Capital Market Assumptions

October 2022

> **"Most men would rather die than think. Many do"**
>
> Bertrand Russell

Nowcasting

By far the most common question we get from our investment consulting clients is: "What do we think the markets will do?". The right answer to give is that we don't know. If one thinks about it, why would we have any greater ability to predict the future course of investment markets than the many skilled investment professionals whose opinions are already reflected in the current market price?

Taking this point further, we assert that most investment pundits write commentary that captures what is already known by the market, but in an engaging manner. It would follow naturally from this that the best "storytellers" are likely to be the most widely followed commentators. However, the peril associated with this approach is that it reflects information which is already priced-in by the market, and as such is largely worthless.

Arnott and Treussard[1] describe this approach as "nowcasting". They write, with our underlining for emphasis:

"Suppose we forecast what's already happened by describing why it happened and use this description as a forecast for the future. What will people remember a year later? The forecast was "correct" up to the point at which it was offered. It was insightful in offering explanations for why something happened. If the previous trend persists in subsequent events, it will be recalled as prescient. If markets and circumstances reverse, it will be remembered as insightful and correct (up to the date it was offered). And, in the memory of the public, it will typically be incorrectly recalled as preceding the events that were "forecast," even when the forecast comes after those events!

To be useful, a forecast should suggest how the future will differ from expectations and from the past. A nowcast does neither. Real forecasting is more difficult and much more dangerous to the prognosticator. A forecast that differs from the past will trigger a very different public recollection. If correct, it may be remembered as insightful and correct (or as reckless but lucky). If incorrect, the public will correctly recall when the forecast was made because it differed from the antecedent market or economic conditions and will vividly remember the error."

Furthermore, a common technique applied by investment pundits is the use of vague wording, such as "There is a real possibility that US inflation will reduce to the 2% to 3% p.a. range by the 2nd quarter of 2023".

[1] Arnott, R., and Treussard, J. 2020. "Forecasts or Nowcasts? What's on the Horizon for the 2020s?" Research Affiliates Publications (January)

Well, what exactly do the words "real possibility" mean? In a survey of 1,700 respondents, Andrew Mauboussin and Michael J. Mauboussin[2] found that the probability range that most people attribute to an event with a "real possibility" of happening spans from about 20% to as much as 80%. This wide range allows the pundit to take credit when their forecast turns out to be right, but also to explain away forecasts that turn out to be wrong by claiming "a real possibility" meant that he or she was only 20% to 40% sure of the statement.

Improving on our forecasting

Based on the above, it is easy to conclude that if our Capital Assumptions are to have value we should highlight *where, if at all*, our expected returns differ materially from the market consensus. In almost all instances our estimates will not be that different from the market consensus. In addition, if we do have a contrarian view, we should inform our readers of how confident we are about that view. The natural bias will be to assign a lower probability to any forecast that materially differs from the consensus view which, in turn, gives us an easier way out if we are wrong. The key point is that it takes courage to make real forecasts.

Importantly, we also recognise that there are much better forecasters than ourselves. This means that we should test our forecasts against the outside view. There is, in fact, a very good argument to be made that we should simply defer to the external view of parties who have a strong track record of good forecasting, assuming of course that one could identify such parties. However, we believe that it is essential that we continue to forecast returns for the main asset classes because this way our thinking improves, and our process evolves, which ultimately should result in better advice and client outcomes.

We also stress that we avoid making short-term forecasts because markets are too noisy and complex for us to offer a forecast that we could have confidence in. In our opinion, short-term forecasting is largely the province of market pundits who nowcast.

Our forecast horizon is 10 years. Of course, many things could happen over such a long period, but one may be able to develop a high level of confidence (say 80%+) that certain long-term foundations to market returns will remain in place. For example, we can only guess where the stock-market will be in twelve months' time relative to the current level; however, we are 80% confident that the market will be higher in real terms in 10 years, and will also be within the range of real returns we forecast. Accordingly, our sense is that any difference of opinion we have to the market consensus view will almost entirely be due to us adopting the much longer-term horizon.

Forecasts, which if right, would make a big difference to client investment returns

It is ignorant (and arrogant) to believe that we can correctly identify a *priori* what the ultimate drivers of investment returns may be for the next 10 years. Amongst the current top of mind issues for our clients (mainly because they are in the news headlines) are global inflation, the Russian Ukrainian war, and the economic growth prospects for South Africa.

