QUARTER 02 2021

PRUDENTIAL
INVESTMENT MANAGERS

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iStock-472173973

Letter from the CEO

Benard Fick
CHIEF EXECUTIVE

It was another positive quarter for risk assets around the globe, with investor sentiment supported by progress in vaccine rollouts across many large countries, signs of acceleration in economic growth, and promises of more US government spending in the form of a proposed US$2.25 trillion, eight-year infrastructure spending program by the Biden administration. However, gains and sentiment were tempered by growing market concerns over higher US inflation and interest rates which led to bond weakness, mainly in the US.

South African equities outperformed most other emerging and developed markets, recording strong gains for the quarter. We have been commenting for a while now that SA equity market valuations were extremely low compared to history and to other markets. These valuations and a recovery

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in corporate earnings have driven strong price action over the quarter.

Prospects for global growth continued to improve as central banks kept interest rates broadly unchanged at very low, accommodative levels – central banks currently appear less concerned about inflation than investors – and governments continued to enact fiscal support packages for consumers and businesses.

In South Africa, market sentiment was supported by the government kicking off its vaccination campaign on 17 February, helped by news that local manufacturing of the Johnson & Johnson Covid-19 vaccine had commenced, with 30 million doses earmarked for use in South Africa. However, questions remained over insufficient supply

Asset class	Total return Q1 2021
SA equity – FTSE/JSE All Share Index (Rand)	13.1%
SA equity – FTSE/JSE Capped SWIX All Share (Rand)	12.6%
SA listed property – FTSE/JSE All Property Index (Rand)	8.1%
SA bonds – FTSE/JSE All Bond Index (Rand)	-1.7%
SA inflation-linked bonds – JSE CILI Index (Rand)	4.6%
SA cash - STeFI Composite Index (Rand)	0.9%
Global equity – MSCI All Country World (Total) (US$ net)	4.6%
Global equity – MSCI World (Developed) (US$ net)	4.9%
Global equity – MSCI Emerging Markets (US$ net)	2.3%
Global bonds – Bloomberg Barclays Global Aggregate Bond Index (US$ net)	-4.5%
Global property – FTSE EPRA/NAREIT Global Property REIT Index (US$ net)	7.0%

SOURCE: Prudential, Bloomberg, data to 31 March 2021 and the slow pace of the rollout.

Also helping the improving sentiment was news that the South African economy grew by an annualised 6.3% q/q in Q4 2020, beating market expectations of a 5% increase, with eight out of 10 industries reporting positive growth in the fourth quarter. The South African Reserve Bank lifted its projected total 2021 GDP growth to 3.8% from 3.5% previously and kept interest rates at near-record lows. Local inflation remained subdued.

Finance Minister Tito Mboweni unveiled a better-than-expected national budget in February, which saw none of the widely speculated personal tax increases, in favour of fiscal consolidation and reined-in expenditure to support the pandemic-battered economy. Mboweni proposed a government wage bill cut to help reduce government debt, and to aid in the funding of the free nationwide vaccine programme. Investors, however, remained cautious over the path of recovery outlined by Mboweni, with Moody's stating that the lower budget deficits were unlikely to prevent debt from rising. Fitch said the country still faced "severe challenges" to implement fiscal consolidation.

The FTSE/JSE All Share Index delivered an impressive 13.1% return in rand terms for Q1 2021, benefitting from higher commodity prices and the stronger global and local growth outlooks, as well as re-rating. Gains were led by a strong performance from Resources shares at 18.7%, while Industrials delivered 13.0%. More locally-focused sectors were not as impressive but still in the black, with Property posting an 8.1% return and Financials producing 3.8%. Forward earnings yield upgrades have started to come through in the local market, especially for Resources companies, and to a lesser extent for Industrials. Even SA bank forward earnings have experienced upgrades, although to a smaller degree.

The FTSE/JSE All Bond Index (ALBI) was in the red for the quarter with a -1.7% return as foreign investor demand spluttered. The yield curve continued to flatten as bonds in the 1-3 year maturities sold off more than longer-dated bonds, a move that benefitted our Prudential funds on a relative basis, as we are holding longer-dated bonds in portfolios. SA inflation-linked bonds posted another strong performance, delivering 4.6% as investors sought some inflation protection, and cash (as measured by the STeFI Composite) produced 0.9% for the three-month period.

Most Prudential funds outperform

After having experienced poor returns at the height of the Coronavirus crisis, we were very encouraged to see last quarter's global and local equity market rebounds extend into the new year. Prudential's client portfolios were well-positioned to benefit from the strong local equity performance (given our overweight exposure to SA equities in our best-view multi-asset portfolios), adding to outperformance for the quarter and lifting 12-month returns substantially. Equally, our stock selection also contributed to outperformance in our equity unit trusts, with contributions from the likes of Anglo American, Implats, Amplats, Sasol and Sappi, to name but a few. The Prudential Equity Fund managed to return an exceptional 62.6% for the 12 months to 31 March, ranking it in the top-quartile in its ASISA category for all annual periods out to 10 years.

Our preference for longer-dated SA nominal bonds also helped to cushion losses in this asset class for the quarter, as the SA yield curve experienced bigger losses in short-dated than longer-dated tenors. At the same time, our client portfolios benefited from our overweight exposure to inflation-linked bonds (ILBs) given these assets' significant outperformance versus nominal bonds (nearly 5 percentage points) during the period. This helped the Prudential Balanced Fund return 36.0% for the 12 months to 31 March 2021 and the Prudential Inflation Plus fund to return 23.8% for the same period.

The table below shows the annualised returns of our Prudential Unit Trust funds for periods up to 10 years, ending on 31 March 2021. We remain confident that portfolios are positioned appropriately given current asset valuations, and we anticipate much more pleasing outcomes over the next three to

Prudential Fund Performance to 31 March 2021 (Rands)

Prudential Unit Trust Fund	Q1 2021 Return %	1-year Return %	3-year Return p.a. %	5-year Return p.a. %	10-year Return p.a.%
Equity Fund	16.2	62.6	9.5	8.3	11.2
Benchmark	12.2	48.5	5.7	4.6	8.1
Dividend Maximiser Fund	15.1	53.2	8.3	7.0	10.4
Benchmark	12.2	48.5	5.7	4.6	8.1
SA Equity Fund*	16.2	58.9	4.5	5.8	10.2
Benchmark	12.6	54.2	4.3	4.8	9.1
Enhanced SA Property Tracker Fund	6.3	31.3	-14.3	-10.0	3.8
Benchmark	6.4	34.4	-12.9	-9.0	4.4
Balanced Fund	8.5	35.6	6.3	5.8	9.9
Benchmark	7.4	30.7	7.4	5.5	8.4
Inflation Plus Fund	5.6	23.8	3.1	3.5	8.3
Benchmark	2.0	6.3	7.3	7.8	8.5
Enhanced Income Fund	0.0	6.6	5.1	6.2	7.1
Benchmark	0.9	4.6	6.3	6.8	6.9
Income Fund	1.0	5.0	7.1	N/A	N/A
Benchmark	0.9	4.6	6.3	N/A	N/A
Global Equity Feeder Fund	11.7	34.5	18.2	11.6	15.7
Benchmark	5.4	27.9	20.6	13.3	18.0
Global Balanced Feeder Fund	3.3	14.1	N/A	N/A	N/A
Benchmark	3.0	13.2	N/A	N/A	N/A
Global Inflation Plus Feeder Fund	-0.4	3.3	11.6	4.8	10.4
Benchmark	1.8	-16.3	7.3	1.6	8.9
Global Bond Feeder Fund	-5.1	-3.7	9.7	2.7	10.5
Benchmark	-8.1	-13.4	10.6	2.7	10.5

SOURCE: Morningstar
**SA Equity Fund reflects zero-fee B Class returns. All other funds are A class returns (returns after all fund management fees and other charges).*

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five years.

Prudential strengthens ties with M&G plc

During the quarter we were excited to announce our plans to further strengthen our ties with our global parent and founding shareholder, London-based M&G Investments ("M&G"), taking advantage of new opportunities that have arisen from the de-merger of M&G plc from Prudential plc in October 2019. To cement a solid base for closer integration, M&G is planning to increase its ownership in Prudential from the current 49.99% to 50.12%, returning M&G to a position of majority shareholder. We are awaiting regulatory approval for this transaction, which we expect to be completed during the second quarter of this year. We also plan to align with M&G's global identity in due course. Further details can be found on our website **https://www.prudential.co.za/insights/articlesreleases/prudential-investment-managers-south-africa-strengthens-ties-with-global-parent-mg-plc/**.

The increasingly globalised and competitive nature of the investment industry has meant that a closer integration with our large, international parent company will be important for our future success as a business and as investors of our clients' savings. We (and by extension our clients) will have easier access to the latest technological advances in investment management and administration, innovative new investment solutions such as in the areas of unlisted credit and ESG investing, and closer sharing of active investment ideas from around the globe, all of which will enhance our investment offering to clients. Equally, we will be able to further leverage off M&G's scale and global supplier relationships, and align with their continuously improving global best-practice governance and risk-management standards for asset managers.

Most importantly, we expect this to result in better investment outcomes for our clients. They will benefit to an even greater extent from our closer cooperation with

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M&G Investments' large team of investment experts, global best-practice, and expanded access to the latest global investment ideas and technology, among many other advantages.

Looking forward, we are acutely aware that the world, and South Africa, have not escaped the ravages of the Coronavirus – much more needs to be done. Despite this, we remain optimistic that the supportive global policies and positive local economic developments of recent months will continue to improve growth prospects and investor sentiment, in turn extend the turnaround we have experienced during the quarter. Based on current asset class valuations, we believe investors will be well rewarded for taking measured risk in their portfolios, despite the still-precarious environment in South Africa and many other countries.

We hope you enjoy this Q2 2021 edition of *Consider this*, and as always welcome any feedback you may have.

Sincerely,

Bernard

Bernard joined Prudential in 2008 as Head of Institutional Business and was appointed as Chief Executive Officer in 2010. With more than 27 years of industry experience, Bernard previously worked at Alexander Forbes in a range of leadership roles, including Managing Director of the Namibian business as well as Head of the Asset Consulting Division. Bernard holds a Bachelor of Commerce degree in Maths and Actuarial Science from Stellenbosch University and is a Fellow of the Institute and Faculty of Actuaries and the Actuarial Society of SA.

