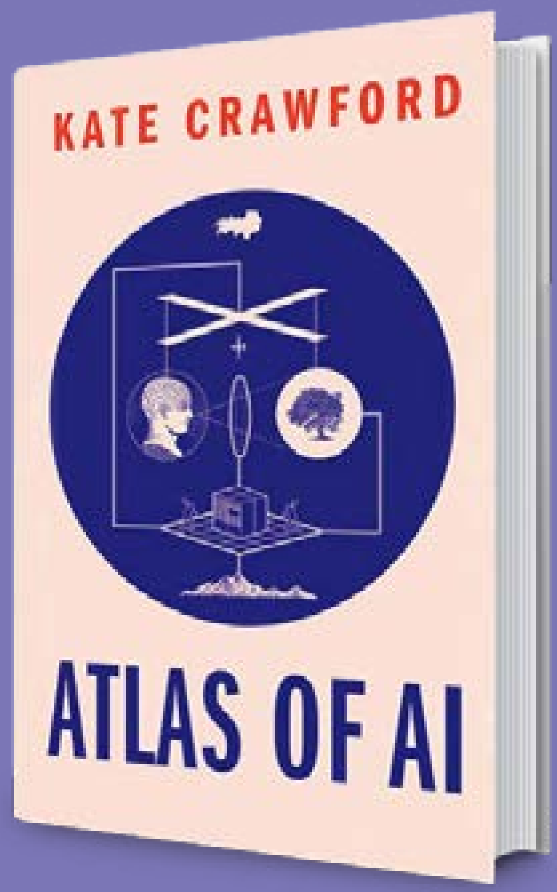
Seeking exposure to upside volatility

Volatility is a feature of return time series in the real world – that is probably something we can all agree on. In as much as downside volatility is feared and should be avoided, upside volatility can significantly improve return profiles. Ideally, portfolios should include securities which have the potential to deliver large, outsized returns against limited and known downside – this is an option pay-off structure, which in a portfolio can deliver enhanced returns because it now has exposure to volatility, but to the upside.

The Sasol example mentioned earlier illustrates the idea well: at its weakest price of R20.77/share in March 2020, Sasol embedded an option pay-off structure and subsequently went on to generate a return of some 1,800% to date. Portfolios holding the stock, like ours, have benefitted from the windfall return, the likes of which is only achievable when an untenable situation reaches a tipping point.

Hindsight is 20/20, and it is remarkably difficult to call the bottom on anything, even if you are nearly certain it will go up in the future. But there are moments in time when unique events give rise to untenable dislocations within the market. In portfolio construction, avoiding big downside potential is certainly important, but being aware of when big upside potential exists at reduced risk, and alert to its potential, could make all the difference in the world. □

Aadil joined M&G Investments in July 2013 as an Equity Analyst. In August 2018 he joined a global equity hedge fund in London, before returning to M&G Investments in January 2020 as Head of Equity Research. With 15 years' investment experience, Aadil's qualifications include a BCom degree (Hons, cum laude) from the University of Pretoria and a Masters in Finance degree from INSEAD. He is also a CFA charterholder.



Janneke van Rooyen
Quantitative Analyst

The dark side of AI?

I asked a colleague for some book suggestions and was excited when one of the books on the list was called *Atlas of AI*. I naively jumped to the conclusion that I was going to read about talking cars and robot nannies. Instead, it got me thinking of the 2013 dystopian sci-fi movie *Elysium* directed by Neill Blomkamp, a film I enjoyed watching, but not a world I would ever like to experience myself. This is what Kate Crawford sets out to do in *Atlas of AI* – change the way we think about artificial intelligence.

AI in the context of this book refers to machine-learning systems used, for example, in Google Search, facial detection and recognition, spam filters and Roomba Robot vacuum cleaners. The book sets out to describe AI as the sum of its parts. This includes the more obvious components, like the apps we use and the devices we use to access these apps, as well as the resources that go into the production of these devices. It also includes the less obvious: the training data used by machine learning systems; the labour used to label this data; the environmental and social impact of the extraction and transport of the resources used to produce the devices; and the cost of computation. If you open the book, and not just judge it by its cover, you will come across the full title, *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence.*

Crawford has an impressive list of credentials. She is currently a senior principal researcher at Microsoft, and is also the co-founder and former director of research at NYU's AI Now Institute, to name but a few. The book takes you on a journey by creating an atlas, giving an overview of AI and then zooming in on various parts.