However, there is probably a higher than 50% chance that, if in ten years' time one looks back on the big events over this timeframe, these three issues may not stand out. We suggest that the chances are that there will also be something on debt levels, China, climate change, and possibly something on changes to the political landscape in the Western World; but of course we cannot know this, and the chances are that there will be some "unknown unknowns".

Nevertheless, these three issues provide an archetype of how to think about markets and the impact this may have on the overall portfolio construction. Below we highlight some possible surprise outcomes in terms of these issues.

Advanced economy inflation remains in the 4% p.a. plus range over the next ten years.

The market is not expecting this outcome, and if this is indeed the future path of inflation then global bond yields would need to rise further, and interest rates would also likely need to go significantly higher. The effect on 10-year equity market real returns is less clear but would likely lead to lower returns initially as equity discount rates rise in response to rising bond yields.

We would assign a probability of around 20% to such an outcome. The main reasons we believe that this is a low probability event are:

- Policymakers understand that high inflation hurts the poorest in society most, as for them it is actually a daily cost of living crisis.

[2] A and M Mauboussin – Harvard Business Review

In addition, the failure to reign-in inflation creates fertile ground for populists, which, in turn, is a threat to democracy and its institutions. Accordingly, policy direction is supportive of doing whatever it takes to curb inflation.

- In a growing economy prices are driven lower by productivity gains. Arguably, the very low inflation rates observed in the developed world since the 1990's until recently were mainly driven by a large increase in the productive workforce that initially was prepared to accept low wages following increasing globalisation and the fall of communism in the early 1990's. This tailwind was never going to last forever. In addition, the political narrative in advanced economies has shifted towards resilience and self-sufficiency, and away from efficiency, which will increase prices in the short term.

However, we believe that technological advances will replace low cost labour as the key driver of lower inflation, and possibly much sooner than the market expects.

Nevertheless, 20% is an uncomfortably high chance of a poor outcome. This risk arises mainly because politicians and central bankers tend towards caution, preferring moderate inflation in the range of 3% to 4% p.a. rather than running the risk of triggering a deep recession caused by aggressive interest rate increases. Our sense is that politicians' and central bankers' willingness to shy away from combatting inflation vigorously will be a function of how easy it is to find a credible excuse for sustained moderate inflation.

With an estimated 20% chance of higher inflation than expected, we counsel our clients to include asset classes that have inflation-hedging characteristics in their portfolio. Examples of such asset classes are infrastructure assets, real estate and of course, inflation-linked bonds.

The war in Ukraine ends within the next 6 months with a sustainable peace agreement

Again, the market is not expecting this outcome. However, if this were to happen, equity markets will almost certainly (75%+ chance) rally and the anxiety around future inflation is likely to moderate significantly, particularly in Europe.

There is an entire study area around war termination. The evidence shows that most protracted wars end when both parties are prepared to give something away.

A second factor affecting when wars end is the position of its leaders. Weak leaders can easily be toppled from within, whereas powerful dictators can sue for peace more readily, even if they are losing the war, because they control the public discourse. Strongmen who may be less sure of their position, like President Putin, are more likely to continue the war because they cannot find an exit ramp that allows them to save face. Accordingly, we assign a very low (less than 5%) chance to the war ending within the next 6 months with a sustainable agreement, which we estimate is pretty much in line with the market consensus.

Interestingly, if one assigned only a moderately higher probability (say 15% or more) to the war ending early, it would make sense to buy call options[3] on global equities, as equities are very likely to rally strongly in response to such an outcome.

The flipside, of course, is that the Russians could deploy tactical nuclear weapons; again, we assign a relatively low (less than 5%) chance to this outcome, which aligns with the market expectation. The underlying assumption is that President Putin is acutely aware that the use of nuclear weapons would create a scenario where Russia would become a complete international pariah and could even be divided up and cease to exist, and that there are sufficiently strong global institutions to stop such extreme action. One could aver that even a 5% chance of the use of low level nuclear weapons is unacceptably high, and so the portfolio should reduce market exposure or even own some put options (i.e. the right to sell equities at the prevailing price even if markets fall). A more sophisticated strategy may include the use of esoteric instruments to manage tail risk and opportunities.

At this time most of our clients have adopted a long-term investment approach, relying on broad diversification characteristics to manage risk, including some exposure to energy stocks. This makes good sense when one's assessment of the probability of an event is very low and is consistent with the market expectation, as is the case here.