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TABLE TALK

SANDILE MALINGA
PORTFOLIO MANAGER

KEY TAKE-AWAYS

- *Investors have been selling longer-dated US Treasury bonds amid worries over a possible acceleration in inflation due to the government's large spending programmes and recovery in economic growth. Yields have risen significantly (over 100bps) in the past seven months.*
- *Investors are concerned the higher yields from safe-haven assets like US Treasuries will cause others to switch out of higher-yielding emerging market assets into USTs, sparking a sell-off. This has happened previously as US interest rates rose.*
- *However, Prudential doesn't believe UST yields have risen enough to cause a sell-off in emerging markets. In the past, it was shorter-dated USTs (out to three years) and not the longer-dated tenors, that saw rising yields which triggered the emerging market sell-off. This has not been the case in recent months.*

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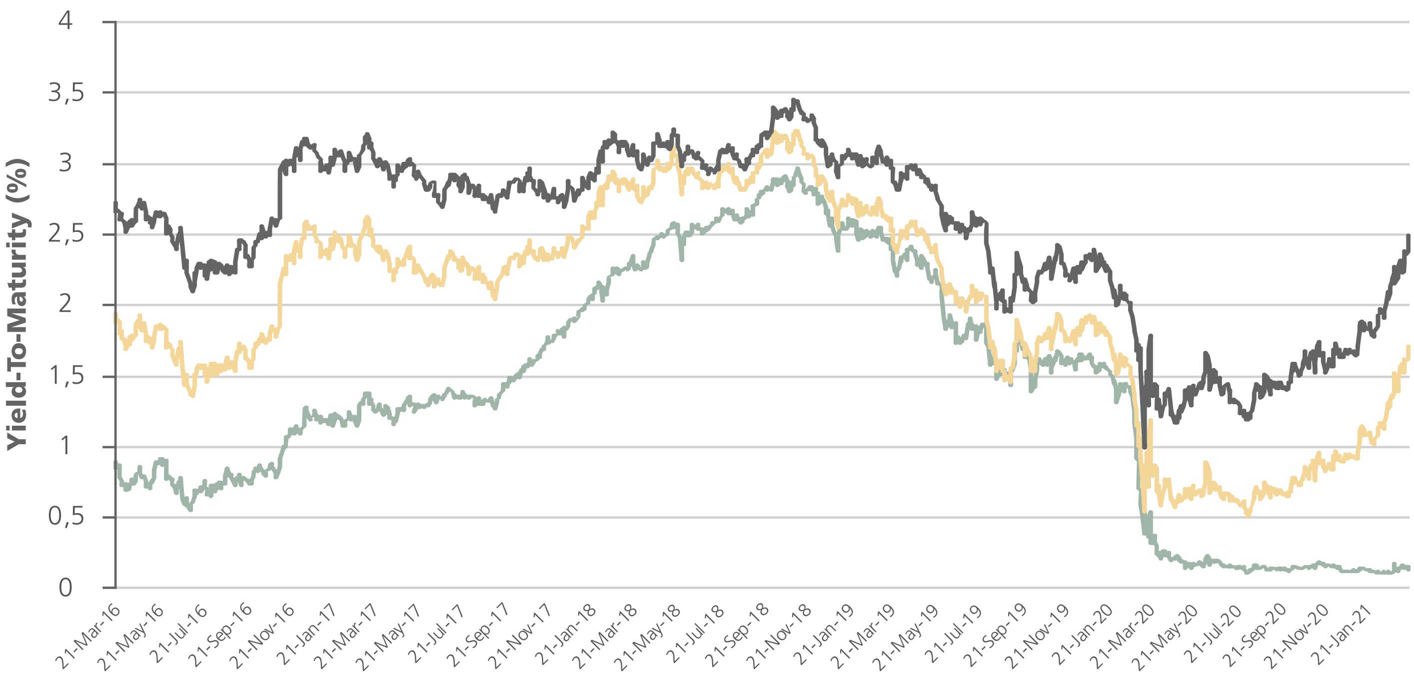
Q I have been hearing that we are likely to get a sell-off in emerging market investments soon, because US bond yields have risen so far so quickly. What is your view on this?

A It's true that some investors are worried that the recent increase in long-dated US Treasury (UST) bond yields could soon have a negative impact on the demand for emerging market assets, including SA equities and bonds and cause a broader sell-off in emerging markets (EM). The yields on 10- and 30-year UST's have jumped more than 100bps (1.0%) over the past seven months, as Graph 1 shows, with the benchmark 10-year bond at over 1.6% in late March versus a low of around 0.5% in mid-August 2020. However, at Prudential we believe it will take a larger increase in UST yields from current levels to cause a shift in investor risk appetite and an EM sell-off.

Graph 1: Long UST bond yields risen 100bps since August 2020



SOURCE: Bloomberg

While the move in UST's has been very quick and quite substantial in a historical context, we are somewhat more sanguine about it than we would be under "normal" circumstances due to the exceptionally low yields/ high prices at which USTs (and other sovereign developed market bonds) had been trading prior to August, given the prevailing easy monetary policy globally. Therefore it's not surprising that a relatively expensive asset has experienced a correction.

The previous time rising UST yields led to problems for emerging markets (and other risk assets) was 2016-2018, when it was the rise in short-dated US yields that arguably caused maximum damage, as this tightened global monetary/financial conditions and had a profound dampening effect on risk appetite and thus risk assets. The higher yields offered by such safe-haven assets tempted many investors to switch out of riskier assets.

Yet one aspect of this recent move that has been very different to the previous episode has been that two-year UST's have hardly moved: yields have remained virtually flat, as Graph 1 clearly shows. They have been anchored by the US Federal Reserve (Fed)'s steady, exceptionally low interest rate policy and its bond purchasing (quantitative easing) programme. The central bank has been steadfast in reiterating its continued support for low interest rates until US economic growth and employment recover. As such, it has been the 10-year and 30-year bonds where the re-pricing has taken place, steepening the yield curve notably. With the shorter end of the yield curve unaffected, we have not seen an impact on investor preferences and risk appetite: the "risk-on" sentiment has stayed intact.

At the same time, the equity market has been quite comfortable with pricing-in higher growth. This is supported by upward revisions to global GDP forecasts and equity earnings as confidence in country and regional vaccine rollouts improves. According to the March 2021 interim OECD Economic Outlook report, global GDP growth is now projected to be 5.6% this year, an increase of more than 1 percentage point from its December report. It therefore makes sense that assets which typically do well in rising growth environments, like EM equities, are doing well right now.

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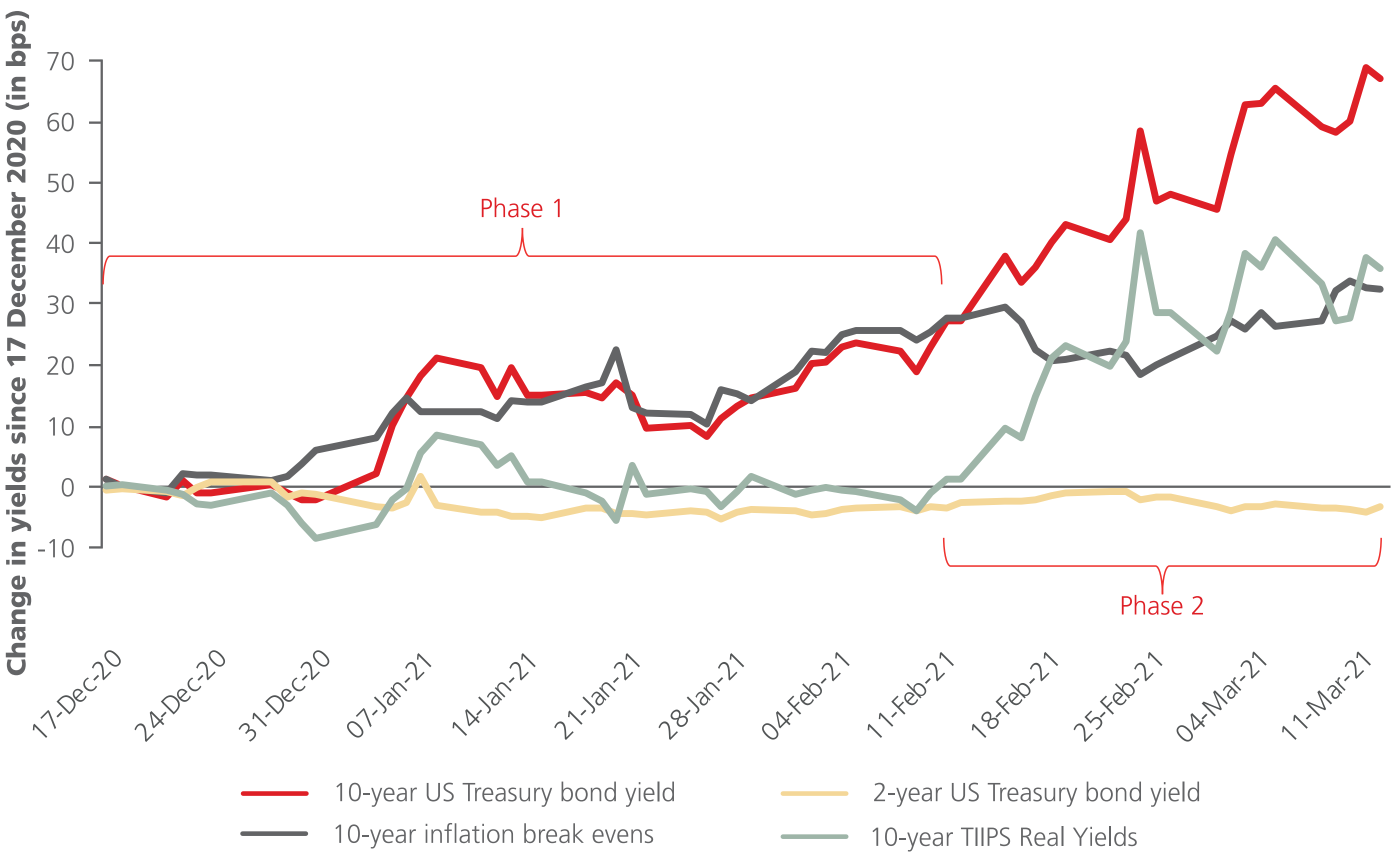
It's not clear to us exactly what factors are behind the rising long bond yields in the US, apart from speculation around accelerating inflation and some technical US Treasury microstructure issues. However, the Fed has indicated that it is not concerned by the increase and has thus committed to maintaining current policy. In fact, if we look closely at the change in US bond yields over the last three months displayed in Graph 2, there are two distinct phases:

- Phase 1: December 2020 to mid-February 2021: the increase in 10-year US bond yields is associated with an increase in inflation expectations, but
- Phase 2: Mid-February 2021 to today: the subsequent rise has been driven more by higher real yields than inflation expectations.

M&G Investments, our global shareholder, believes that there is

Graph 2: Change in yields over last 3 months



SOURCE: Bloomberg

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a tipping point above which higher 10-year and 30-year UST yields could become problematic for global risk appetite, but that current levels are still far from this point. If we saw another quick 100bp sell-off in 10-year USTs, for example, this could become worrying for EM assets. For now, however, we don't believe investors need to be concerned about the jump in UST yields. As long as the market is comfortable that real bond yields will remain steady and the Fed continues to buy up the extra bond issuance required to finance the government's higher spending from the US$1.9 trillion Coronavirus rescue programme, investor risk sentiment should remain supportive of emerging market assets. ■

Sandile joined Prudential in 2013 as a member of the fixed-income team, and later joined the multi-asset team in 2018. He is currently the joint-Portfolio Manager of the Prudential Money Market, Income, High Interest, Balanced and Inflation Plus Funds. His role involves providing analytical and economic support to our multi-asset and fixed-interest investment process. He is also a member of the Prudential Asset Allocation Committee. With 13 years' industry experience, Sandile previously worked for Investec Asset Management as a fixed interest dealer and analyst. He also served as Portfolio Manager on large institutional fixed interest client mandates with liability immunization objectives. Sandile holds a BSc in Mathematical Statistics and Actuarial Science and is a Student member of the Faculty of Actuaries.

