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Sci-Fi Report 2022

THE BEHAVIOURAL **SCI**ENCE OF SOUTH AFRICAN
FINANCIAL DECISIONS

Executive summary

'Behaviour tax loading' is the best way to describe the 2022 period of analysis of investor behaviour on the Momentum Wealth platform. As volatility in equity markets accelerated - placing returns under severe pressure - investors left equity markets to get hit slightly softer in fixed income markets amidst inflationary pressures and an upwards interest rate cycle. The behaviour tax in this report, however, cuts off when the JSE ALSI dipped below 64 000 points. In November (at the time of writing) markets had recovered to over 74 000 points meaning a rapidly accelerating behaviour tax for those investors that left equity markets earlier in the year. The lesson remains how nigh impossible it is to time markets. The only way to avoid a behaviour tax is to stay invested.

recovered to over

74 000 points

JSE ALSI dipped below

64 000 points

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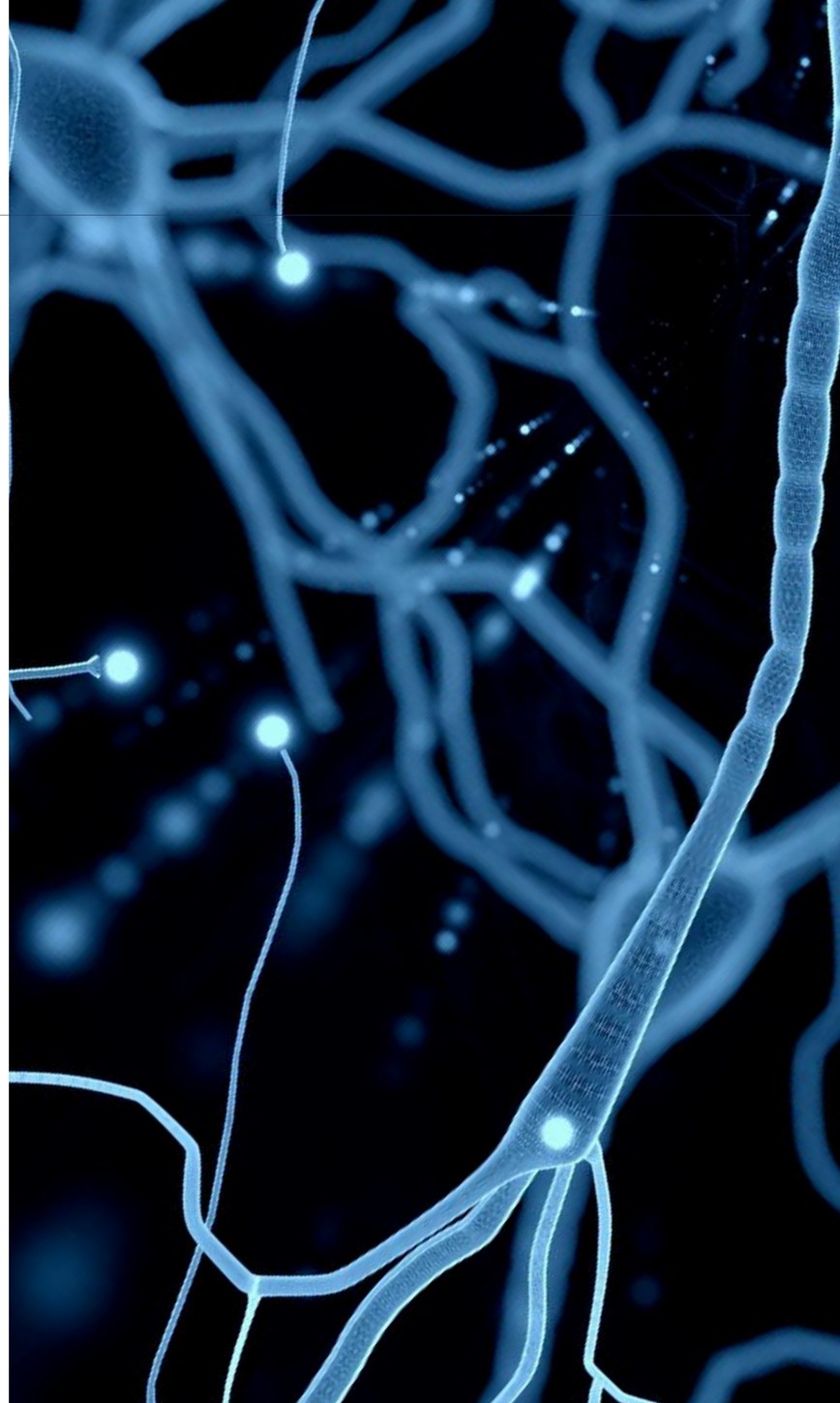
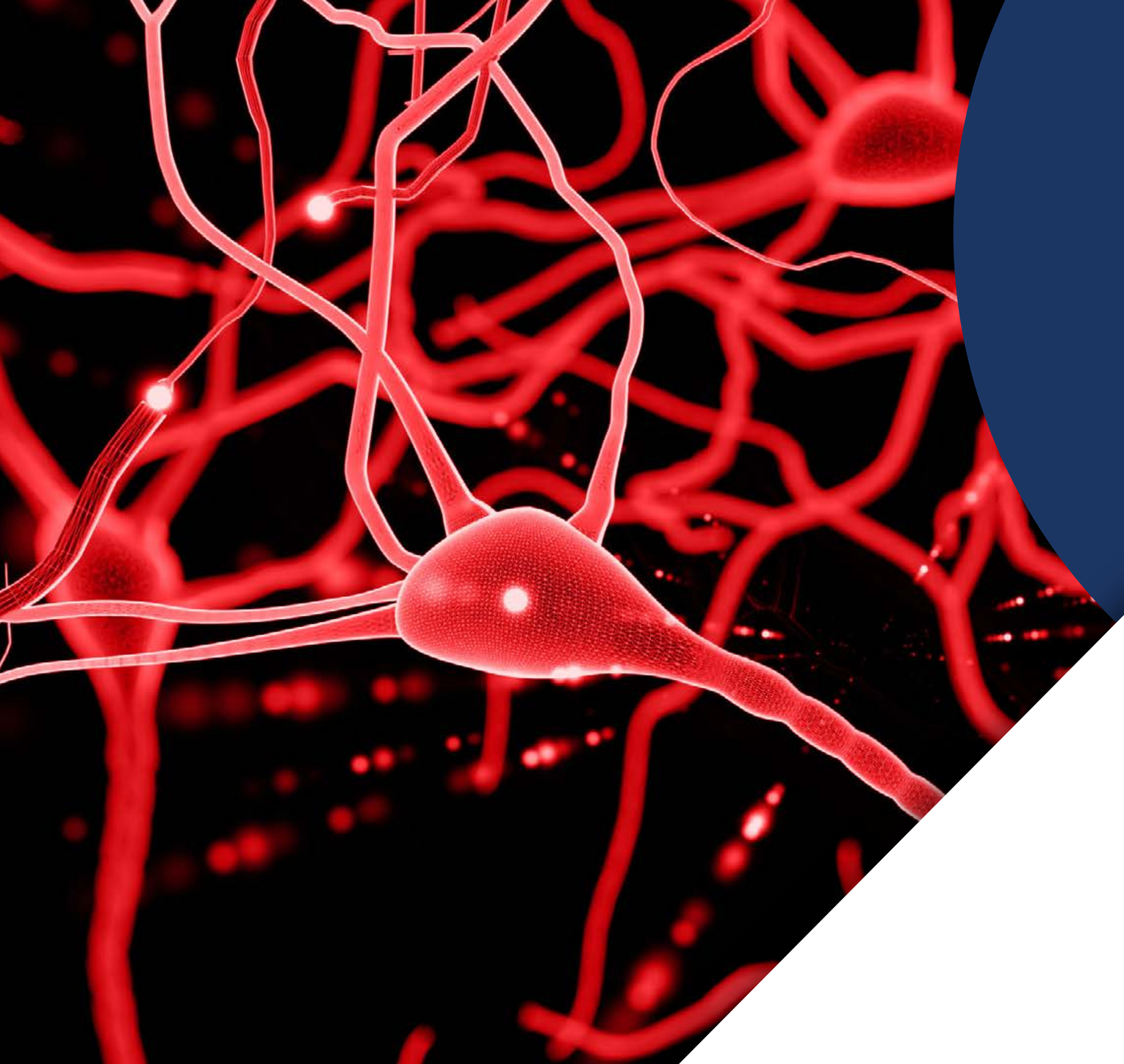