[3] A call option allows the holder to buy (in this case) global equities at the prevailing prices, even if these prices were to move up significantly.

Strong economic growth in South Africa

The market is bearish on the outlook for South Africa with the country risk premium (as implied by bond markets) currently being between 3.5% and 4.0% p.a.

Our estimate is that there is about an 85%+ chance that local equities and bonds will perform very strongly if the South Africa country risk premium were to reduce to around 2% p.a. The obvious factors that could lead to such an outcome include the successful implementation of economic policies and capital allocation decisions that are supportive of economic growth closer to 3% to 4% p.a., or a sustained commodity boom. A less than 1% chance event would include the discovery of new valuable rare earth minerals or large oil / gas reserves.

However, our assessment is that on a 10-year basis, the SA country risk premium could move even higher. We take the view that the market is under-pricing the challenges of even "just staying in the game" in an increasingly competitive global environment. In simple terms - the faster the rate of change, the more difficult it becomes catching-up.

We are about 80% sure that the South African country risk premium should be at the current expectation (3.5% to 4.0% p.a.) or higher. This still leaves a 20% chance that South Africa defies expectations and delivers strong economic growth. We believe it is worth hedging against this risk, as pension fund members will receive their pensions in ZAR. The best way to do so is by having some exposure to SA nominal bonds and firms with significant local earnings whose fortunes are closely linked to SA GDP growth.

Our assumptions for Quarter 4 2022

Changes compared to the previous quarter

We have made only small changes to our estimated real returns for the main asset classes compared to the end of June 2022.

- We have increased our best *estimate* real ZAR returns for the SA equity market (including listed property) by 0.5% p.a. considering the negative returns in ZAR delivered over the quarter. Our global developed and EM equity assumptions have been left unchanged due to negative US$ returns over the quarter being offset by ZAR depreciation and our real ZAR depreciation assumption change (see the following).
- The estimated real return for developed world global bonds has increased from 1.25% p.a. to 1.5% p.a. reflecting the increase in bond yields, partially offset by our real ZAR depreciation assumption change (see below).
- In the past we have assumed that the real US$ / ZAR exchange rate would be 1.5% p.a. (i.e. the ZAR would depreciate by 1.5% p.a. more than purchasing power parity). We have reduced this expectation to 1.0% p.a. to reflect our view that the US$ is very strong by historical measures and some weakening is likely.

  The real returns we show in this report are ZAR real returns. Thus, the effect of reducing the extent of the ZAR depreciation is to lower the returns by the same 0.5% p.a. However, this impact is offset by the higher best estimate returns we have assumed for the global asset classes, reflecting that markets are down.
- We have increased our best estimate real returns for SA inflation linked bonds and nominal bonds by 0.5% p.a. which is consistent with current market pricing.

The net effect of the above is that we now assess almost every asset class to be fairly valued. Historically we have generally assessed most asset classes to be moderately expensive relative to our fair value. It is thus somewhat unusual for us to view pretty much the entirety of global investment markets as being at fair value.

How our assumptions compare to the local asset managers

We assess the market pricing compared to what we consider to be the fair return allowing for risk for a particular asset class. This means for example, that if we consider the fair value for SA equities to be a real return of 9% p.a., and then estimate that the current pricing only allows for a return of 8.0% p.a., we would conclude that SA equities are moderately expensive.

Another party may regard a real return of 7.5% p.a. for SA equities to be fair value, and if they assess the asset class to be priced for a real return of 8% p.a., they would conclude that SA equities are moderately inexpensive. In this way the absolute level of returns estimated are of critical importance.

In general the local asset management industry is of the view that the real return for SA equities over the next ten years will be between 6% and 8% p.a.; lower than the fair value 9% p.a. real return we have estimated.

The main reason for this difference is that we are assuming that the South Africa country risk remains high, and investors need to be compensated for this risk. We posit that investors require an equity risk premium ("ERP") of between 3% and 4% p.a. The ERP is typically expressed as an addition to the real return on 10-year nominal bonds; we have nominal bonds trading at a real return of 5.5% p.a. Thus, our fair value return for the asset class is 9.0% p.a.