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The SA motor industry: Blowing a gasket in 2020

Pindiwe Mbelani
EQUITY ANALYST

KEY TAKE-AWAYS

- *South Africa's motor vehicle industry had already been shrinking ahead of the onset of the Coronavirus, and the economic lockdowns it prompted in 2020 had a devastating impact on motor vehicle sales, rentals and manufacturing, causing even more severe downsizing.*
- *The four main listed motor vehicle companies were hard-hit in terms of profits, job losses, salary cuts, fleet and dealership downsizing and more, and their share prices fell significantly during the worst of the crisis.*
- *Prudential added to its position in Motus, and bought shares in CMH, when the companies' price-to-book valuations were extremely attractive, due to their improved profitability following cost-cutting, much stronger cash generation and prudent cash management. The share prices have subsequently rebounded, adding vaue to client portfolios.*

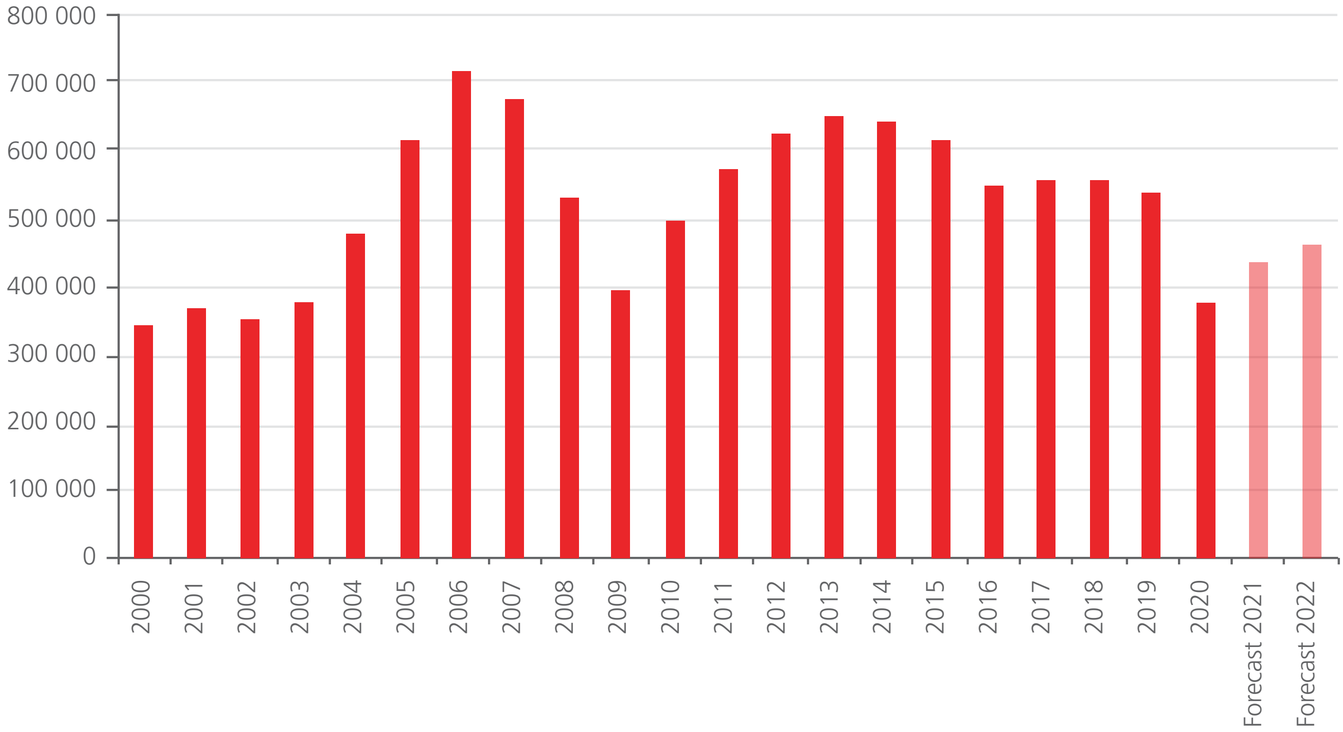
The advent of the Coronavirus pandemic in South Africa was the equivalent of a blown gasket for the local motor vehicle industry, rendering it incapable of powering ahead without some serious repairs in an already-weakened environment. The economic lockdowns of 2020 caused motor vehicle sales to grind to a halt for a time, prompting further downsizing across the major companies, and it was only these "repairs", plus a better-than-expected performance from the pre-owned vehicle business segment in the last two quarters of the year, that supported industry results. Although both new and used car sales were lower for the year, the cost-cutting and resulting improved profitability left the companies better equipped to accelerate out of the crisis, albeit still having to navigate tough conditions.

An important, but shrinking, sector

The local automotive industry, comprising vehicle manufacturing, exports and retail sales, contributes some 6.4% to South Africa's GDP, while accounting for a total of around 457,000 jobs across manufacturing, assembly, retail sales and other associated roles, thanks to the strong multiplier effect created by the sector. It is the country's largest manufacturing industry. However, these numbers have been shrinking in recent years, as Graph 1 highlights, due to the slowdown in the economy and associated pressure on consumer spending: new vehicle sales amounted to only 536,000 in 2019, a 25% decline from their peak of nearly 714,000 in 2006. Consequently, even before the pandemic, the sector had been downsizing in the form of closing loss-making dealerships; moving away from dealership brand exclusivity to the consolidation of several brands under one dealership; reducing real estate space and staff complements; and cutting rental fleet sizes to help companies remain profitable in a shrinking market.

Not only have consumers been cutting back their new car purchases in absolute terms, but they have also been trading down from premium, more expensive brands like Mercedes and BMW to the more affordable brands like Toyota, VW, Hyundai, Renault, Nissan, Mazda, Kia, as well as relative newcomers Suzuki and Haval. Affordable brands have gained good traction in the local market, having managed to improve their quality significantly

Graph 1: SA's new car sales declining even before the pandemic



SOURCE: NAAMSA

over the years, taking market share and heightening competition even further.

Coronavirus takes new sales levels back 20 years, devastates rentals

Into this depressed environment came the Coronavirus, with its accompanying market lockdown, in March 2020. Vehicle sales and manufacturing were completely shut down from 27 March to 13 May, when most of the damage was done, with April sales registering an incredible 98% drop from 2019 levels and May down some 68% after the reopening. And sales have only recovered partially since then: every subsequent month's volumes have been below their 2019 equivalent. For 2020 as a whole, local new vehicle sales totalled only 380,000, 29% lower than 2019 and at a level last seen some 20 years ago, as illustrated in Graph 1. Buyers have not been sufficiently tempted despite 50-year low interest rates. Vehicle exports from South

Africa also fell by nearly 30% for the year as a result of a plunge in offshore demand, hitting jobs and industry revenues alike.

Exacerbating the conditions has been the virtual standstill in business travel and international tourism for most of 2020, which has had a devastating impact on the car rental businesses of the country's four major listed vehicle retailers: Motus, Bidvest, Barloworld and Combined Motor Holdings (CMH). Approximately 13% of new cars sold in the country are sold on to the rental businesses every year. Leasing operations including those of Europcar and Tempest (both owned by Motus), Bidvest Car Rental (Bidvest), Avis (Barloworld) and First Car Rental (CMH) were dealt a severe blow, and rental demand remains subdued to the present day.

Used vehicle market thrives

One of the only lights in the industry in the last year has come from the pre-owned vehicle market, where demand has risen in recent years due to the trend of consumers moving away from buying new cars. This was only accelerated by the pandemic. When sales restrictions eased in the latter months of 2020, used cars saw strong purchases due to pent-up consumer demand, as well as new demand from consumers preferring to switch away from unsafe public transport, a trend that was mirrored in many other countries. Also in favour of the used car market was the rand's sharp depreciation, which made new cars more expensive, as well as the decrease in supply from the new vehicle market due to the disruptions in manufacturing. All these factors helped create a floor under pre-owned market prices.

At the same time, the surge in demand for used cars also supported the rental market to some extent. This is because when the rental companies are regularly "de-fleeting", or reducing their inventory of used rental cars at the end of the tourist season, they sell into the used car market. Last year, many in the industry were concerned that dumping new supply after the severe lockdown conditions where dealerships were not allowed to operate (just after peak tourist season when the most de-fleeting occurs – April to June) would overwhelm demand and cause the used car market to collapse. However, this didn't happen. Instead, the rental companies sold their stocks slowly into the market and were also met with resilient demand in the third and fourth quarters of the year. Surprisingly, groups like We Buy Cars reported their best August sales ever, and Barloworld's used car division similarly experienced an excellent August and September. This strong demand contributed to maintaining a price floor under the pre-owned market.

The automotive retailers managed to improve their profit margins after having taken tough downsizing measures. Because they had larger-than-usual de-fleeting that was necessitated by lower rental activity levels, they had more cash on hand, using it in turn to pay down their debt more quickly and improving their balance sheets. Plus, having aggressively cut the size of their rental fleets there was less depreciation to write off, lower overhead costs due to fewer branches and staff (Motus had retrenched 45% of its rental staff, for example) and, also key, improving the utilisation rates from very low levels for their (fewer) existing vehicles. Financing costs for the industry also fell due to the SARB's aggregate 300bps (3%) interest rate cuts during the year, lower debt levels and having fewer vehicles to finance. For example, given that Motus has debt of R7.6 billion on average, the 300bp reduction in the interest rate saves them around R200 million per year in interest costs, which is highly earnings-accretive.

Not firing on all cylinders

Despite these positive developments, none of this rationalisation has proved successful in returning the vehicle rental businesses to profitability. The general consensus is that it takes a 65%-70% utilisation rate for a company to be profitable, and Motus most recently reported a utilisation rate of 59%. The latest financial results across the motor industry confirm that even though companies are getting closer to profitability in their shrunken formats, much higher total demand is needed for the rental segment to be profitable. This requires the return of international tourism and resumption of business travel, and without these key factors, the rental market is incapable of firing on all cylinders.

If we look at the impact the pandemic

has had on the individual listed companies in the sector, we see that all four companies' share prices de-rated considerably in the first few months of the lockdown, with the 68% drop by Motus the largest, and the 29% decline by Barloworld the smallest. Both CMH and Super Group lost around 50% of their value. Subsequently all have experienced a gradual re-rating, largely due to their higher-than-expected cash generation and improved profitability. All the companies acted prudently, conserving and generating more cash, paying down debts and cutting costs severely.

Geared to meet the post-Coronavirus world

Looking ahead to 2021 and beyond, the National Association of Automobile Manufacturers SA (NAAMSA) expects local new vehicle sales to recover only gradually due to depressed consumer and business sentiment. As Graph 1 shows, it is forecasting a 15% increase in new vehicle sales volumes to around 440,000 for this year, gradually building up to potentially reach 2019's volumes only from 2023 or so. This is slower than most other countries' projected recoveries due to the recessionary environment we had already been experiencing. Still, demand is improving, helped by exceptionally low interest rates, subdued core inflation and dealer incentives, among other measures. These factors, combined with good demand in the used vehicle market and the prospect for the local rental market to improve as tourism and business travel gain ground (propelled by spreading vaccinations), gives us reason for optimism that the sector is over the worst. While it will not be a smooth road ahead, at least the companies are now appropriately sized and geared to meet the exigencies of the post-Coronavirus world.

Following we offer snapshots of Motus and CMH, and explain why we are holding these companies' shares in select client portfolios, including the Prudential Dividend Maximiser Fund.

