

finweek COLLECTIVE INSIGHT

INSIGHT INTO SA INVESTING FROM
LEADING PROFESSIONALS

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MYTHBUSTERS: TIME TO CHALLENGE STUBBORN INVESTMENT BELIEFS





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INTRODUCTION

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CONVENOR

Anne Cabot-Alletzhauser

Head of Alexander Forbes
Research Institute

EDITORIAL

ADVISORY COMMITTEE

Murray Anderson

Managing Director:
Retail & Commercial,
Ashburton Investments

Lindelwa Farisani

Head of Equity Sales
South Africa at UBS
Investment Bank

Delphine Govender

Chief Investment Officer,
Perpetua Investment
Managers

Patrice Rassou

Head of Equities, Sanlam
Investment Management

Nerina Visser

ETF Strategist and Adviser

Muitheri Wahome

Financial services
professional

Is investment management mired in myth?

This edition of *Collective Insight* seeks to address and debunk many of the myths that investors tend to cling to.

Talk to anyone about investing, even those who are far removed from it, and you will hear all sorts of myths that people believe about investing and money.

How many times have I heard things like “The markets are rigged. Unless you know someone on the inside you’re on a hiding to nothing”, or “Fund managers all hang out together, so their portfolios all look the same”, or “You need a lot of money to invest”? And of course, a long-standing favourite: “XYZ asset management just won the Raging Bull award for the fifth time in a row – they’ve really got to be the best manager going now!”

Making money and then handing it over to other people is an emotional, and scary, act. It is no wonder people develop firmly held beliefs as a framework to cope with, and perhaps avoid altogether, the uncertainty of outcome. And because of this emotional dynamic, there is probably no other industry where, despite the weight of evidence of more than a century of market history available to us to study, people repeatedly behave the same way – even when they know it is irrational and costly to their financial health.

But there are myths and there are heuristics – those “rules of thumb” that we come to adopt and believe because they help simplify the discussions around what is understandably a very complex topic: investing and your finances.

Consider these rules of thumb: “In order to retire comfortably, you need to be able to replace at least 75% of the income that you are projected to earn just before you retire.” Or “Diversification is the ‘free lunch’ in investing.” Or “If you want to get the best returns, you need to first ascertain whether a manager is skilful”. To some extent they are an extension of the same problem. Heuristics are, in a way, institutionalised acceptances

of “stories” or myths that we simply haven’t bothered to go back and further interrogate.

That is really the function of this specific *Collective Insight*. How do we help investors grapple with some examples of widely held “conventional wisdom” around investing where perhaps we may be better served by a “considered rethink”?

As this edition highlights, the answers are not so much black and white. We probably need to apply a different lens to these simplifications if we are going to get to more useful insights about what to expect from investing.

Hannes Viljoen sets out the broad problem by describing why it is that we human beings still grapple with rational responses to investment issues. He reminds

us why it is that understanding behavioural finance is core to understanding the “why’s” of the persistence of myths.

Anne Cabot-Alletzhauser gives us a close-up look at one of the most entrenched myths of all: Why investors persistently go to past performance as an indication of manager skill and performance potential for the future. This is one of the most pervasive, seductive and dangerous

behavioural biases out there because chasing good historical results just feels so assuring.

The issue isn’t why this behaviour is wrong (although she does explain that for those who still don’t get it) but rather, what could we do to finally wean investors from that belief system? Anne introduces us to a new branch of behavioural psychology: Motivational Intervention, an intriguing psychological technique that’s beginning to produce some convincing behavioural changes with substance abusers and patients who insist on clinging to medical quackery, in spite of prevailing evidence.

Another myth/heuristic that we all accept virtually blindly, is the principle of diversifying your investments by spreading the risk around amongst



The harsh reality is that higher manager fees is no assurance that you are going to get a better outcome.



Warren Buffett
Chairman and CEO of
Berkshire Hathaway

disparate and non-correlated assets. Everyone knows this is the only 'free lunch' in the market and cornerstone of modern portfolio theory.

But is it just another comforting myth we choose to believe?

Warren Buffett, the world's most successful investor, has always run high conviction portfolios with little diversification. More recently, Terry Smith's UK fund management business Fundsmith typically holds fewer than 30 stocks and his performance has been exceptional.

Prof Evan Gilbert challenges our beliefs in his article on diversification as he pithily agrees with it being a 'free lunch' but only the 'first course'. As many financial crises have shown, when things are going well, assets move in an uncorrelated way, but during crashes and times of great worry, all asset classes can fall together, undermining the benefits of diversification.

Finally, we address the shaky belief that if you follow an environmental, social and governance mandate you are by definition giving up returns. Responsible investing is gaining in popularity and based on the concept that how we invest today will affect the quality of our lives and existence in the future.

But while a compelling concept, there is still hesitancy. While everyone wants a better world in the future, many investors still want a greater return today and while it is fading, there is a lingering perception that investing in companies with sound sustainability attributes means poorer returns. Jon Duncan from Old Mutual addresses the myths and evidence around this topic.

What these articles suggest in aggregate, though, is that we have only just begun to take a closer look at some of the myths and heuristics that persist unwarranted in this industry. It's easy to understand why.

There are some hugely complex debates we are only just now getting clarity on. Worse, investors *want* to believe that investing can produce financial miracles. But we do the industry and its clients a tremendous disservice if we don't keep revisiting these discussions with analytical rigour. ■

Murray Anderson is managing director: retail and commercial at Ashburton Investments.

Investment myths debunked

Myth #1: Three years (Five years? Ten years? Twenty years?) of fund performance histories should provide compelling evidence of asset management skill.

Fact: Even Warren Buffett's long-term track record is not statistically significant enough to determine whether the outcomes he has generated are a function of his skill. (Nassim Taleb: *Fooled by Randomness*)

Myth #2: You get what you pay for in asset management.

Fact: The harsh reality is that higher manager fees is no assurance that you are going to get a better outcome. That said, not all passive investments are cheaper than actively managed funds. But the one truth that does prevail is that lower costs at least lower the performance drag on any fund. (Jack Bogle, The Vanguard Group)

Myth #3: Invest in funds where the manager has invested their own money – that way you will be assured of their undivided attention.

Fact: What you could also get is their risk profile and not yours. A co-invested manager who is experiencing financial strain could have a very different attitude towards how an investment is managed than you might require. (Dwight Spenser)

Myth #4: Blending a selection of top-performing managers should give you the best outcomes.

Fact: As the Nobel laureate Bill Sharpe points out, a blend of the top-performing managers will typically just give you exposure to managers who have the same investment style. As soon as that style goes out of favour in the market, the blend will underperform. The best "naive" approach is to diversify, by picking managers from the top and bottom of the league tables. Then you know for sure that they will provide you with diversified investment styles. (Bill Sharpe)

Myth #5: Allocating funds between multiple balanced managers will give the best opportunity to meet long-term returns.