For investment managers to estimate a real return in the 6% to 8% p.a. range means that either they believe that bond yields will reduce materially (in which case they should assess this asset class as attractive), or they are assuming a lower equity risk premium. A lower ERP would be consistent if one believed that the risks of owning SA equities and bonds are more comparable than they have been over the long term (perhaps justified by the increasing risk of the SA sovereign and the relative resilience of the SA corporate sector which includes many offshore companies and exporters) and/or that SA equity returns would face significant headwinds.

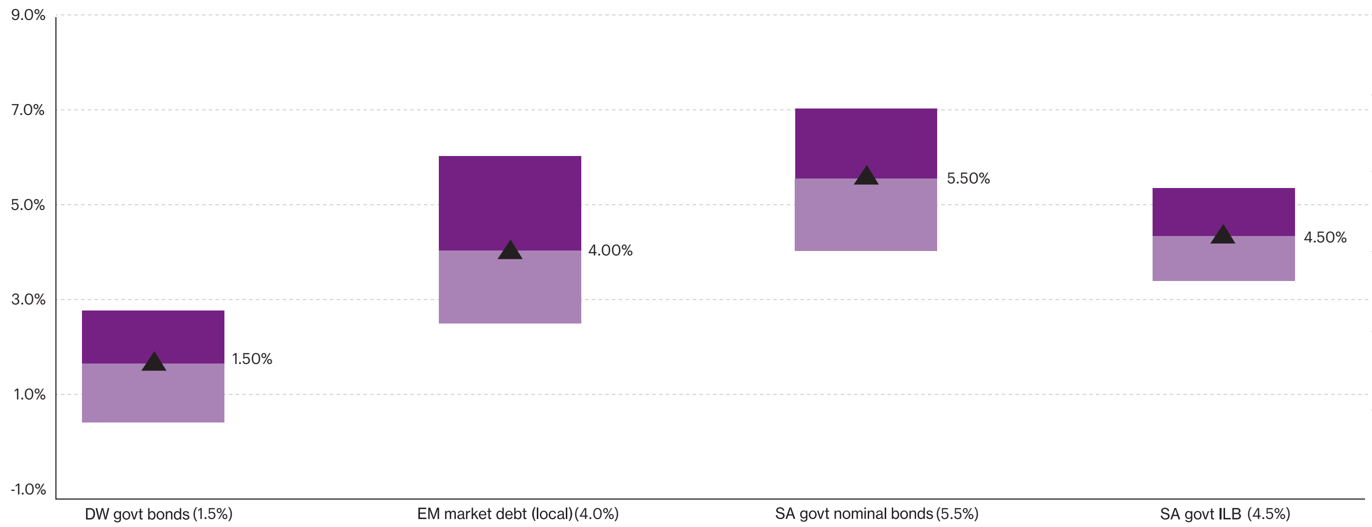
This difference in view may relate to investment horizon – we are focused on the 10-year period, whereas most investment managers frame their thinking over shorter periods.

Nevertheless, the most material variant perception we have compared to the local investment managers is that we assess the 10-year SA country risk to be high, and our fair value real returns reflect this. We emphasise that expected high returns are associated with lower resilience. For example, our clients would not make a large allocation to Africa ex-SA equities despite this asset class offering the highest real returns (in our view), simply because it is too risky to do so. The same logic would apply as to why clients should limit their allocation to the South African asset classes.

Asset class assumptions – fixed interest assets

The chart below sets out our 10-year real return expectations for the fixed interest asset classes with fair value pricing shown in brackets for each asset class in the column labels. Please note that for global real returns, when expressed in ZAR, we have assumed that the ZAR will weaken against the US$ by 1.0% p.a. more than the inflation differential between the two countries.

Figure 1. **10-year real returns for fixed interest asset classes**



We assess the pricing of developed market sovereign debt to be much closer to fair value, and we have increased the fair value pricing for SA government nominal and inflation-linked bonds by 0.5% p.a., so these asset classes are now at fair value.

We have excluded SA cash from the above diagram on the basis that it is a short-term asset. However, it is arguably the "risk free" domestic asset class, and it is the basis from which one can assess the fair pricing of the term premium, this being the reward for taking on the risk that long-term interest rates could increase. The South African term premium has historically been between 1.5% and 2% p.a. We believe that prospectively the term premium should be higher to reflect South Africa's high "tail event risk" and so have assumed a term premium of 3.5% p.a.