Motus: Market leader with strong cash flows

Motus is a good example of the experience of the entire sector during the pandemic. It suffered the sector's largest share price decline, primarily because it has the largest market share (at 20.2% as of June 2020) and is very dependent on the local vehicle market. It unbundled from the Imperial group

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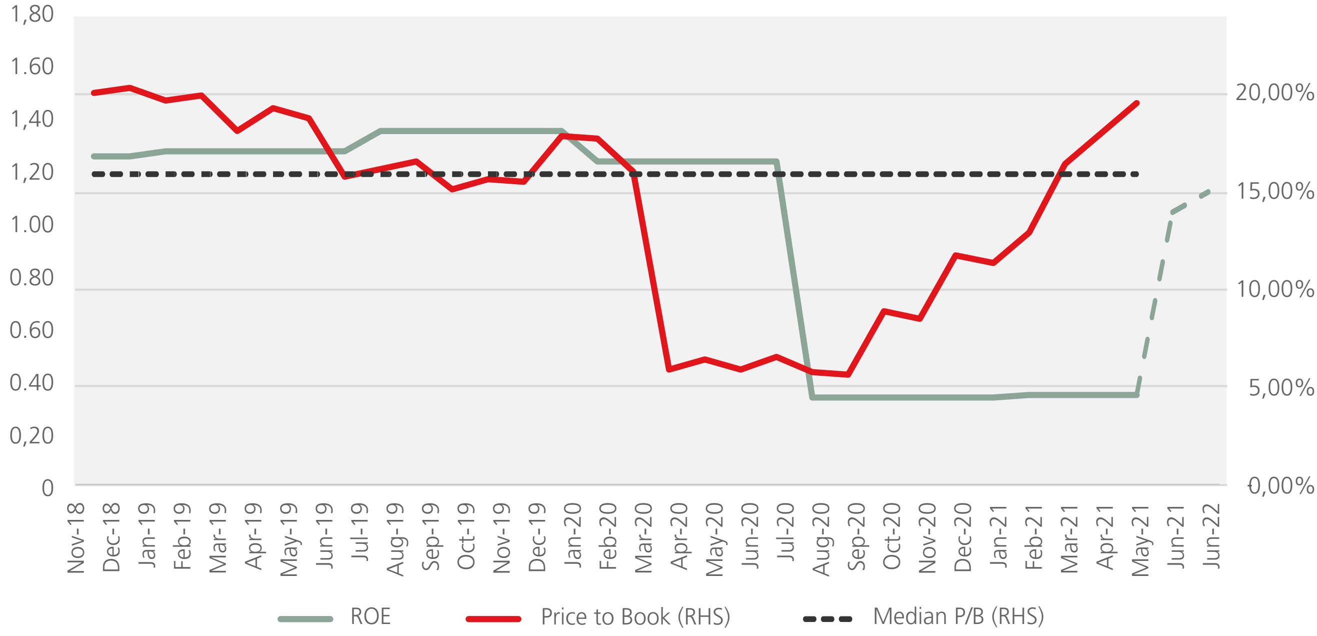
Graph 2: Prudential adds Motus as P/B falls below exceptionally cheap 0.6X



SOURCE: Company data, Bloomberg

in November 2018, and is squarely focused on the industry, with a fully integrated business model across imports and distribution, retail, rental, financial services, and aftermarket parts and services. It is focused on entry-level and affordable vehicles rather than the premium segment, and has exclusive sales agreements with Hyundai, Kia, Renault and Mitsubishi, as well as selling popular brands like Toyota and VW.

Prior to the pandemic, Motus was highly cash generative, with a strong free cash flow and balance sheet: it had maintained a net debt/equity ratio (gearing) within its longer-term target range of 50%-75% for several years. During the April-June 2020 period, at the height of the lockdown and end of its financial year, Motus reported a 70% decline in revenue from its rental operations (Tempest and Europcar brands in South Africa), a 40% drop in its retail sales operations and a 50% revenue fall from imports and distribution. Although the company's vehicle retail and rental business accounted for some 70% of its revenue in the 12 months to June 2020, this segment contributed only 14% of its total profit – the operating margin was only 0.6% for the period. By contrast, its financial services business stood it in good stead, despite its small (3%) contribution to group revenue, thanks to its annuity revenue streams: it comprised nearly 40% of its operating profit with only a 10% decline in revenue. In total, Motus reported a 7.8% decline in total revenue and 41% drop in total profit for its 2020 financial year.

The group also has retail sales and rental businesses in Australia and the UK that provide some diverse income streams. The Australian vehicle market didn't experience as large a downturn as South Africa, and has recovered much more quickly, and although the UK vehicle market was hit hard by lockdowns, it is also bouncing back more quickly than the local market.

A large part of Motus' focus during the pandemic was on cutting its costs, starting in an environment where it had already downscaled due to South Africa's extended economic malaise. Not only did it accelerate its de-fleeting, cutting its rental fleet by 35% or some 7,000 vehicles, but it also closed 19 outlets countrywide and reduced its rental workforce by 45%. Every source of spending was impacted, with both voluntary and compulsory retrenchments, salary cuts for everyone earning over R250,000 annually, salary freezes for FY2021, the postponement of all capital spending and property rental deferrals, among other measures.

Motus also opted to conserve its cash, suspending its dividend payments for both December 2019 and June 2020, but resuming them for December 2020 with a 30% payout level versus its traditional 45%. This was possible due to its strong cash generation during the year, which also allowed it to conduct share buybacks at attractive share prices. The group made it through the worst of the downturn with its existing debt covenants intact, plus some R5.8 billion in unused debt facilities, while its gearing stood at 60% at the end of June 2020, only slightly higher than the 56% a year earlier.

At Prudential we owned shares in Motus before the pandemic, buying when it traded below its longer-term valuation, based on the company's strong free cash flow and balance sheet, plus its leading market position and large offering of used vehicles and small SUVs. Its retail business is also squarely focused on the growing entry-level and affordable vehicle segments, and the management team has proved its ability to be flexible and scale its operations to match the changing conditions of South Africa's automotive market. Going forward it has a selective acquisition strategy to further diversify (already with a small presence in Southeast Asia and Southern and Eastern Africa) and implement more operational efficiencies and innovations.

We bought more exposure to Motus in our client portfolios when its P/B was extremely low, after its share price plunged due to the Coronavirus lockdown in March-April 2020, at one point down some 68% to a low of around R23.80. Since then, its price/book value ratio (P/B) has re-rated, rising to 1.3X and closer to its historical P/B of 1.5X. The return on equity (ROE) is also expected to improve to pre-crisis levels. Its share price managed to nearly double by the end of 2020, and as of the end of March 2021 had gained some 287% from its April lows, trading at R89.40 compared to its pre-Coronavirus price of R73.00. This is an excellent example of how Prudential's clients have benefited as a result of our active, valuation-based investment process.

CMH: Offering excellent value during the crisis

By Kaitlin Byrne, Portfolio Manager

The conditions faced by CMH, and the actions it took to navigate the crisis, were very similar to those of Motus, with its primary focus equally being on retail and rental vehicle operations in South Africa (accounting for over 80% of its profits). For its latest interim results to 31 August 2020, the group reported a 38% fall in revenue, while operating profits were down 76%, and its operating profit margin was squeezed further from the 3.5% it

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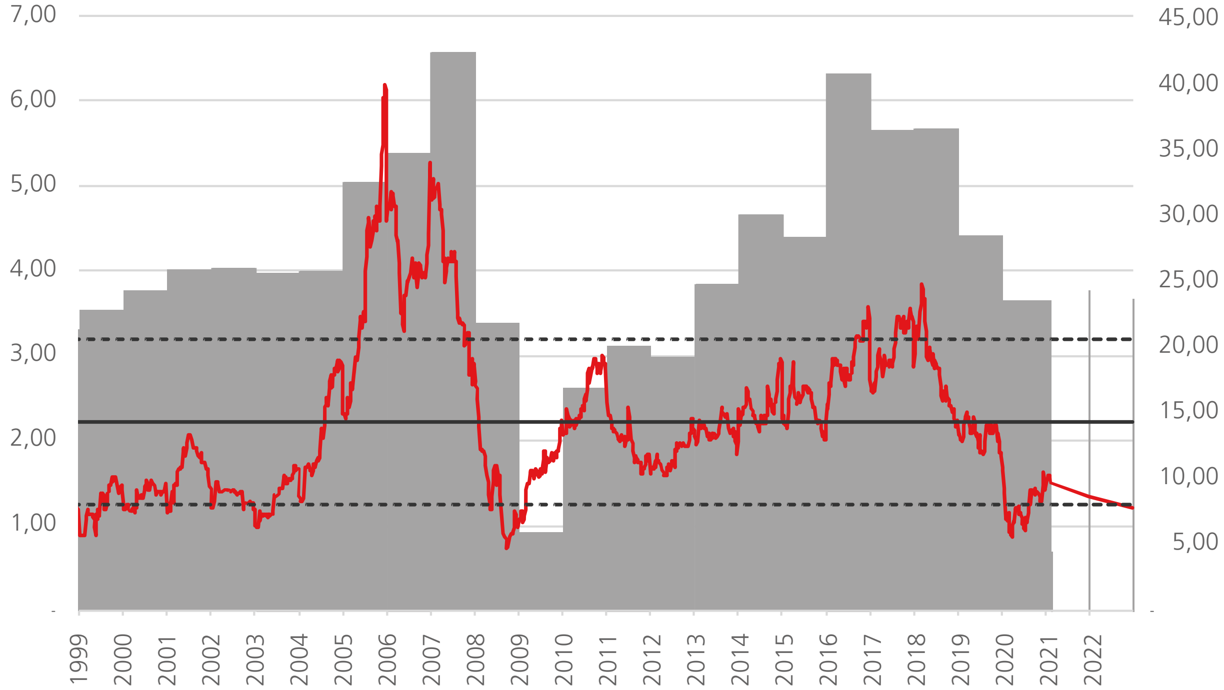
Graph 3: Prudential buys CMH as P/B falls below attractive 1.0X P/B



SOURCE: Refinitiv

recorded in 2019. This resulted in a loss for the six months of R14.3 million compared to a R90.5 million profit a year earlier.

CMH also underwent extreme cost cutting and down-sizing as it reported total staff numbers were cut by 24% over the six months and it instituted a salary sacrifice programme. It was also able to negotiate concessions from its landlords like rental holidays and payment deferrals, while merging franchises to reduce its rental costs.

Thanks to de-fleeting, its finance costs were lower and cash resources rose 13% for the period, and the group was able to declare a dividend for the six months to August 2020 (based on its earnings for the year to end Feb 2020), after skipping its annual dividend payout for the 12 months to end February 2020 to conserve its cash resources.

Being the smallest company in the motor vehicles sector, CMH has low structural costs relative to its

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competitors and also primarily offers affordable brands like Haval and Suzuki, catering to the more buoyant end of the local market. Because of its ability to bring in the right brands at the right prices, It has been increasing its market share in recent years, but with a market capitalisation of only around R2.0 billion it is still relatively small compared to Motus's market cap of R17.9 billion.

From its Coronavirus low of around R9.00 in May 2020, the CMH share price reached R15.00 by the end of the year and had nearly doubled to R18.00 by the end of March 2021. Still, this was just off the R18.40 level at which it was trading prior to the advent of the pandemic, so the share has not performed as well as Motus during the recovery. CMH should return to a position where it can earn a 24% return on equity – even with lower rental sales and car sales – as a result of its substantial reduction in costs and interest rate savings.

Consequently, when the company traded at a P/B of 1.0X in March 2020, far below its longer-term fair value of closer to 2.5X P/B, it presented us with a unique opportunity to buy CMH shares. At the same time, it was trading at a very high long-term dividend yield of 18%. Since we believed the cash-generating ability of the business had not deteriorated permanently and we regarded it as an excellent dividend generator, we decided to add it to the Prudential Dividend Maximiser Fund. Subsequently, the CMH share has recovered, adding good value to our clients' returns, but it is still very cheap at a P/B of 1.6X and a long-term dividend yield of 10%. ■

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Pindiwe is an Equity Analyst at Prudential Investment Managers. She joined Prudential in April 2018 and is responsible for analysing stocks within the industrial and financial sectors. She holds an M.Com in Financial Management from the University of Pretoria and is a qualified Associate Chartered Management Accountant, as well as a CFA Level 3 Candidate.

Kaitlin joined Prudential in May 2015 as an Equity Analyst, and has six years of financial industry experience. She is currently the joint Portfolio Manager on the Dividend Maximiser Fund, Select Institutional Funds and the African Equity Funds. Kaitlin is also responsible for research on South African stocks in the Consumer Staples, Industrial and Gaming and Leisure sector, as well as African stocks in the Banking and Telecoms sector. Prior to joining Prudential, 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).