Fact: Blending multiple balanced mandates can only give you random outcomes. You may perform well, but you won't be able to create a solution that can target a specific outcome. (Richard Brealey, London Business School) ■



INVESTMENT STRATEGY

The myth of the rational investor

There are many biases that affect investment – both from a fund manager and investor perspective. So, what does that mean when it comes to formulating investment strategies?

Economists, asset managers, investment managers, product developers and the likes all use the “rational investor” when making predictions and assumptions.

A rational investor, or rational behaviour, refers to the action or decision-making criteria of a person so that the optimum level of benefit is reached. But is the average person rational? We base so many model assumptions on this ideal, but does he or she actually exist? The existence of biases leads to an unclear answer.

Cognitive biases relate to information processing. It relates to the way we think and argue. Cognitive biases can lead to an illogical deviation from rationality and lead to poor decision-making.

A classic example of a cognitive bias is the gambler’s fallacy. If you flip a coin and the outcome is tails six times in a row, our inclination is to put a higher probability on the next coin toss being heads. But in reality the probability is 50/50, as each coin toss should be seen as an independent event that is not influenced by previous coin flips.

In a Monte Carlo casino in August 1913 the roulette ball landed on black 26 times in a row before a red number was thrown. People who fell prey to the gambler’s fallacy that night believed that the probability of a red number being thrown increases with each black number being thrown and consequently lost a lot of money. In reality the probability of a particular number being thrown on each turn of the wheel should be equal.

Loss aversion is another well-known bias based on the tendency of investors to prefer avoiding losses over the possibility of obtaining gains. The pain felt through a loss outweighs the joy felt over an equal gain.

Daniel Kahneman and Amos Tversky coined the term and, through studies, estimated that people fear loss twice as much as they relish success. According to the social psychologists, it hurts twice as much to lose R1 000 in an investment as an equal gain of R1 000. Is that rational? Is a R1 000 not equal to a R1 000?

Anchoring is a bias which refers to fixing expectations on previously observed numbers, leading to an inability to make objective decisions based on current information. Have you ever walked into a shoe store, tried on a pair of shoes that you liked only to look at the price tag and see it costs R7 000? While packing it away, the sales assistant asked “do you like them” only for you to reply “sure, but R7 000 is out of my price range”. “You are in luck,” says the assistant,

“they are on sale, 40% off.”

“Bargain” you think, and put it on the card. Even though R4 200 is way above what you normally pay for shoes, it is way below the anchor of R7 000.

Investors and advisers are not immune to irrationality. **We state as a matter of law that “past investment returns are no indication of future returns”, yet we use back-tested numbers to cement and convince ourselves and our customers of an investment decision.**

We design retirement solutions that are based on an individual buying an inflation-linked life annuity at retirement because that is surely what the rational person will do? Whereas we are well aware that more than 90% of annuities taken out in South Africa are living annuities (according to data from Asisa).

We know that people not being able to retire has, thanks to great past returns in the South African market, not been because of bad returns, but because saving rates are too low and people don’t or can’t afford to preserve retirement savings when they change jobs. A rational person will hence spend time on solving the problems that are in our direct control, right? But, we spend by far the majority of time, effort and direct client attention on how we can increase the returns instead of the outcome, which is causing the problem – and which is to some measure within our control.

So what is the solution? Irrational rather than rational thinking? A case can be made for that, but changing human intuition might be a step too far. Leave it to the professionals to decide what is the best course of action? After all Henry Ford said “If I asked people what they wanted they would have said a faster horse.”

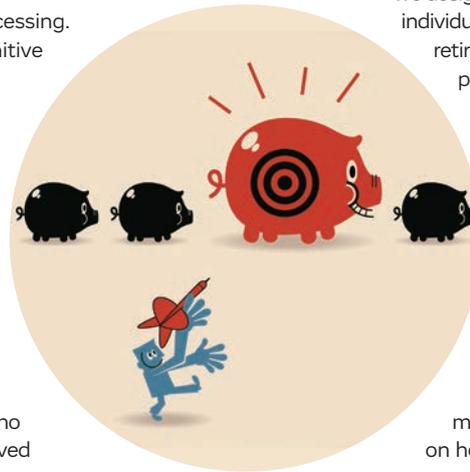
I think the solution lies in probably the longest-practised human ability that we still struggle to master on a continuous basis: listening.

Hearing is not enough. We need actual listening. Listening to the client and understanding what they actually, behind all the noise, want, need and desire. Listening to the data and understanding that you need to read *from* the data, and not *into* the data what you want.

It is then the job of the professional to educate the client on what is not only possible, but what indeed is probable. And to implement the needs, wants and desires of the client.

Listening is one of the things robots have not yet been able to master. Not yet. “Listen” carefully to some of the suggestions we make in the articles of this edition of *Collective Insight*. ■

Hannes Viljoen is a senior manager in the advisory team at Alexander Forbes Investments.



Hearing is not enough. We need actual listening.
Listening to the client and understanding what they actually, behind all the noise, want, need and desire.



PORTFOLIO MANAGEMENT

Can we ever get you to change your mind?

Despite all the warnings against using past performance as a measure when selecting a manager or fund, investors still do it. Perhaps a different tack is needed to help change this habit.

Let's try a totally different tack this time. No matter how many times investors are warned that past performance is no indicator of future performance, you, the investor – with much encouragement from the marketing departments of asset management companies – will still revert to past performance as a critical component in manager or fund selection.

We researchers cling to the notion that the more we educate investors with the right data, the more convinced our audience will become to the "rightness" of our argument. We can prove categorically – with all sorts of quantitative and qualitative metrics – that any belief that past performance is a good proxy for manager potential in the future is completely unfounded.

But here is the harsh reality: all that research will do little to change this old habit – investors, consultants and decision-makers will still insist on relying heavily on that past performance.

So, let's take a leaf from a different branch of analytics: behavioural psychology. Let's look at some interesting work being done with behavioural change for both substance abusers and patients who cling unhealthily to quack medical theories.

Here a new line of therapy is emerging that is having surprising success – Motivational Intervention (MI). These therapists start with the view that rational answers and scientific or statistical proof mean little to individuals where the flawed messaging of the group is far more alluring to individuals than rational answers and scientific or statistical proof.

The trick to prying individuals away from these harmful affiliations and belief systems is to shift emphatically to non-judgmentalism, while at the same time helping the individual develop a whole new value and belief system.

Instead of cowering addicts with facts about the perils of either taking addictive substances or that clinging to unscientific beliefs may be potentially harmful, MI works by establishing an individual's level of motivation for change. MI proceeds by encouraging an addicted patient to articulate his or her own values, beliefs, and goals – independent of the "group" – until a shared approach for behaviour change is agreed upon between therapist (consultant/adviser) and patient

Here is the harsh reality: all that research will do little to change this old habit – investors, consultants and decision-makers will still insist on relying heavily on that past performance.