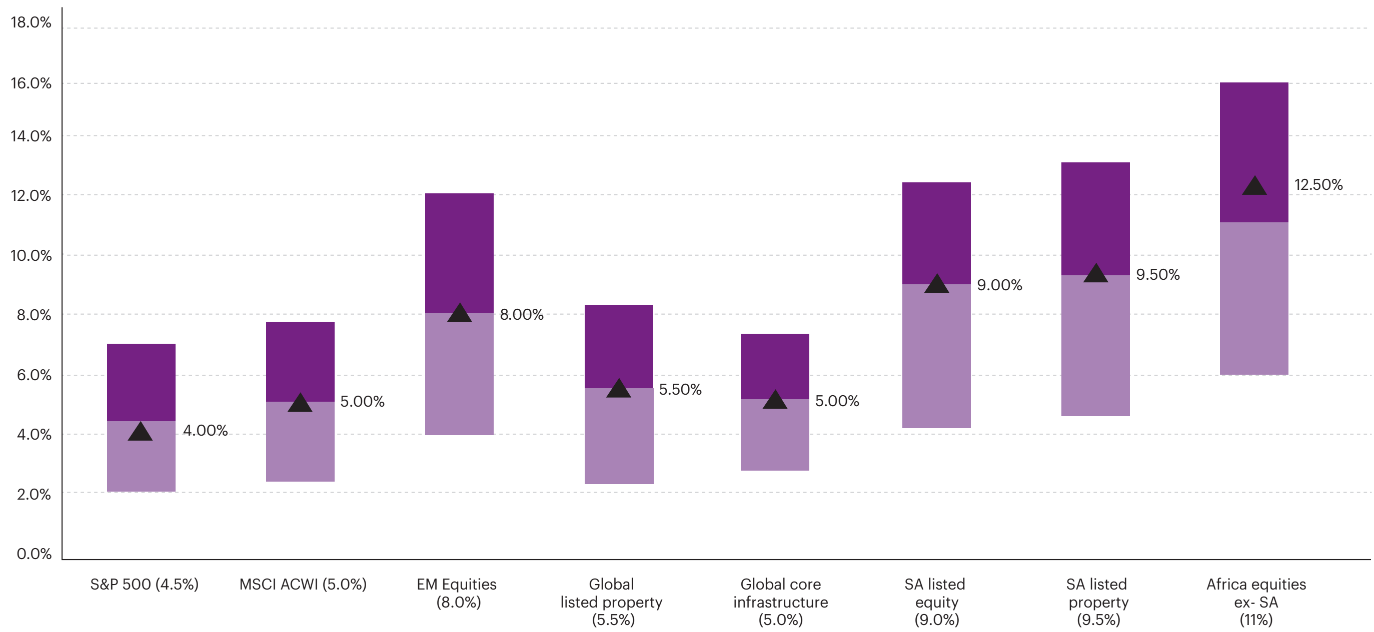
The current Repo rate is 6.25% p.a. (following the recent 75 basis points hike) which is still well below the year-on-year inflation rate of 7.5%.

The expectation is that the SARB will raise interest rates further over the remainder of 2022. Notwithstanding this, we see SA cash as being unattractive compared to longer-dated SA fixed interest assets, based on an expected trajectory for both over the next 10 years.

Growth asset classes

The chart below sets out our 10-year real return expectations for the growth asset classes with fair value pricing shown in brackets for each asset class in the column labels. Please note that for global real returns, when expressed in ZAR, we have assumed that the ZAR will weaken against the US$ by 1.0% p.a. more than the inflation differential between the two countries.

Figure 2. **10-year real returns for growth asset classes in ZAR terms**



The most material change since the start of the year is that we now assess global equities to be priced at fair value and US equities to be closer to fair value. At the start of 2022 we assessed US equities to be at the cusp of very expensive, and consequently we viewed global equities as moderately expensive.

We have previously increased the fair value return for SA equities and property by 0.5% p.a. to reflect the higher country risk premium, and these asset classes are now at fair value.

The only growth asset class we assess to be attractively priced is Africa ex-SA equities, where investor sentiment remains extremely negative. Naturally, this opportunity set is illiquid, concentrated, high risk and fragile (hence the high expected return), but we believe that there is the possibility of a strong bounce back if even a small number of investors recognise the cheap valuation of these markets. We emphasise that investing in such a contrarian manner requires an investor to be patient.