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Two keys to accumulating wealth: Understanding the odds and exploiting them

Ross Biggs
HEAD OF EQUITY

KEY TAKE-AWAYS

- *In an uncertain world, you can improve your investment outcomes by knowing when the odds are favourable and being able to take action. This involves buying when valuations are cheap on an historic basis: at this point, the odds of future outperformance are higher.*
- *This also involves being able to overcome the fear of uncertainty that prevails when valuations are cheap: they are usually at their cheapest during the biggest crises. This is when fear is at its highest but yet it is usually the best time to buy.*
- *Diversifying a portfolio to include several investment ideas and different stocks that can perform well under different future scenarios is important in limiting the downside when the future is uncertain. This lowers portfolio risk and keeps you from relying on one forecast outcome.*

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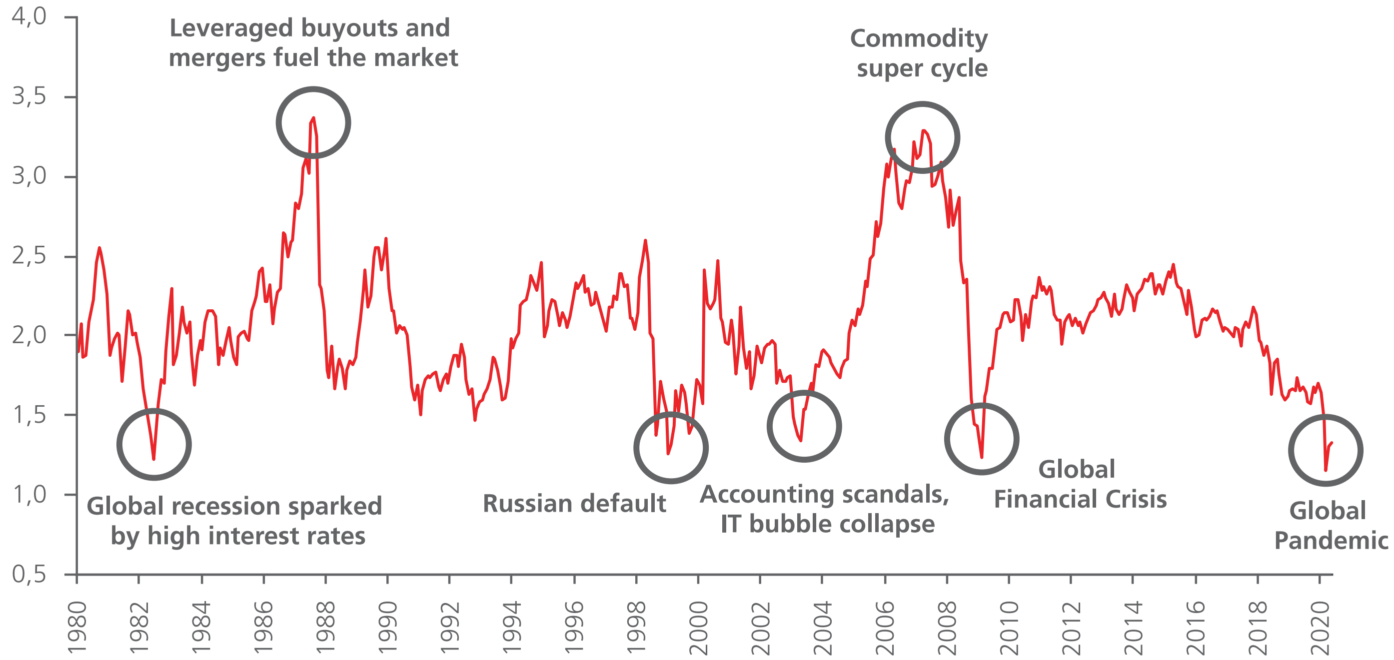
Although none of us can know the future, and investing in the stock market may seem like a huge gamble, in fact there are ways to reduce uncertainty and improve the odds that your portfolio will produce superior returns. Here we discuss Prudential's approach and explain how understanding the investment odds, and being capable of exploiting them, are two keys to successfully accumulating wealth over the long term.

Understanding the odds = understanding valuations

One of the most important factors in constructing our client portfolios is ensuring that we buy assets at cheap valuations compared to their history. This helps reduce future uncertainties and puts the odds of outperformance in our favour. How does this work? Graph 1 shows the history of the JSE's price-to-book value (P/B) since 1980, and indicates investors' odds of getting a good future return. It highlights

Graph 1: Improving the investing odds



SOURCE: Bloomberg, Datastream & Prudential Investment Managers

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that when the South African market trades:

- At a low P/B of around 1.0X, it is very cheap and investors should expect outsized future returns (since the subsequent historic performance usually improves);
- At an average 2.0X P/B, the market looks to be fair value and investors should expect a fair future return (since the subsequent historic performance is around average); and
- At a high 3.0X P/B, the market looks very expensive, so investors should expect a lower return going forward (since the subsequent historic performance usually deteriorates).

So without knowing the future, we can tilt the odds of outsized returns in our favour by buying shares at cheaper valuations. It is also clear from the graph that fantastic buying opportunities are very rare, as the South African market has only traded close to a 1.0X P/B valuation five times in the last 40 years.

That's why, when the JSE's P/B fell to almost 1.0X during the height of the Coronavirus market crisis in March-April 2020, Prudential seized the opportunity to buy high-quality companies at excellent valuations. We recognize that the most important thing to focus on during crises is the odds that the market is offering you. It is very often the case in crises that you as the buyer are being offered fantastic odds to accept the future risks, as looming and dire as they may be or seem to be. These points in the market are nearly always the best times to buy.

Overcoming fear of uncertainty and loss

Yet for most investors, including us, it is exceptionally uncomfortable to buy assets during a crisis, when conditions appear to be at their worst. Many would rather sell to relieve themselves of the intense discomfort they feel from owning assets which are continually falling in price. This is because the human instinct to avoid losses is stronger than that of making potential gains, especially in an environment of such perceived high risk. Many investors therefore don't take the opportunity to buy at these points – it is exceedingly difficult to go against their emotions. Because there is so much bad news around, the future feels even more uncertain and negative.

In the peak of the Coronavirus crisis we heard many reasons from investors as to why it was not a good time to buy. These included:

- Wanting to "wait and see" how circumstances developed;
- Waiting for certain identifiable catalysts to materialise indicating improving conditions; and
- Thinking they could temporarily switch into safe-haven assets and successfully buy back their riskier assets when the outlook improved.

The problem with this reasoning, however, is that by the time the horizon looks less cloudy or the catalysts arrive, everyone else has also seen things improving. Time and again history has shown that large rebounds usually happen suddenly and very quickly, and it is then too late to get back in the market to capitalise on the lowest prices – investors miss out on the exceptional returns available. And perplexingly, in hindsight it is often very difficult to identify a clear catalyst triggering the move higher; it is simply a sudden change in collective market sentiment.

So when these rare opportunities do come around, investors need to be prepared, and understand that making the decision to buy up assets will feel very uncomfortable since there will be many things to worry about. There is likely to be more downside to the market ahead and high volatility to weather. But understanding the odds and being prepared to take advantage of rare crises – as well as the smaller market mis-pricings that occur more frequently – are critical in accumulating wealth over the long term.

There is an important caveat to this approach, however, which is not to take risk simply for the sake of it… you want to ensure that the odds are stacked in your favour. Careful analysis of the factors driving the asset price, our own judgement of the asset's fair value and what other assets we are holding are important considerations in ensuring that a share is not only absolutely undervalued, but also relatively undervalued.

Prudential's track record for delivering strong outperformance over time is built on our understanding and implementation of these factors.

Including diverse ideas to embrace diverse scenarios

Besides using a valuation-based approach when constructing portfolios to deal with uncertainty, Prudential also always considers how a portfolio would perform under the broadest possible range of scenarios, taking account of different potential outcomes.

We try to include many different investment ideas with a variety of stocks to add diversification benefits as well. In this way, the downside is mitigated and upside potential is enhanced, even when something very unexpected happens. We are very cognisant that we, like other investors, do not know what the future holds. We often hear highly regarded economists confidently talking about how interest or exchange rates will go up or down, or how the economy is headed horribly down or fantastically up… only for them to be proven totally wrong. We think it is very dangerous to construct portfolios based on a particular view of the future. What happens if you are wrong? When we construct portfolios, we try to include as many different ideas as possible, all which have good odds. Not all of these ideas will work out, but on balance we hope that we have stacked the odds in the favour of our clients, no matter what future scenarios play out.

Of course the most dangerous risks are usually the ones no one has even thought about, such as last year's pandemic. Ahead of the market crash we were holding quite a few companies which had strong balance sheets and diversified income sources. This strength has enabled these companies to take advantage of the difficult and volatile environment. Some companies are taking away market share from their weaker competitors who are in distress; some companies have aggressively cut costs; and others have taken advantage of their very low share prices to buy back their shares at exceptionally cheap levels. These actions taken during the pandemic have no doubt improved the future prospects for these companies.

Very good opportunities still available

The local market has recovered from the March 2020 lows, but we still think that it currently offers exceptionally

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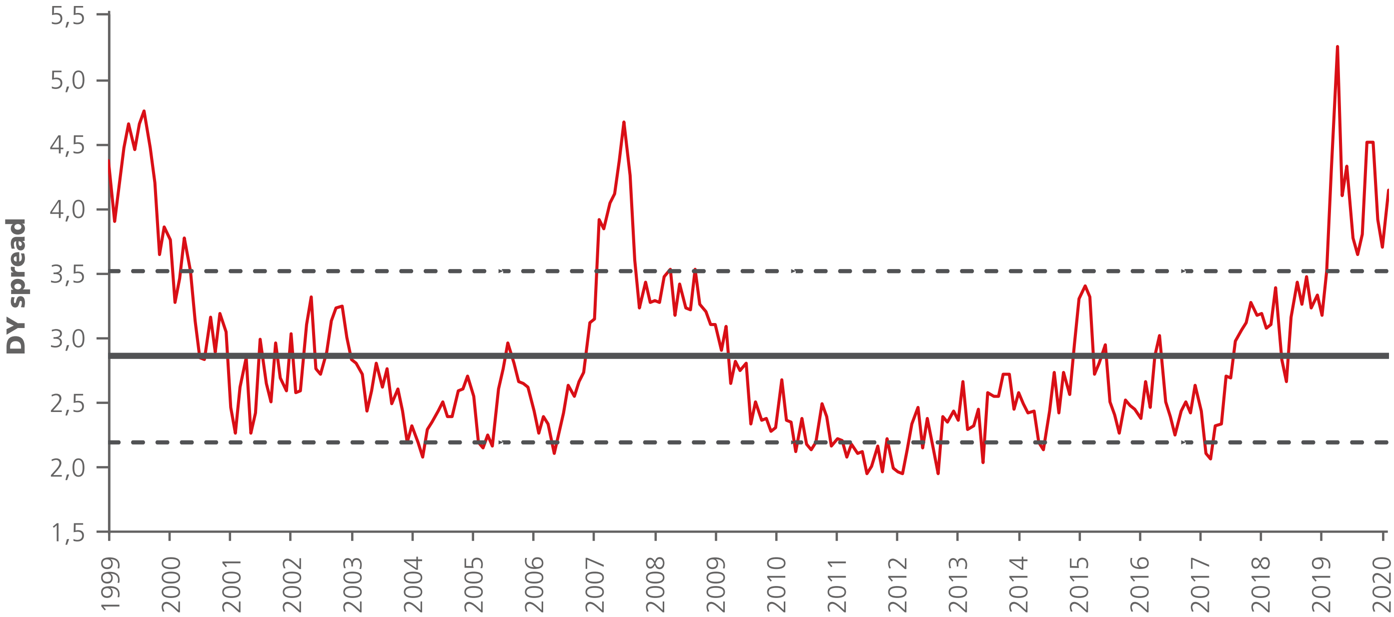
Graph 2: Forward dividend yield differential of JSE stocks (ex-property) still high



SOURCE: Inet Data

good opportunities and the potential to outperform due to the extent of the valuation disparities in the local market.