(investor). In other words, we need to pay at least as much attention to changing hearts as to changing minds.

Let's see if we can change your hearts as well as your minds if we tackle our past-performance-equals-skill problem by changing the narrative to one that a non-investment person could relate to.

Consider this wonderful example that Morgan Housel of the Collaborative Fund relates in the online article *The Psychology of Money: From an Industry That Talks Too Much about What to Do, and Not Enough about What Happens in Your Head When You Try to Do It*.

He tells the story of Grace Groner, a secretary with a meagre salary and modest living requirements, who manages to accumulate an astonishing \$7m by the time she dies at the age of 100. Her secret: continual saving – even though small, is magnified many times over through the power of compounding. We could stop at that point alone and use it to persuade investors that they should stay invested. But this is not Housel's point.

He then introduces another character into his story: Richard Fuscone, a former vice chair of Merrill Lynch's Latin America division. Despite retiring early with a small fortune from his high-paying position, Richard ends up declaring personal bankruptcy soon after. The problem: overspending and bad choices in his personal property investments.

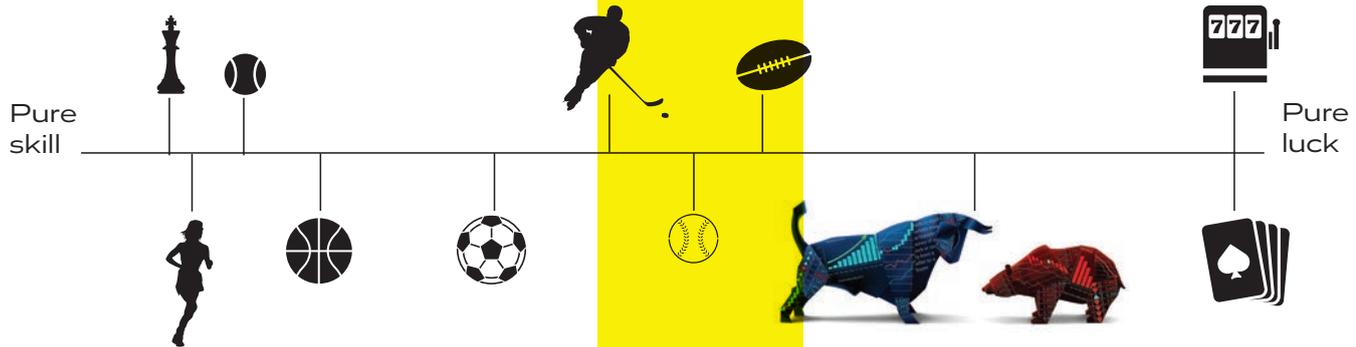
Housel doesn't pass judgement on either investor. He uses the two stories to make this critical point:

"In what other field does someone with no education, no relevant experience, no resources, and no connections vastly outperform someone with the best education, the most relevant experiences, the best resources and the best connections?" There will never be a story of a

Grace Groner performing heart surgery better than a Harvard-trained cardiologist. Or building a faster chip than Apple's engineers. Unthinkable."

This example should give anyone, inexperienced or experienced, some pause for thought. We don't need statistical analysis to see that we need to pay a bit more attention here to what would be driving these differential outcomes. More importantly, the anecdote neatly points out – without being judgemental – that differential outcomes in this "profession" may have little to do with "skill".

How well do we understand...



SOURCE: Michael Mauboussin

But let's move on to another "non-financial" approach that could be equally effective in prying our reader away from the herd preference for past performance. Again, as with any effective MI intervention, the trick is to move away from a direct attack on the industry and use a non-confrontationist technique to properly position any human endeavour outcome along a skill-to-luck continuum.

This is a wonderful exercise that was introduced by Michael Mauboussin some 10 or 15 years ago. Mauboussin looks at a whole spectrum of human endeavours that produce outcomes: running a marathon, playing chess, playing in the World Cup, investing, playing blackjack, spinning the roulette wheel. He then argues that, based on four questions (I always add a fifth), one can readily place that activity somewhere on that skill-to-luck continuum – including asset management.

Question 1: Can you intentionally lose in this endeavour?

Clearly one can't intentionally lose at roulette. Outcomes there are just totally random. But you can intentionally lose a marathon – you just don't put in the effort.

Now try asking a room full of asset managers whether they can *intentionally* lose in asset management. At first the answer seems obvious: yes, of course. And then you start probing and testing each time they insist that they can. You point out that every time something in the market seems undervalued (because everyone knows the company is a dog), some contrarian investor comes along and snaps it up. Lo and behold, it turns out that much of the time, everything people *think* should do poorly ends up doing well, simply because of this contrarian element. So no, asset managers cannot deliberately lose. Mr Market (the market psychology) makes that impossible.

Question 2: Does practice improve outcomes?

With marathon racing: yes. With roulette: no. With asset management? The surprising answer here is that a number

▲
What factors determine whether an outcome of any activity is driven more by skill or by luck?

- Can you intentionally lose? If so...it indicates that skill is required.
- Does practice improve outcomes?
- Do outcomes revert to the mean? If so... the element of luck is high.
- Is there evidence of transitivity? "A" beats "B" and "B" beats "C" then "A" should beat "C"
- How many factors are involved in the path to success?

of studies have tried to see if there is any correlation between length of experience, education, IQ, age, qualifications...and performance delivery. What the research has shown is that none of these factors indicate a consistent correlation to future performance.

In fact, the only study that showed any connection at all was one by Van Harlow at Duke University, where he showed that share traders with low levels of monoamine oxidase in their bloodstream turned out to have slightly better results than the average investor. Monoamine oxidase is a neuro-regulating enzyme. If you have a sub-par level of it, you likely don't respond reflexively to risk – a good thing for a trader.

The problem with this research is that it also indicated that other populations such as substance abusers and addicts of all manner also happen to have these same low levels: they too don't respond as normal people might to the risks they take.