Inflation and the ZAR / US$ exchange rate

Our central assumption for SA inflation is 5.5% p.a. which assumes the SARB will continue to have an inflation targeting mandate for the next 10-years with a probability of 80%.

It bears emphasis that this point assumption masks the tail risk of inflation being much higher, particularly if more populist government policies find traction.

We expect the ZAR to weaken against the US$ by 4.5% p.a. reflecting both the long-term country inflation differential of 3.5% p.a. (US inflation assumption is 2.0% p.a.) and a 1.0% p.a. risk premium for the ZAR currency, reflecting poor productivity growth resulting in a depreciating real exchange rate.

At current levels, we take the view that there is about a 60% chance that the Rand is undervalued relative to the US dollar. We draw this conclusion by considering the Real Effective Exchange Rate (REER) of South Africa compared to that of the USA. The REER compares a country's currency value against the weighted average of the currencies of its major trading partners adjusted for inflation. Figure 3 shows the REER of the two countries with both series indexed to 100 in January 2010.

Figure 3. **USA and South Africa REER**[4]

[4] Bank for International Settlements, Real Broad Effective Exchange Rate for South Africa, and United States, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/RBZABIS, September 19, 2022.

The broad thesis would be that the ZAR is undervalued when South Africa's REER is well below that of the USA as is currently the case.

Of course, all market participants have access to the same information and the market consensus is that the differential is wide mainly because the Federal Reserve Bank is hiking USA interest rates aggressively to deal with inflation. One could also possibly draw the inference that it is US$ strength rather than ZAR weakness that is currently affecting the exchange rate.

The average ratio of the USA REER to that of South Africa since 1 January 2010 when the indices were rebased is 136% and it is a lower 127% over the full data series. This ratio has exceeded 175% for 5% of the observations over the full measurement period; these periods are:

- October 2001 to October 2002 – at the time a Commission of Inquiry was appointed to establish the reasons for the sharp depreciation of the ZAR. The Commission was unable to isolate a specific driving factor and the decline was attributed to a thin market, contagion effects (Zimbabwe and Argentina) and a "risk off" trade affecting emerging markets.
- December 2015 to March 2016 - Nenegate
- March 2020 to September 2020 – Covid 19 pandemic
- July 2022 and on-going – USA interest rate hiking cycle in response to much higher inflation than expected.

There is no fundamental law that says that the REER ratio has to mean revert to closer to its long-term average. However, what we can say is that the REER ratio is currently at about the 5% "outlier" levels, which suggests that this should be a better time to implement a hedge against ZAR strength.

The scenario that we are most concerned about is one where the South African Reserve Bank ("SARB") does not hike local interest rates at the same pace as the US Federal Reserve Bank. Arguably, the SARB should be raising interest rates at an even faster rate, given the dependency of the local debt market on the carry trade, with foreigners owning circa 35% of SA government debt. Up to now, the South African bond market has been a beneficiary of the "there is no alternative" trade. However, as USA interest rates step-up, some investors may regard the carry trade as not worth the risk. The SARB is certainly aware of this issue, but they will also be acutely aware that if they raise interest rates too far, they could plunge the economy into a deep recession.

Nevertheless clients with a high governance budget may want to consider implementing a currency hedge against ZAR strength compared to the US$ on part of their offshore assets.

Summary and conclusion

This is the first time for many years that we assess almost all asset classes to be fairly priced; in the past we have taken the view that most asset classes are moderately expensive with global developed world bonds being very expensive.

We have, of course, updated our assumptions to allow for the sharp fall in asset prices during 2022 (year to date). Whilst our expected returns for the local asset classes appear attractive, they reflect the associated risks. We emphasise that expected high real returns are associated with lower resilience. To demonstrate the point, our clients would question a recommendation that they should make a large allocation to Africa ex-SA equities despite the asset class being assessed to be the one that offers the highest expected real return, as they would naturally factor in the high level of risk. We argue that the same logic would apply as to why clients should limit their allocation to the South African asset classes – although in this case, of course, exchange controls limit the extent to which our clients can down-weight the exposure.

Finally, we assess that there is about a 60% chance that the ZAR is undervalued relative to the US$ as of mid-October 2022. On this basis clients with a high governance budget, and who are comfortable making more tactical decisions to manage risk, may wish to consider implementing a currency hedge.

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Towers Watson (Pty) Ltd

Level 4, MontClare Place
23 Main Road, Claremont
Cape Town, 7708
South Africa

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