Graph 2 shows the valuation disparity between the dividend yield of the 25th percentile stock (near the top-ranking shares) and the 75th percentile stock on the JSE (near the bottom-ranking shares). When there is a very large gap it means there are many opportunities in the middle to make good returns from stock-picking. And we are now at levels that we last saw during the 2008 Global Financial Crisis and the early 2000s during the IT bubble.

Consequently, currently there are a lot of opportunities for investors to construct a well-considered portfolio that includes many opportunities that could pay off in future years. This is about taking on the right kinds of risks and taking on risk because the odds are in your favour.

Today, we sit in a very uncomfortable and uncertain position. We are still going through a global pandemic, and in South Africa particularly we have other issues like rising unemployment, debt/GDP levels that keep increasing to fairly alarming levels, and state-owned enterprises that are struggling.

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So in the South African equity market there is a lot to be very uncertain about. During these times of high uncertainty, often the most certain thing is how good the odds on offer really are. Being able to understand this and take advantage of these odds are two keys to successfully building wealth over time. ■

Ross has 19 years of dedicated experience in investment management, having joined Prudential in 2001 as an Equity Analyst, progressing to Portfolio Manager and then Head of Equity in February 2020. He is the joint-Portfolio Manager of several Prudential funds, including the Prudential SA Equity and Dividend Maximiser Funds, with the latter having won several Raging Bull and Morningstar Awards for performance. As Head of Equity, Ross is responsible for overseeing the management of Prudential's Houseview equity portfolios, as well as a portfolio of specialist Select Equity mandates for institutional clients. He is also the lead Portfolio Manager for our African Equity mandates. Prior to joining Prudential, Ross completed his articles with Andersen in 2000, where he focused on external audit, due diligence and investigative work across a range of sectors, both in South Africa and the USA. Ross holds a BBusSc Degree and is a Chartered Accountant and a CFA charterholder.

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South African bonds: Complex dynamics but still attractive

Gareth Bern
HEAD OF FIXED INCOME

KEY TAKE-AWAYS

- *Although February's National Budget presented an improving, and better-than-expected, outlook for government borrowing, South African bonds still lost ground in Q1 when one could have imagined that they would strengthen.*
- *However, financial markets don't trade in a local environment only, they could have also been influenced by the sell-off in US Treasuries in Q1, by global and local inflation concerns, or by contagion from the Brazilian and Turkish markets. We don't really know and we can't expect to have a 100% true "story" for market moves.*
- *At Prudential we don't trade on forecasts or expected market moves or "stories", we rely on asset valuations to drive our investment decisions. Currently SA nominal bonds are still attractive, and even cheaper than they were in the previous quarter, which is why we remain overweight in these assets and even added more in certain portfolios.*

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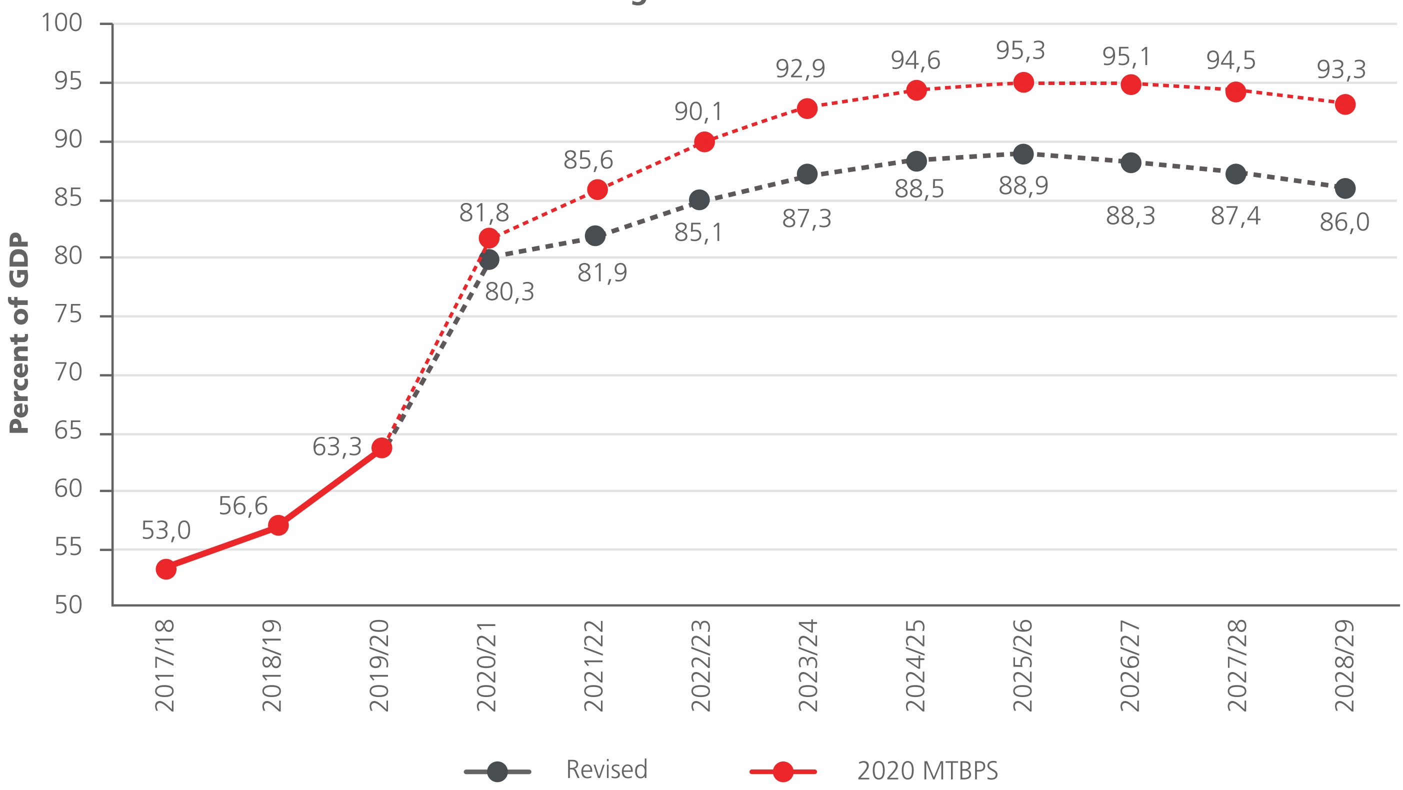
When South African Finance Minister Tito Mboweni unveiled the government's 2021 Budget on 24 February this year, it is fair to say that the commentary following it was far more upbeat than has become customary over the last number of years. There were good reasons for this – compared to the dire expectations presented in the Medium-Term Budget Policy Statement (MTBPS) in October 2020 (a mere four months prior), the Budget presented a materially improved outlook. Higher-than-forecast revenues, buoyed by increased VAT, customs duties and corporate taxes (particularly from the mining sector which has benefitted from elevated commodity prices), together with better-than-expected collections across a range of other sectors, helped reduce the projected budget deficit in 2020/21, as well as in the medium term. This in turn reduced the government's borrowing requirement over the coming three years and lowered the

Graph 1: South Africa gross Debt-to-GDP outlook

2021 Budget vs 2020 MTBPS



SOURCE: National Treasury

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country's projected peak Debt/GDP ratio from around 95% to 89% in 2025/26.

A contrarian move in Q1 2021

What were the immediate implications for the SA bond market? Taken in isolation one might have thought the February Budget would have been positive for bond yields given the improved fiscal position and reduced supply versus what had been projected in October. Combined with National Treasury having already pre-funded a fair amount of its needs, the market saw reductions in the supply of nominal and inflation linked bonds (ILBs) on auction at Treasury's weekly auctions. Instead, the SA bond market has experienced a material sell-off in yields since the February budget! Yields have moved higher, with the FTSE/JSE All Bond Index (ALBI) returning -1.7% over the first quarter of 2021. What could be the explanation for this seemingly contrarian behaviour?

The reality is that markets do not operate in a vacuum: simple "if this, then that" explanations are doomed to result in failure. While it is appealing to be able to "explain" movements in markets, the reality is that the explanations are more akin to educated guesses – no one can credibly claim to know the real answer.

One explanation could be to focus on the global dynamics which have come to dominate headlines since the budget announcement – the spectre of higher inflation in the US has now become the focus of the day. This involves the notion that accelerating growth will be accompanied by significantly higher inflation given the massive fiscal stimulus provided by governments (such as the US's most recently proposed US$2.25 trillion infrastructure spending programme) and concerns as to possible monetary policy tightening or even the potential lack thereof. This concern, in turn, has manifested in a significant sell-off in US Treasury yields which has rippled across global bond markets and pushed emerging market (EM) yields higher. The South African bond market sell-off in this narrative is all about the global dynamics.

Another explanation could be the weakness in bond yields in Brazil and Turkey in recent months reverberating across all emerging markets and causing EM bond markets to sell-off, re-pricing the entire sector wider. Brazil's economy has been hit by the uncontrolled spread of the Coronavirus, and the Turkish President has brought on a crisis in investor confidence by firing his latest central bank governor and top Cabinet members.

Or perhaps the explanation is something else entirely.