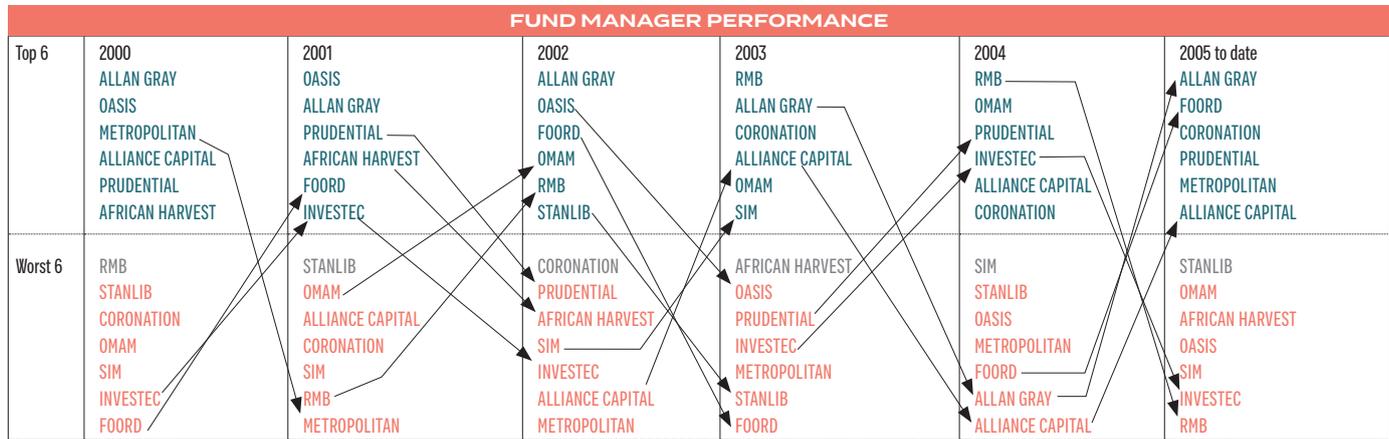
Not sure what this all suggests exactly...

Question 3: Do the outcomes tend to revert to the mean?

With marathon runners: no. With roulette: yes. Eventually in roulette, because the outcome is randomly distributed, the losses will even out with the wins. And asset management? Let me use a very old chart of manager performance (just so I don't offend anyone) to show you exactly how that same phenomenon plays out in the manager performance surveys (see p.24). Follow the arrows and you will see that asset managers who outperform during one period will tend to underperform in the next: reversion to the mean over time.

Question 4: Is there evidence of transitivity?

Transitivity means that if A can outperform B and B can outperform C then A should be able to outperform C. This works in a running race. It does not hold true in roulette – again, because the outcomes are random. And it does not hold true in asset management because different investment strategies work in different economic conditions



and Mr Market never is that clear on which strategies will be rewarded at any point in the future.

Question 5 (this is the one I added): How many factors stand between you and the performance outcome?

In the case of the marathon runner, performance is generally a function of whether that person can deliver on that day. It's all about their individual skill. In the case of football (which ranks above asset management in the skills continuum), it's not just about an individual team member's skill. It's whether the team as a whole is able to function effectively. In the case of asset management, the manager needs to get it right on all these levels:

- They need to select the right securities;
- They need to identify the right sectors or common factors (e.g. size, value, momentum);
- They need to make sure the asset allocation responds both to local economic and market drivers as well as global drivers.

But the biggest challenge of all relates to something called the "transfer co-efficient". That's the percentage of manager skill that can be translated into a final outcome once the portfolio construction process is applied. Here is where Regulation 28 constraints and Collective Investment Schemes Control Act (CISCA) regulation limits are introduced. These regulations are designed to protect the unit trust or pension fund investor from any extreme exposures to risk. Diversification is at their core. As the chart suggests, even if the asset manager picked all their shares correctly – and as such, the expected performance of each of those shares by themselves was 7.3% – once those constraints are put into place that "perfect skill" now gets reduced to only 2.3%.

That should give us all pause for thought. Rest assured that the answer is not "remove the constraints". The constraints exist because indeed, as our anecdotal discussions have subtly pointed out, we cannot determine whether asset managers, even if they are skilful, can translate that skill into performance in the future. As such, constraints protect the lay investor.

THE MOST IMPORTANT SLIDE YOU'LL EVER SEE FOR UNDERSTANDING WHY MANAGER SKILL IS DIFFICULT TO DETECT

Portfolio constraints	Active risk	Transfer co-efficient	Expected active return
Unconstrained	5%	0.98%	7.3%
Long only	5%	0.58%	4.3%
Market-Cap Neutral	5%	0.47%	3.5%
Turnover limit 25%	5%	0.49%	3.7%
Multiple Constraints	5%	0.31%	2.3%

The more concentrated a market becomes, the lower the transfer co-efficient = Less performance from manager skills

SOURCE: Clarke, Da Silva, Thorley 2002

Now what?

Perhaps it's no wonder that on Mauboussin's skill-to-luck continuum, asset management features just a fraction above blackjack – after all, both performance outcomes (assuming card counting is forbidden) rely heavily on an individual's ability to outguess what their competitor is likely to do. In the case of the asset manager, it's Mr Market that you must beat – and that effectively means all the other market participants and what they think the market will do.

But does this mean that there is no role for asset management? The answer here is emphatically NO!

But it does mean we have to be much more circumspect about what we should expect from our managers. Consider this point – what if we changed the mandate for the manager to one that says: "Please manage this portfolio such that I have X% certainty that I can meet this "Y" funding requirement knowing that I have these cash flows and time frames to work with." Surprisingly, that's a far easier requirement for a fund manager than simply asking them to outperform other managers. That means that what we really require is simply a manager who maintains a steady hand on the tiller and doesn't try to be the hero. Much simpler than the industry would have you believe.

Did we convince you? ■

Anne Cabot-Alletzhauser heads up the Alexander Forbes Research Institute.

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RETIREMENT FUNDS

Great investment returns = great retirement benefits, right?

There are many challenges to face during a person’s retirement savings journey, and this needs to be considered when designing retirement benefit and savings schemes.

The South African retirement fund market has for some time been mainly defined contribution-based, with members taking the risk if investment returns are less than are required to build up sufficient resources for retirement. And studies find that members are not building up sufficient resources to maintain their standard of living after retirement. It would be easy to link these two statements and deduce that poor investment returns are to blame for poor member outcomes, but this would be a fallacy. There are many reasons why retirement is “not working”, and investment returns have not been one of the main culprits in recent years.

Investment returns

For some time now, we have been talking about the realities of a low-return environment, but that hasn’t been the case over the past 15 years when the FTSE/JSE SWIX earned a 13% annualised real return, the All Bond Index a 4% annualised real return and the FTSE/JSE SA Property Index a 14% annualised real return.

These are great investment returns and should have translated into huge fund credits that would enable people to buy annuities that would be sufficient for their retirement needs. However, this has not been the case, with studies finding that only 6% of people can retire with sufficient resources to replace a high proportion of their salary after retirement.

Targeted vs actual net replacement ratios

A lot of defined contribution funds set up investment strategies that set out to target a net replacement ratio (NRR). The NRR is the income after retirement that a member can expect to purchase using their fund credit, expressed as a percentage of their pre-retirement income.

While funds aim to target NRRs of 60% to 70% of pensionable salary at retirement, studies show that the average actual replacement ratio of retiring members is closer to 30%. The graph on the right illustrates the challenge – younger members still have the opportunity to attain high levels of NRRs, but older members tend to have little chance of retiring comfortably due to their low level of accumulated benefits as they approach retirement.