It reads easily and flows well. However, the introduction threw me off a bit, it starts with the story of Clever Hans, a horse who could solve math problems and tell time – to be honest I still don't understand the relevance. The idea behind the Atlas was also not clear initially, but a few pages into the first chapter it all comes together. Below I share highlights of the six main chapters and conclusion.

Chapter One: Earth starts with a description of the writer's journey to Silver Peak in Nevada's Clayton Valley, home of the only lithium mine in the US (this is not coincidental given lithium's significant role in battery production). As she travels, she maps out the environmental, political and social impact caused by the production of technological devices as well as large-scale computation. The author does not mince her words:

"The history of mining, like the devastation it leaves in its wake, is commonly overlooked in the strategic amnesia that accompanies stories of technological progress."

In *Chapter Two: Labour* the author suggests that humans are increasingly treated like robots and investigates the impact of this on labour. She also touches on crowdsourcing platforms like Amazon Mechanical Turk, where businesses can hire workers from across the world to perform microtasks, for instance assigning a photo to different categories.

Chapter Three: Data and *Chapter Four: Classification* go hand-in-hand. There are many interesting examples of large data sets, how they were compiled, and how they are used, highlighting issues around data privacy and surveillance. The inherent bias within classification systems makes up a large part of Chapter Four, for me this quote stood out:

"Every dataset used to train machine learning systems…contains a worldview".

Chapter Five, meanwhile, discusses affect recognition: deducing the emotional state of a person using facial expressions. It gives a detailed account of the psychologist Paul Ekman's work and the development of the Facial Action Coding System (FACS), which identifies a set of distinct muscular contractions on the face called action units. This is followed by a discussion on the critiques of Ekman's theories, as well as examples of where FACS is used.

In *Chapter Six: State* and the *Conclusion: Power*, Crawford ties it all back to the title. She concludes that "AI systems are built with the logics of capital, policing and militarisation – and this combination further widens the existing asymmetries of power".

For me, the author achieved what she set out to do – she changed the way I think about AI. The colleague who recommended this book said she now feels a pinch of guilt when she looks at her smartphone – I must agree. Chapter One made the biggest impact on me, and I found the chapters on data, classification and affect most interesting; *Atlas of AI* also provided a rich history of data extraction and classification.

There is a passage in the introduction where Crawford mentions that instead of claiming universality, this book is a partial account, and the idea is to take the reader along on an investigation to understand how her views were formed. It is important to keep this in mind, especially when you get to Chapter Six and the conclusion. I would have appreciated if her investigation included at least some of the benefits of AI, and at times I found her statements unnecessarily scathing.

I would recommend this book to anyone who has a few hours to spare; you will find at least one interesting bit of information on almost every page – an unusual phenomenon in this day and age. Hopefully, it will change the way you think about AI, too.

Janneke joined M&G Investments in July 2012 and is currently a Quantitative Analyst in the Multi-Asset Team. She is responsible for ensuring that the M&G Investments multi-asset funds are kept in line with their asset allocation models. With 20 years of industry experience, Janneke has worked in a range of Investment Specialist and Data Analyst roles both locally and abroad. She holds a Bachelor of Science degree in Mathematics and Applied Mathematics from the University of Stellenbosch and a Bachelor of Science (Hons) degree in Financial Mathematics from the University of Pretoria.

Invest in consistency

mandg.co.za

In Brief

We're serious about the responsible stewardship of our clients' assets and excellent client service.

Founded in	Number of staff	BBBEE
Cape Town, 1994	180+	Level 1

Offices
Cape Town (HO), Johannesburg, Durban, Port Elizabeth & Windhoek, Namibia

Total assets under management
R284 Billion

Unit trust MANCO
R127 Billion

Segregated and Pooled Life
R156 Billion

AUM Reflected as at 30 June 2022

Ready to invest?