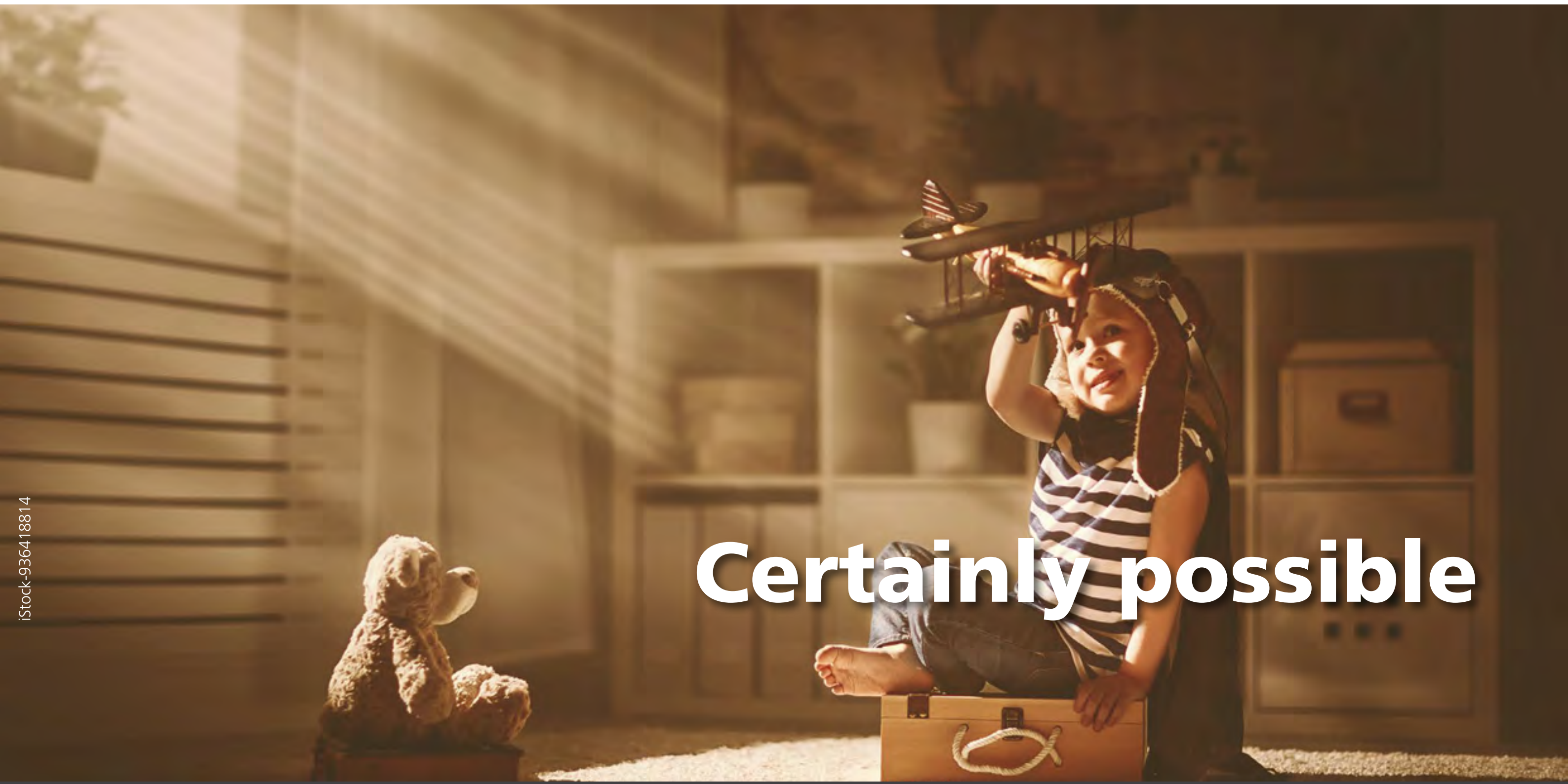
Compelling returns on offer

So where does this leave the outlook for local government bonds? Notwithstanding the significant and much-improved outlook in the February Budget, it is worth reflecting on the fact that South Africa still finds itself in a precarious financial position. Against a developed country backdrop, a Debt/GDP ratio of around 90% would not appear problematic (at least not at the moment), since the US and many other countries have higher metrics. The key difference is the high cost of interest South Africa has to pay on the debt it raises versus the near-zero rates at which developed countries can borrow. The real cost of debt (the nominal interest cost less inflation) in South Africa is significantly above its real growth rate – something that is unsustainable in the long term. One simply has to look at the size and growth of South Africa's interest bill to get a sense of the challenge. With a large part of National Treasury's budget projections being reliant on successfully negotiating a public sector wage bill that will shrink in real terms, investors and South Africans should be under no illusions as to the fiscal challenge.

As our clients will know, we focus on asset valuations and not forecasts (or "stories") when making our investment decisions. In this regard, we remain constructive on SA government bonds. The past quarter's weakness has made valuations even more attractive. We believe they currently offer investors a compelling prospective real return. With 10-year bonds yields around 9.5% and with a long-term inflation assumption of around 5%, investors are being offered a very attractive real return of around 4.5% (and more for longer-dated bonds). This compares very favorably with our internal long-term equilibrium real return estimate of around 2.5% – making bonds a compelling investment prospect. This view is reflected in our overweight bond positioning across our multi-asset funds. In fact, during the recent market weakness we added to our overweight bond positions in the Prudential Balanced and Inflation Plus Funds, among other multi-asset portfolios.

As with all investments, this return does not come without risk. We have highlighted some of the risks above – the country's fiscal trajectory, global dynamics and inflation to name but a few. Additionally, investors should not expect these prospective returns to be delivered in a straight line – bond returns, as we have seen over the last year, can be extremely volatile! But for those investors prepared to look through the short-term noise and volatility, we do think there are compelling returns to be made. ■

Gareth joined Prudential in 2004 as a Credit Analyst and was appointed as Head of Fixed Interest in April 2018. In addition to overseeing Prudential's Fixed Income team, Gareth is also responsible for jointly managing the Prudential High Yield Bond Fund and overseeing Prudential's fixed-income institutional mandates. Prior to joining Prudential, Gareth completed articles at Ernst & Young and qualified as a CA (SA) in 2003. After spending part of 2004 working in the asset management division of Ernst & Young's New York office, he returned to South Africa and joined Prudential. He currently has 15 years' industry experience. Gareth's qualifications include: BBus Sc (Finance), UCT; BComm (Hons) Accounting, UCT; CA (SA); CFA.



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Certainly possible

Aadil Omar
PORTFOLIO MANAGER AND HEAD OF EQUITY RESEARCH

KEY TAKE-AWAYS

- *In an uncertain world, there exists the struggle of possibility against certainty. Human beings want both, but during times of stress we crave certainty above all else. This desire is hard-wired and causes us to reduce the world to over-simplified frameworks within which to make decisions. Recognising this shortcoming gives us the possibility to act with better understanding.*
- *Gauging how predictable some outcome might be, and determining that outcome, depends on the amount of information available about it and understanding the rules of the domain. There are very few areas or domains where we have 100% of the information and a clear understanding of the rules, and many where we have little of either.*
- *We can work to gather information and*

improve our understanding to help improve our outcomes. However, we experience diminishing returns to our efforts. Investment managers spend much time gathering information to improve their investment outcomes, working between the continuum of certainty versus possibility.

The novel *Brick Lane* by Monica Ali (adapted for the big screen in 2007) is both an enlightening and controversial fictional story about the trials, struggles and realisations of a woman mired in the vice grip of circumstance. The tale has many lessons to ponder, and for readers intrigued by a circumstantial life story wrapped in a love story, it's well worth reading (or watching).

Although it now sits in the cobwebs of my memory, there was one theme that etched a more permanent impression in my mind; that is the dichotomy between possibility and certainty.
I remember how well the concept was described by Chanu (husband of the protagonist) as he related the concept to his wife Nazneen during a somewhat heated exchange:

"Anything is possible when you are young. Then you get older and the thing about getting older is that you don't need everything to be possible anymore, you just need some things to be certain."

So what might be the parallels between a story about an immigrant woman in the East London borough of Shoreditch and matters of investing? It is the simple observation that from the most trivial domestic squabbles to the prognosis of a pandemic disease, there exists the struggle of possibility against certainty. Human beings crave both, but during times of stress, we crave certainty above all else. While this desire is hard-wired and has obviously served us well as a species, it is liability laden and coerces us into reducing the world to over-simplified frameworks. Therein lies the possibility to act with better understanding.

Determinism often sounds appealing

"An intellect which at a certain moment would know all forces that set nature in motion, and all positions of all items of which nature is composed, if this intellect were also vast enough

to submit these data to analysis, it would embrace in a single formula the movements of the greatest bodies of the universe and those of the tiniest atom; for such an intellect nothing would be uncertain and the future just like the past would be present before its eyes."
— Pierre Simon Laplace, A Philosophical Essay on Probabilities

"Une intelligence" was what Pierre Laplace called the analytical tool capable of knowing the future as well as we know the past. It is also often referred to as Laplace's demon, which was and still is a noteworthy articulation of (causal) determinism. Determinism as a theory postulates that all events are completely determined by current or previously existing causes, i.e. for known inputs, there are known outputs. At first blush it is an alluring world view: phenomena have a known cause and are thus predictable. Besides having deeper implications for matters relating to morality, social justice and the scientific possibility of determinism[1], very few domains of human existence satisfy the criteria of being perfectly predictable. And the few that do require significant computational resources to be deterministic.

Since prediction is fundamentally a type of information-processing activity, we can estimate how predictable something might be based on the completeness of the information set and how effectively the information can be processed. More formally, a domain could be defined across two axes:

1. Knowledge of the rules governing the domain;
2. Completeness of information available for processing.

Diagram 1 depicts the range of combinations of these two variables.

The reader would have noticed that this intersection of two variables does

[1]There has recently been proposed a limit on the computational power of the universe, i.e. the ability of Laplace's demon to process an infinite amount of information. The limit is based on the maximum entropy of the universe, the speed of light, and the minimum amount of time taken to move information across the Planck length, and the figure was shown to be about 10120 bits.[13] Accordingly, anything that requires more than this amount of data cannot be computed in the amount of time that has elapsed so far in the universe. *Wikipedia*

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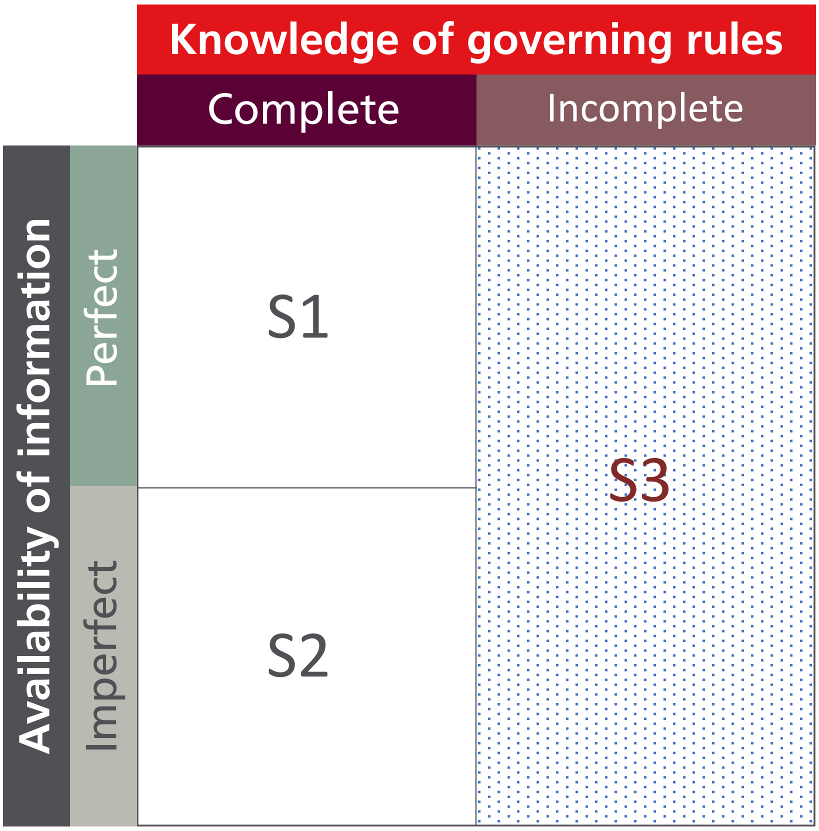
Diagram 1: Set of outcomes based on knowledge of rules and information availability



SOURCE: Prudential Investment Managers

not yield a quadratic workspace as would normally be the case for a 2x2 matrix. Rather, the setup follows a hierarchical construct on the logic that, if the rules governing a domain are not known, the completeness of an information set cannot be definitively ascertained (more on these open-ended domains later).

When stop signs are unambiguous

When the rules governing a domain are clear, it is likely we're in a closed system with limited opportunity for ambiguity – stop signs always mean stop. Albeit computationally taxing, a good example of a problem that finds itself in a closed environment is chess. Chess falls into Segment 1 of the matrix (S1) since we have both complete knowledge of the rules governing the game and we have perfect information – there are a finite number of chess pieces on a clearly laid out board and they're in plain sight. Although the game remains challenging for human beings (owing to our limited information-processing capabilities), with enough processing power outcomes are predictable. Winning at chess, and other domains that embed both perfect information and complete knowledge of the governing rules, becomes a matter of out-processing your opponent. These endeavours are almost exclusively skill based.