Drivers of the NRR

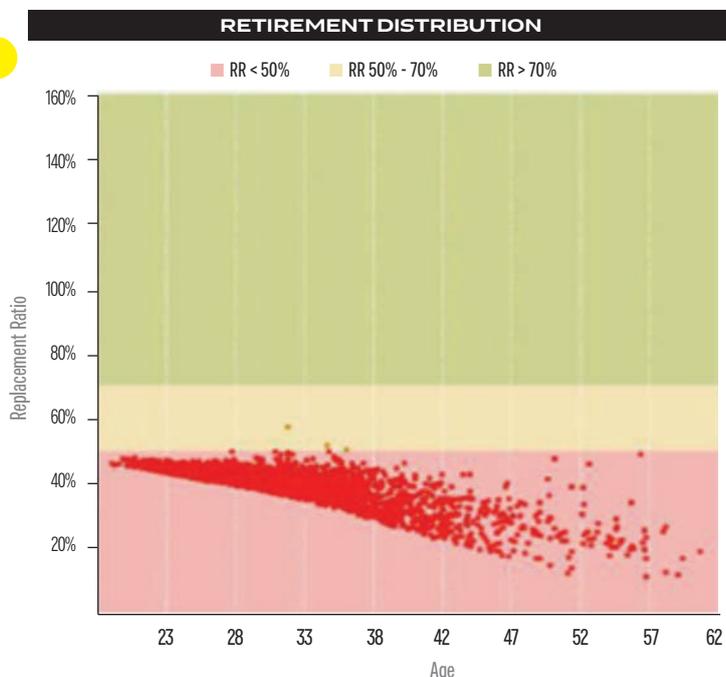
The actual NRR that members achieve is driven by many factors, including the accumulation period over which

fund credits build up, investment returns earned over the accumulation period, the member’s salary increases, their level of pensionable salary vs actual salary, the level of contribution toward retirement, the member’s age at retirement, the type of annuity that members buy at retirement, and the cost of this annuity at the date of retirement.

The longer the period that members add to their defined contribution fund credits, the higher the expected NRR. But it is critical that members not only save toward retirement by adding to their retirement fund credit while they work for an employer, but also that they preserve this money in a preservation fund, or in the retirement fund of their new employer. If, instead, members take their exit benefits in cash, they are then reducing their period of accumulation, which will have a massive reductive impact on their ultimate retirement benefit.

Similarly, if a member retires earlier than expected, then this reduces their accumulation period and also increases the cost of purchasing an annuity due to the longer

Only 6% of people can retire with sufficient resources to replace a high proportion of their salary after retirement.



SOURCE: Alexander Forbes Research and Development

With this level of diversity it is not surprising the “one size fits all” retirement and savings solutions will not be able to meet many South African members’ needs.

period they will spend in retirement. Thus, their NRR will decrease due to a combination of these two factors.

The level of contribution to retirement also has a significant impact on retirement benefits, with a one percentage point increase adding an estimated five percentage points to the expected NRR at retirement age.

The fact that some employers and funds allow members to choose different levels of pensionable rather than actual salary can mean that a high level of NRR based on pensionable salary translates into a much lower NRR versus actual salary. Any projected benefit statements based on this overstated NRR will give information that will be misleading for members.

Over the last couple of decades, real interest rates have decreased, resulting in an increase in the cost of annuities to be purchased by retiring members. Thus the fund credit required to purchase a desired level of income in retirement has increased. Many funds that set up investment strategies with targeted levels of NRR before these interest rate decreases have had to review whether their NRRs are achievable, and potentially reduce them to be more realistic in a lower real interest environment.

Are any of us average?

Around 60% to 70% has been a traditional target level for an NRR, even in a defined benefit environment. It is based on contributions of the order of 15% to 17% of salary per annum toward retirement, with 30 to 40 years of accumulation. While these accumulation assumptions may be appropriate for other, non-South African, environments where an “average” employee works for a company for most of their working lives and then retires in their 60s, the reality for the “average” member retiring from a fund in South Africa today could differ significantly from this scenario.

Retiring members are very unlikely to have worked for a single company for 30 to 40 years, but will probably have changed jobs several times. Their contribution rate to their retirement funds will have varied significantly. They may have to retire well before age 65 because their employment contract requires this, or because their employment is terminated early. They may have faced several crisis periods where their only source of funds was their retirement savings, and they had to access these

savings when leaving an employer.

But most significantly, the reason that these “average” assumptions will not be widely applicable is due to the vastly different economic circumstances that South African retirement fund members face, including the potential for members to be supporting a wide extended family, including parents and grandparents, siblings and children.

The 2018 Alexander Forbes *Benefits Barometer* refers to a diversity metric from a study prepared in 2003 by JD Fearon. The metric measures ethnic fractionalisation as being “the probability that two randomly selected individuals from a country will be from different ethnic groups”. Using this metric, Fearon’s study found that 17 of the 20 most diverse countries in the world are African and that South Africa ranks eighth. With this level of diversity it is not surprising the “one size fits all” retirement and savings solutions will not be able to meet many South African members’ needs.



A different, South African way of looking at retirement and savings

The reality for many in South Africa is that they need to be encouraged to save as much as they can, when they can, but that they may also need to access these savings during crisis periods and to invest in their families, particularly in their children’s education.

And when they retire they may well be starting to run their own businesses, or working in a family business, or requiring support from the children that they have helped to educate with their savings. The *Benefits Barometer* sets out the need for different solutions that are “increasingly flexible, individualised and targeted at specific needs” so as to deal with the complexity of challenges posed by South Africa’s diverse environment.

Because let’s face it – retirement planning and saving toward retirement is complex. Many retirement funds, and the asset managers that they appoint, have been focused on the delivery of the right investment solutions, but this is not sufficient to ensure that desired retirement outcomes are achieved for members. Members face a vastly broader set of issues over the whole period of their retirement savings journey, and this reality needs to be taken into account in designing retirement benefit and savings schemes that are “fit for purpose” for the members that access them. ■

Janina Slawski is principal investment consultant at Alexander Forbes Investments.



PORTFOLIO MANAGEMENT

Diversification – is it sufficient for effective portfolio risk management?

Diversifying your investments doesn't increase the level of your expected returns, but rather it provides a more acceptable actual outcome.

Diversification is one of the great cornerstones of modern portfolio theory. Ever since the seminal work of Harry Markowitz in his 1952 paper *Portfolio Selection*, investment managers have recognised the potential for the “free lunch” it provides and have designed their portfolios accordingly.

In this article, the question of whether diversification is enough for effective portfolio risk management in practice is explored. The answer is no – for two reasons.