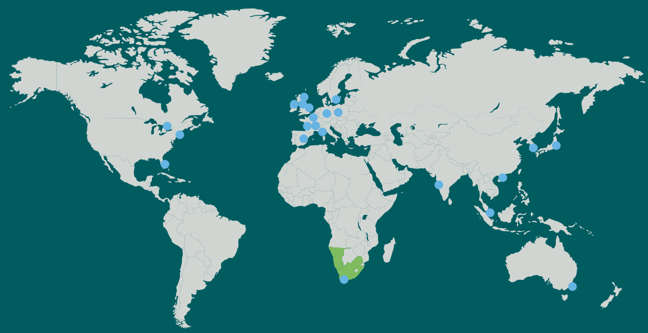
Investing with M&G Investments is quick and easy. Use our **tools** to help determine the best unit trusts to meet your objectives and then complete an **online application form**. If you need help with any part of this process, contact our Client Service Team via the chat widget or call: 0860 105 775

Tools | Invest now

Previously Prudential Investment Managers. MandG Investment Managers (Pty) Ltd is a licensed financial services provider. Click **here** to read our performance disclaimers.

A coordinated global network

M&G Investments Southern Africa works together with experts across M&G plc's worldwide operations to offer a consistent investment philosophy and process.



Our range of funds

Our unit trusts include equity funds, balanced funds, property funds, income funds and tax-free funds.

18 rand-denom. local funds

5 us dollar-denom. global funds

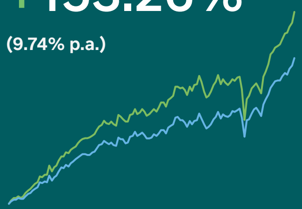
Building block funds | Solution funds | Tax free | Living annuities | Income funds

Our flagship funds

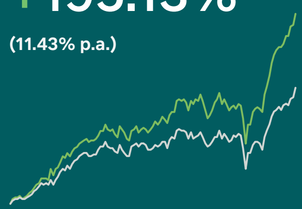
- M&G Equity Fund
- M&G Dividend Maximiser Fund
- M&G Enh SA Property Tracker Fund
- M&G Income Fund
- M&G Inflation Plus Fund
- M&G Balanced Fund

Consistent returns over the last 10 years*

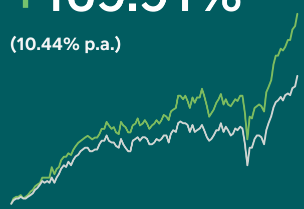
M&G Balanced
+153.26%
(9.74% p.a.)



M&G Equity
+195.13%
(11.43% p.a.)



M&G Dividend Maximiser
+169.91%
(10.44% p.a.)



— Fund — (ASISA) South African MA High Equity Category Mean — (ASISA) South African EQ General Category Mean

*Source: Morningstar, showing 10 year performance to 30 June 2022

M&G Investments

Why Consistency matters

Consistency is a quality that M&G Investments prides itself on. It's a major factor that has led to investment success for our clients and ourselves. And it's also about the inputs as well as the outputs: being consistently disciplined, consistently diligent and consistently determined. That's because in investing, it doesn't matter how good you are on a given day, you have to be consistently good day after day, month after month, decade after decade. It's this quality that has helped us achieve consistent top fund performance year after year. In turn, this has enabled our clients to improve their lives.

Consistently strong returns
Over nearly three decades we have used the same valuation-based philosophy, applying it unemotionally every day and ignoring the short-term swings of the market. We have also always deliberately chosen to incorporate a wide variety of investment ideas in our portfolios, carefully diversifying risk rather than betting on a small number of assets or forecasts. The resulting strong performance track records of our funds confirm the correctness of our belief in consistency.

Consistent innovation
Globally, we have a decades-long track record of consistent innovation – creating cutting-edge investment solutions around the needs of our clients and playing an active role in improving the world we live in. This spans environmental, social and governance (ESG) investing, infrastructure investing and the use of artificial intelligence, among others. We bring the latest expertise to Southern Africa to enhance our own long-standing active approach.

A consistent team
Our investment team has proved remarkably stable, building up their skills through training, experience and close collaboration with each other and scores of their colleagues overseas. Working together over the years, doing the right things right, helps ensure they can generate repeatable successes in the ever-changing markets. And throughout our business, whether compliance, operations or client service, our staff all understand that maintaining consistently high standards is at the heart of everything we do.

Contact us

Client Services
0860 105 775

Email
info@mandg.co.za

mandg.co.za