The second segment (S2) considers domains wherein we have complete knowledge of the rules governing the activity, but the information available for processing is incomplete or imperfect. Poker would be an example. While the rules are universally known to all players in a poker game, each individual player has a limited amount of information (some shared and some proprietary) with which to make predications. As the game unfolds – for example in a round of Texas Hold'em from the pocket cards to the flop, the turn and finally the river – more information is revealed about the potential hand, allowing players to better hone their predictions. Good poker players are not distinguished by their ability to predict which cards will come next – such superstition is reserved for economic forecasters. Neither is a grasp of the base odds a reliable skill; even an amateur player would have familiarised himself with the basic probability of each hand. The core skill among good poker players is 'hand reading': figuring out which cards your opponents might hold and how it might affect decisions throughout the hand. This makes poker a purely probabilistic endeavour. As more cards are revealed over the course of play, forecasts of which hand is playing out should become more precise. Nevertheless, it is generally not possible to predict exactly which hands your opponents hold until the cards are revealed.

To recap:

- We can evaluate problems based on how well we understand the rules governing a problem and the information with which to make assessments.
- When the rules are well known (we understand precisely how

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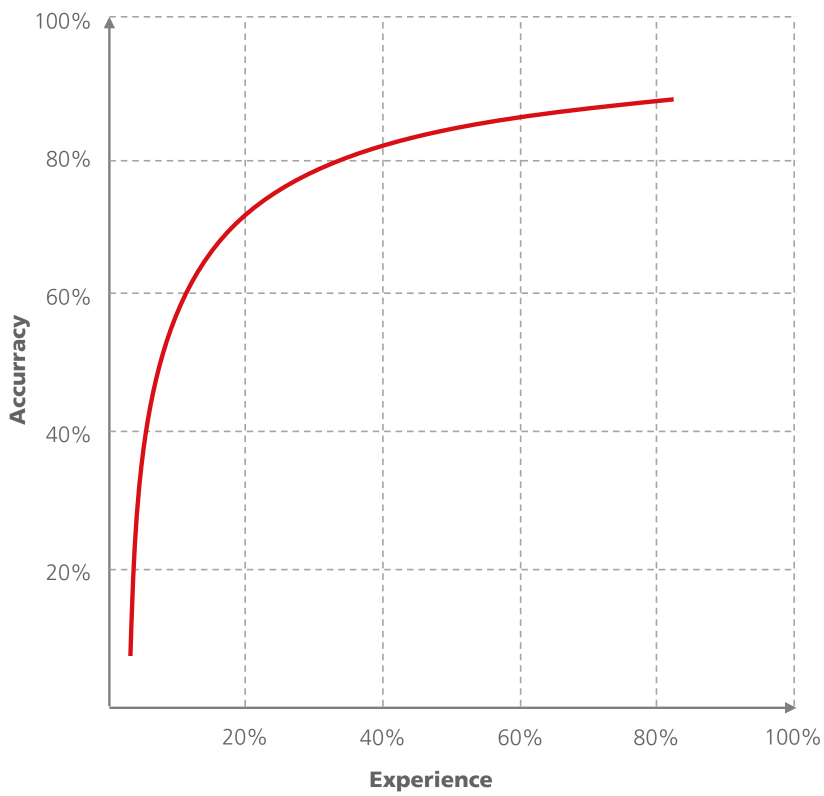
something works) and we have perfect information, problems can be solved precisely (given sufficient processing power).

- In domains where the rules are well known but we have incomplete or imperfect information, predictions should be made probabilistically.
- In these probabilistic domains, we cannot predict outcomes with certainty.

To have 100% of the answer, you need 100% of the information

Activities that involve some type of prediction generally embed a learning curve. It stands to reason that the greater the effort exerted on the task, the more accurate the predictions. But this relationship is not linear. As Nate Silver details in his book *The Signal and the Noise*, learning curves are more likely to follow the Pareto principle or 80-20 rule, where progress

Diagram 2: Diminishing returns to results as the effort increases



SOURCE: Prudential Investment Managers (inspired by the work of Nate Silver and Richard Koch) is very encouraging as you begin, but rapidly tails off as efforts (or experience) increase. They demonstrate diminishing returns to effort.

This concave relationship between effort and accuracy, as depicted in Diagram 2, holds in many competitive endeavours where prediction is vital, including decisions related to investing. However, the vital point is not the absolute degree of accuracy one is able to muster, but the excess accuracy above the level set by the competition, that will determine a win from a loss. In a game of high stakes poker, all players arrive with a near-perfect knowledge of each hand and associated probability of victory, but winning the game requires much more nuance than simple knowledge of pot odds. It requires a reading of the unseen hand of the other players – information that is imperfect at best. Similarly, successfully beating the level set by the market requires outplaying other teams of motivated professionals trying to do the very same thing. Nuance, perspective and learning when to use exceptions are essential.

Afterthought: Stop signs are rare in the real world

Alas, much of the world we experience is not as clearly bounded or instructive as the stop sign you encounter when driving to your local grocery store. We do not live in the deterministic realm of chess, nor in a perfectly probabilistic one like that of a midnight poker den. The rules governing the functioning of the real world are less concrete and are subject to change, often without warning. This is squarely where investment decision-making lives.

The distinction between dynamic environments where the rules are subject to change (S3) and stable environments with imperfect information (S2) might appear to be an academic one. Granted, in practice the only concrete tools available to us are those used to confront matters where we have imperfect information in a stable environment, namely a probabilistic approach (we need to approach S3 environments as though they are S2 environments). But in the real world of dynamic randomness where decisions are made

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with incomplete information *and* the rules governing outcomes are themselves incomplete, we should incorporate the possibility that things could change in ways we are not familiar with. Failing to do so means we can approach with all the diligence of a World Series of Poker champion, but we may still get tripped up by a lack of imagination when the world changes. Alas, a panacea for alleviating a lack of imagination remains desperately absent.

Confronting uncertainty remains an impossibly challenging task, and despite Chanu's cries to Nazneen for an enclave of certainty, we must contend more often with the uncertainty that accompanies possibility. ■

With 14 years' investment experience, Aadil joined Prudential in July 2013 as an Equity Analyst. In August 2018 he joined a global equity hedge fund in London, before returning to Prudential in January 2020 as Head of Equity Research and joint-Portfolio Manager of the Prudential SA Equity Fund. He holds 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.

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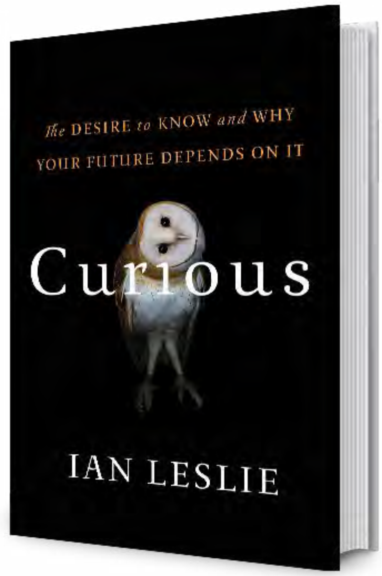
Curiosity: For success, satisfaction and human progress

Clare Lindeque
Head of Quantitative Analysis



One of the privileges of my job is to interact with colleagues whose roles bring them into contact with people, industries and entities whose remit is far broader than that of an asset management firm. As a result, these colleagues help me broaden my own horizons. They are our equity and credit analysts, who spend their days delving deeply into chicken farming in KwaZulu Natal, the dynamics of nickel and palladium mining in Russia, or the risks and opportunities presented to investors by a struggling state-owned enterprise. A unifying characteristic of all these colleagues is their curiosity, motivating them to seek deep understanding of the issues faced by the companies they cover. It also makes them excellent conversation partners.

In *Curious: The Desire to Know and Why Your Future Depends On It*, Ian Leslie takes a deep dive into a subject that we don't think about much. He contends that a curious mindset is essential, for both success and satisfaction in life.

Leslie emphasises the difference between what he calls diversive curiosity – a superficial desire for the next interesting thing – and epistemic curiosity, which delves deeper into questions and seeks to understand how things work. This type of curiosity requires active cultivation. For someone like me, who itches until Google delivers an answer to the questions that pop into my head, this distinction is challenging. Leslie argues that epistemic curiosity leads to true understanding, which requires hard work and the pursuit of insight more profound than a quick Google search can throw up. He also contends that, rather than facilitating our epistemic curiosity, the ready availability of facts and information on the internet – those quick answers I love so much - actually damage it.

A third kind of curiosity, per Leslie, is empathic curiosity, which manifests itself as an urge to understand the thoughts and motivations of others – to put ourselves in their shoes. It is essential for a compassionate life. He does no more than touch on this quality, and it is probably an entire book subject on its own. It is, however, closely related to the other kinds of curiosity, looking at other people and asking "why?" instead of "what?"

According to Leslie, a curious mindset manifests itself in other traits that are necessary for a successful life. Focus, endurance, and "grit" – defined by psychologist Angela Duckworth as "passion and perseverance for long-term goals" – will arise naturally in someone who is curious, in the deep epistemic sense.

Leslie also makes an argument that, to me, sounds surprisingly old school. He lays the foundation for his claim by pointing out that creativity, innovation and invention do not take place in a vacuum but are rather built on a foundation of existing knowledge. Great writers are also great readers. Beethoven did not compose his symphonies while being entirely ignorant of music and the work of other musicians. Nikolai Tesla had more than a passing knowledge of electricity, and Louis Pasteur was a working microbiologist. Chess grand masters have memorised thousands of sequences of moves. The more we know about a subject, the more readily we can identify the gaps where innovation would be possible and beneficial. As Leslie describes innovators, "having mastered the rules of their domain, they can concentrate on rewriting them. They mix and remix ideas and themes, making new analogies and spotting unusual patterns, until a creative breakthrough is achieved."

How do we acquire the foundational knowledge that powers innovation? Through our own curiosity, certainly, but not entirely. Particularly for those at the start of their intellectual journey – pupils and students – we receive this foundation of facts under the guidance of parents and teachers, who not only teach us how to think and learn, but actually impart information. This is the part of Leslie's argument that grated slightly, as I think of my father's recollections of school in the early 1950s, with its intense emphasis on memorisation and rote learning. But at the same time, in this age of Wikipedia and the alternative facts supporting any imaginable viewpoint readily found online, I find this line of reasoning hard to counter. Leslie contends that we have romanticised student- or curiosity-driven learning, and comes down hard in favour of what amounts to a traditional, classical education.

If this brief overview of Leslie's analysis is getting you hot under the collar, let me recommend that you read *Curious* with an open mind! It's a brief and engagingly written love letter to an enduring and essential human characteristic – indeed, one that separates us from other animals, and that has made possible all the generations of advancement that have enabled me to be communicating with you via the words in this book review, an internet connection, and the screen of your computer, tablet or smartphone. ■

Clare joined Prudential in 2007 and is the Head of Quantitative Analysis. With 19 years of industry experience, she has worked in a range of roles spanning quantitative analysis, marketing and web development. Clare holds a Master of Science degree in Financial Mathematics from the University of Cape Town, a Financial Risk Manager certification from the Global Association of Risk Professionals and is also a CFA charterholder.

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CONTACT US

CLIENT SERVICES
0860 105 775

EMAIL
query@prudential.co.za

prudential.co.za

Cape Town, Head Office
PHYSICAL ADDRESS
5th Floor, Protea Place
C/O Dreyer Street &
Protea Road
Claremont, 7708

TELEPHONE
+27 21 670 5100

Johannesburg
PHYSICAL ADDRESS
The Zone II, Loft Offices East
2nd Floor, 31 Tyrwhitt
Avenue
Rosebank, 2196

TELEPHONE
+27 11 530 8600

Namibia
PHYSICAL ADDRESS
6 Feld Street
Windhoek
Namibia

TELEPHONE
+264 61 256 166