Firstly, the primary mechanism, which delivers the expected risk-reducing benefits (imperfect correlations), is not stable through time and, in times of extreme negative market returns for South African equities, the alternative asset classes fail to provide sufficiently large offsetting returns.

Secondly, recent research on the SA equity market shows that higher levels of diversification are not consistently correlated with higher risk-adjusted returns. This suggests the risk mitigation characteristics of diversification are likely to disappoint investors' expectations – especially in times

of crisis. While diversification is a necessary part of risk management, it is certainly not sufficient in isolation.

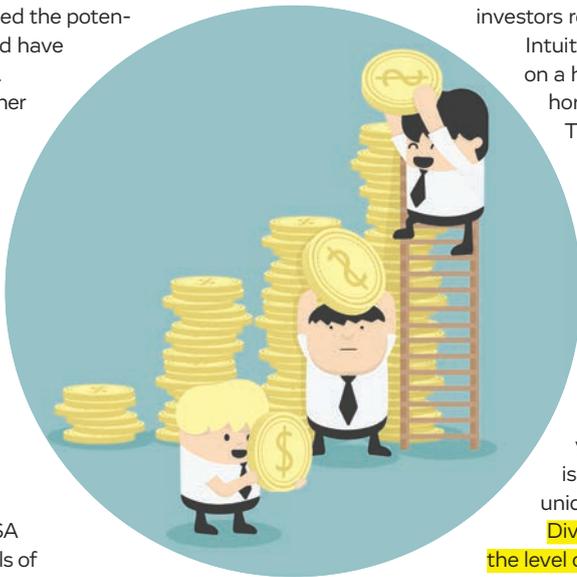
The importance of these conclusions is reinforced if portfolios are designed to meet commitments made to investors regarding their investment outcomes.

Intuitively, diversification is like spreading your bets on a horse race. If you don't know for sure which horse is going to win, you bet on more than one.

This moves you away from facing a binary outcome (i.e. you win big or nothing at all) to one of you getting something smaller back but with more certainty. By diversifying your bets, you have increased your expected risk-adjusted returns.

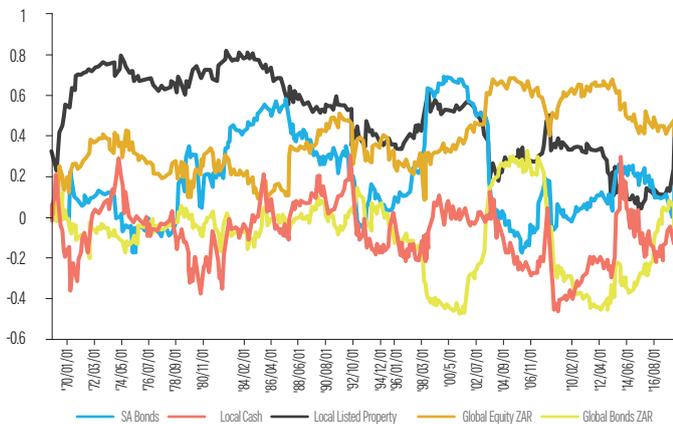
Technically, diversification works because if your investments are imperfectly correlated, then, by holding more than one, the volatility of your portfolio returns will be lower than the weighted average of the individual share volatilities. The increase in risk-adjusted returns is exactly the point of diversification – it is the unique contribution it makes to investors.

Diversifying your investments doesn't increase the level of your expected returns (in fact it can decrease them), but rather it provides a more acceptable actual outcome, i.e. when you take the effects of risk into account. It is a bit like buying insurance. You will only know after the fact whether paying the premium was a



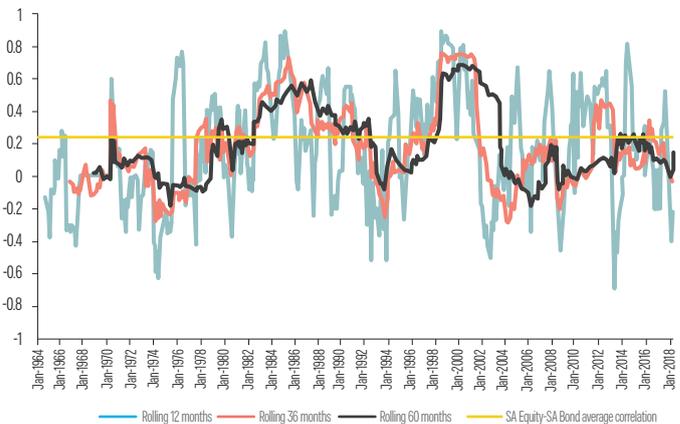
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FIVE-YEAR ROLLING CORRELATIONS BETWEEN SA EQUITIES AND OTHER ASSET CLASSES



SOURCE: IRESS; Momentum Investments

CORRELATIONS BETWEEN SA EQUITIES AND SA BONDS FOR DIFFERENT ROLLING PERIODS



SOURCE: IRESS; Momentum Investments

good idea or not – but it still will make sense to pay the premium up front if you cannot afford to live with the loss that you are insuring against. This protection is especially relevant if you are designing investment portfolios to deliver against specific investment outcomes – the effect of missing these outcomes in a specific period will fundamentally challenge the credibility of the solution.

If trying to achieve an investment outcome consistently is the primary goal of the portfolio construction, the relevant question is whether diversification on its own is sufficient for effective portfolio risk management? This is looked at on two levels: the multi-asset-class level and within a specific asset class (in this case, SA equities).

Asset classes represent significantly different combinations of risk and return. This is driven by their fundamentally different investment characteristics, for example, holding cash compared to owning a loan to a company or government (bonds) or ownership of companies themselves (equity).

These fundamental differences should lead to different return profiles over time and these should be a significant source of diversification benefit. This hypothesis is confirmed by the results of the correlation analysis presented in the table below, which expresses the average linear relationship between the monthly returns for these asset classes from January 1964 to 2018.

It is important to remember the Pearson correlation coefficient reported in this table and traditionally used in portfolio optimisation summarises the extent of the presence of a *linear* relationship between the variables. Its accuracy is based on the assumptions of a normal distribution of both sets of underlying returns, the existence of a linear relationship between the two variables and constant volatilities for the period under examination – all of which are most often not met in financial markets.

It is thus very sensitive to outliers – especially with small sample sizes. Alternative measures of correlation that

are non-parametric and thus avoid this problem to some degree are the Kendall tau or the Spearman rank correlation methods. These have been used in portfolio optimisation, but their use has not become standard industry practice. A more popular approach has been to focus on ways to come up with more stable estimates of correlation.

As the numbers are all lower than one (and some are actually negative), they indicate imperfect correlations between the asset classes over this time period, which suggests diversification can provide risk reduction. The problem with this conclusion is these are *average* levels of correlation *for the entire period*.

Looking at correlations in shorter rolling periods, these levels of correlation are not very stable and, thus, the averages are not a good proxy for any specific period. To illustrate this, the correlations between local equities and the other asset classes in the table below for a five-year rolling period are presented in the graph to the left on p.28. It is clear from this that the short-term reality can differ significantly from the average scenario described in the table below.

The instability problem gets even worse when periods are shorter. To illustrate this, the correlations between SA equity and SA bonds in different rolling periods (one, three and five years) are presented in the graph on the right of p.28. The correlation coefficients vary significantly around the mean – especially in the short term (one-year rolling periods).

The final problem in this space is the joint returns from asset classes in times of crisis – exactly when an investor needs the diversification benefits the most.

A scatter plot of the 22 worst monthly returns for the SA equity market (all months < negative 10%) and the equivalent returns for the other asset classes in the same periods is presented on p.30. This highlights a rather subtle problem in this context that is ignored by the traditional focus on correlations – that of scale (correlation coefficients only focus on direction of relative changes, not their quantum).

Given the relative importance of SA equities in most retirement funds, the diversification benefits from these asset classes in times of crisis are not likely to be especially meaningful.

THE AVERAGE LINEAR RELATIONSHIP BETWEEN THE MONTHLY RETURNS FOR ASSET CLASSES FROM JANUARY 1964 TO 2018

	SA equities	SA bonds	SA cash	SA listed property	Global equity (in rand terms)	Global bonds (in rand terms)
SA equities	1	0.24	-0	0.47	0.35	-0.07
SA bonds	0.24	1	0.17	0.25	-0.08	-0.18
SA cash	-0	0.17	1	-0.01	0.1	0.18
SA listed property	0.47	0.25	-0.01	1	0.1	-0.14
Global equity (in rand terms)	0.35	-0.08	0.1	0.10	1	0.58
Global bonds (in rand terms)	-0.07	-0.18	0.18	-0.14	0.58	1

SOURCE: IRESS; Momentum Investments

Diversification may be described as a ‘free lunch’ in investment management, but it should probably be more accurately described as just the ‘first course’.

While the other asset classes did sometimes provide positive offsetting returns in these crisis periods, their returns are so much smaller than the negative ones from SA equity. Given the relative importance of SA equities in most retirement funds, the diversification benefits from these asset classes in times of crisis are not likely to be especially meaningful from a portfolio perspective.

A different version of the same challenge to risk management has been highlighted by some recent work in the context of SA equities. It focused on establishing the relationship between alternative levels of diversification and resulting portfolios’ risk-adjusted returns.

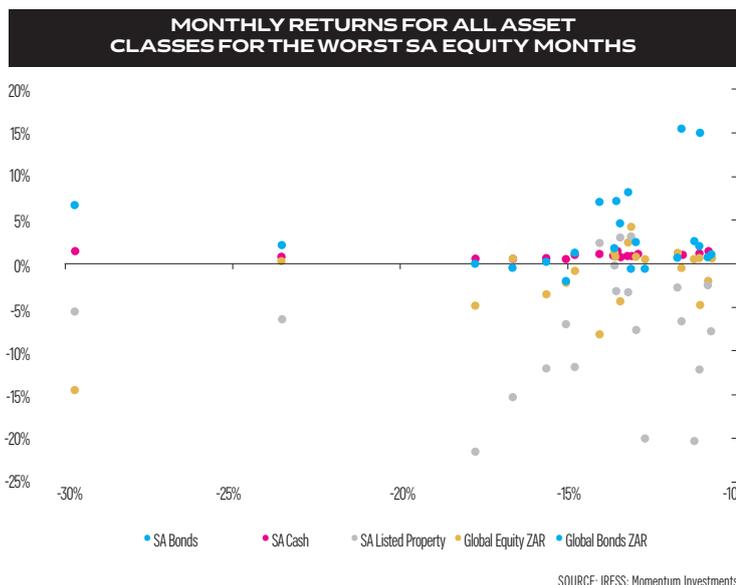
Using risk-premia-based share ranking schemes (value, momentum, size and low historical volatility), portfolios with 20 shares were created monthly for each risk-premium-based signal. Portfolio weightings were then set for each of the separate risk-premia portfolios, using four diversification methodologies. The diversification levels and resulting risk-adjusted returns from these four versions of the risk-premia portfolios were calculated relative to the market-capitalisation-based benchmark portfolios.

The analysis showed that while all the diversification strategies increased the level of diversification in the portfolios relative to the benchmark, they did not systematically increase the relative levels of risk-adjusted returns.

The relative diversification levels and risk-adjusted returns for three years for all four diversification strategies are reported, each for two separate risk measures (volatility and the Omega ratio). Two regressions were estimated and, in this case, both were found to be significant. On a graph, the linear regression is positively sloped, which suggests more diversification increases risk-adjusted returns, but the fact that the quadratic equation is also significant and has a better model fit, suggests too much diversification can lead to lower risk-adjusted returns. The results for the other risk premia were not as clear cut, but when viewed in totality, this work suggests the benefits of diversification are not as great as practitioners might think.

So, what is to be done for a multi-asset-class portfolio if there are inconsistent correlation levels between asset classes through time and the effects of the crashes of equity markets only, at best, partially offset by static exposures to other asset classes? It suggests that to reach the desired investment outcomes, portfolio managers need to be more active in terms of risk management. **Relying on long-term correlations and the implied asset allocations are most likely not to be the most effective risk management strategies.**

The implications for managing asset-class-specific



portfolios are that some diversification is beneficial, but sophisticated diversification strategies aimed at maximising levels of diversification are probably not worth the effort when compared to more simple approaches such as equal weighting. The apparent naivety of the equally weighted approach is a source of robustness, as it avoids the potential for model error in a world where correlations are continually changing.

In summary then, diversification may be described as a ‘free lunch’ in investment management, but it should probably be more accurately described as just the ‘first course’.

Other approaches are required to maximise the chances of reaching the desired investment outcome. These include tactical asset allocation, the selection of different investment strategies within asset classes that have different pay-off profiles across multiple market environments and the use of multiple mandates within each investment strategy.

The key in each case is to clearly identify a robust basis for making these decisions. In the context of developing outcome-based solutions, experience has shown that the investment strategy and multiple mandate solutions offer a more compelling basis than tactical asset allocation, as it is extremely challenging to achieve consistent benefits in terms of risk management from this in practice. ■

Dr. Evan Gilbert is a senior research analyst at Momentum Investments and a professor in finance at Stellenbosch University’s School of Business.

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ESG INVESTING

Debunking the biggest myth about responsible investing

Contrary to popular belief, investors are not giving up upside performance when prioritising companies with a better environmental, social and governance record.

Responsible investing is rooted in an understanding that how we invest today determines the quality of our future. Simply put, if we continue to invest in unsustainable companies that erode public trust, pollute the environment, and drive inequality, we should accept bestowing a world onto our children that is worse off due to our inaction.

A core myth associated with responsible investment, however, is that companies that focus on environmental, social and governance (ESG) issues reduce returns on capital and long-run shareholder value. The reality – as evidenced by both academic and industry research – is the contrary.

In fact, companies committed to ESG practices show specific measurable characteristics, such as lower cost of capital, better resource efficiency, stronger innovation, lower staff turnover, stronger social licence to operate and better access to markets – all attributes that can, and do, influence competitive advantage and long-term performance.

Because of the emergence of ESG data series that now spans, in some cases, as long as 10 years, it is now possible to test the implication of ESG on portfolio performance.

As such, during 2017, we compared the returns of the MSCI Emerging Markets Index constituents, grouped according to their ESG ratings for the period 31 January 2013 to 31 May 2017. Companies were ranked and placed into five portfolios according to their ESG score, with the highest-scoring companies placed in Portfolio 1, and the lowest-scoring companies placed in Portfolio 5.

These portfolios were also equally weighted at the start of the analysis, without rebalancing, to allow for price movement in order to see how each portfolio would perform if we held on to the same basket of companies for the duration of the investment period.

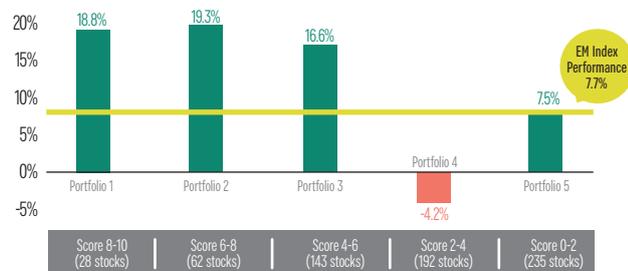
The results are depicted in the graphs: Portfolio 1 – with the highest ESG scores, with 18.8% – and Portfolio 2 with the second-highest ESG scores, with 19.3% – outperformed the information technology (infotech) sector by 23% and 23.5% respectively.

These quantitative research findings provide compelling support for the general ESG outperformance hypothesis. We were, however, concerned that it might have been a “good time” signal that would only add value in bull markets.

To test whether ESG factors provide alpha in both bull and bear market conditions, we decided to test two extreme sectoral performances over the same period.

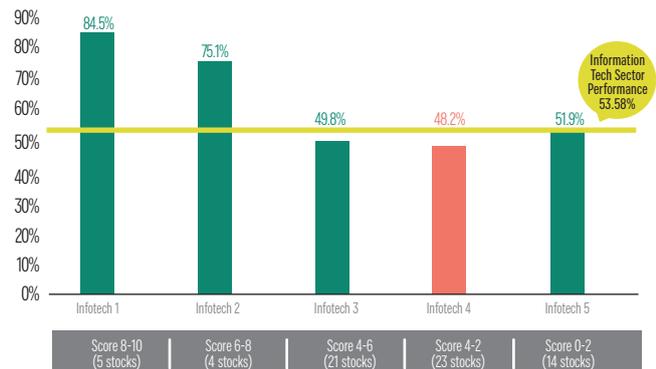
During the period under assessment, the infotech sector showed significant outperformance, whereas the energy sector underperformed. The same methodology was applied

EM INDEX: PERFORMANCE BY ESG-RATING BUCKETS 31 JANUARY 2013 - 31 MAY 2017 (CUMULATIVE RETURNS, \$)



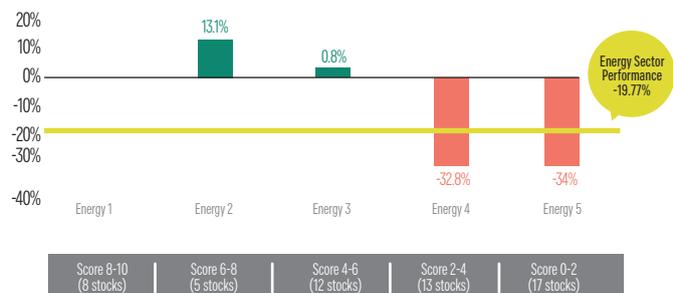
SOURCE: Old Mutual Investment Group, MSCI

EM INDEX: INFOTECH IVA PORTFOLIOS 31 JANUARY 2013 - 31 MAY 2017 (CUMULATIVE RETURNS, \$)



SOURCE: Old Mutual Investment Group, MSCI

EM INDEX: ENERGY SECTOR PORTFOLIOS



SOURCE: Old Mutual Investment Group, MSCI

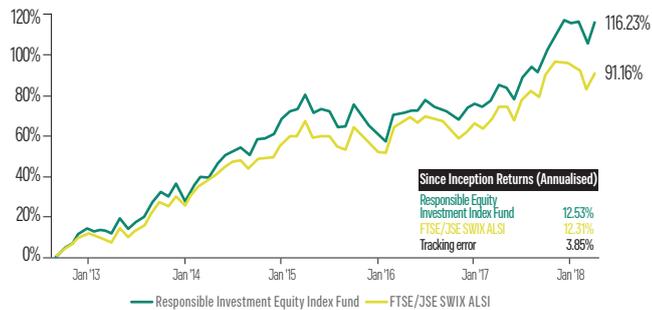
Though we cannot guarantee future outperformance, the trend supports the fact that the ESG-led index has paid off relative to the market index.

to both sectors for the same period, and even though the infotech sector as a whole performed well at 53.6%, the companies in Portfolio 1 significantly outperformed their lower ESG scoring peers in Portfolios 2 to 5. Portfolio 1, with 84.5%, outperformed the infotech sector by 30.9%.

The energy sector, as mentioned above, experienced a negative return of 19.1% during the assessment period. However, we can see from Graph 3 that even in bear market conditions the better-rated ESG companies continued to show positive performance. Portfolio 2 significantly outperformed Portfolios 3 to 5, as well as the energy sector as a whole by 32.2%.

The findings of our research corroborates a study titled *Can ESG add Alpha* by Zoltán Nagy, Altaf Kassam and Linda-Eling Lee, which was published in the 2016 *Journal of Investing*. This particular piece of research showed how ESG data could be leveraged using two different strategies, either by tilting portfolios towards high-performing ESG companies or companies with good ESG momentum over time.

We have further leveraged MSCI ESG data in our development of an ESG best-in-class index for the local



SOURCE: Old Mutual Investment Group

markets. The above chart illustrates the performance of this index in relation to the JSE shareholder-weighted index. Though we cannot guarantee future outperformance, the trend supports the fact that the ESG-led index has paid off relative to the market index. ■

Jon Duncan is head of the responsible investment programme, and of the sustainability research and engagement function at Old Mutual.

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