Foreword

Jeanette Marais

CEO: Momentum Investments

Foreword

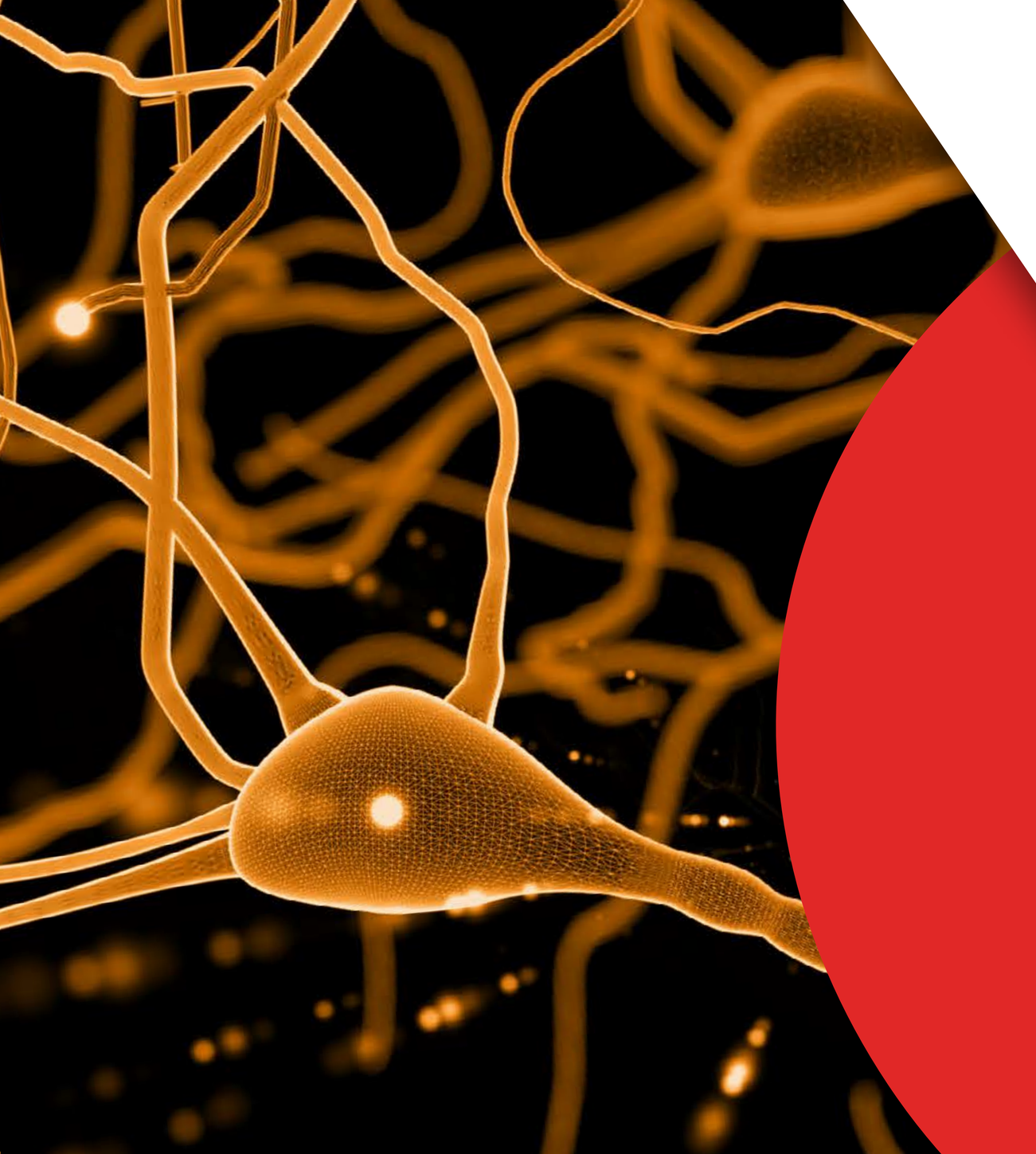
In the empathy economy, time poverty is becoming a greater challenge as people are deprived of time to recuperate and spend with loved ones. Therefore, the world is making more space for psychology, and so is financial planning.

How did we get to this point? The industrial revolution left its scars: A 2018 Harvard Business Review study of formerly heavily industrialised countries such as the United States and the United Kingdom, shows that people are experiencing psychological hardship, including higher anxiety, an obsession with living in the now, they are less satisfied with life, and ultimately they have a lower life expectancy. As automation rises and encroaches on jobs, those untouched will likely be the people rooted in the humanities such as teachers, therapists, medical professionals and financial advisers.

Psychology is fast becoming more useful than economics. Momentum Investments is gearing up for this new world by providing psychometric diagnostic tools to help advisers engage with their clients on a human level. This will help to bring balance: A balance between income statements and balance sheets (numbers) and how our psychological traits, attitudes, beliefs and values help or hinder our financial goals. This is the empathy economy.

Enjoy the fascinating read!

Jeanette Marais
CEO: Momentum Investments



Shifting the focus to investment behaviour

Note from the editor

Paul Nixon
Head: Behavioural Finance

Note from the editor

A warm welcome back to the 2022 edition of the Momentum Investments Sci-Fi report. This issue is packed with South African investor behavioural insights in discretionary unit trusts but we have also added other investment products from which to gain comparative behavioural insights. Added to this edition is investor behaviour in the Retirement Income Option (RIO) and insights from MGIM will also soon be added.

During the year we also published some insights into the disposition effect with Momentum Securities execution-only (unadvised) traders with a staggering effect size of 3.92 during the COVID period. In a nutshell this meant that traders became highly risk averse (avoided trades in a loss position – less than 20% of trades in a losing position). What does this tell us about elevated levels of switching activity on the Momentum Wealth platform? Likely that the adviser has a big role to play in client behaviour.

In 2022 we also collaborated across the business on a few projects, the most notable being the formation of a multi-disciplinary team to investigate using behavioural science principles to increase member preservation in Momentum Corporate. Our project manager, Marinda Luttig, from Momentum Financial planning (MFP) writes about our approach using the ABCD framework used by the Organisation for Economic Co-operation and Development (OECD) in Europe in this report.

While the pandemic is now firmly in the rearview mirror, this uncertainty has been replaced with rising prices, rising geopolitical tensions and interest rate hikes. Now is a great time for advisers to put a solid stress inoculation plan together for

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Head: Behavioural Finance

Note from the editor

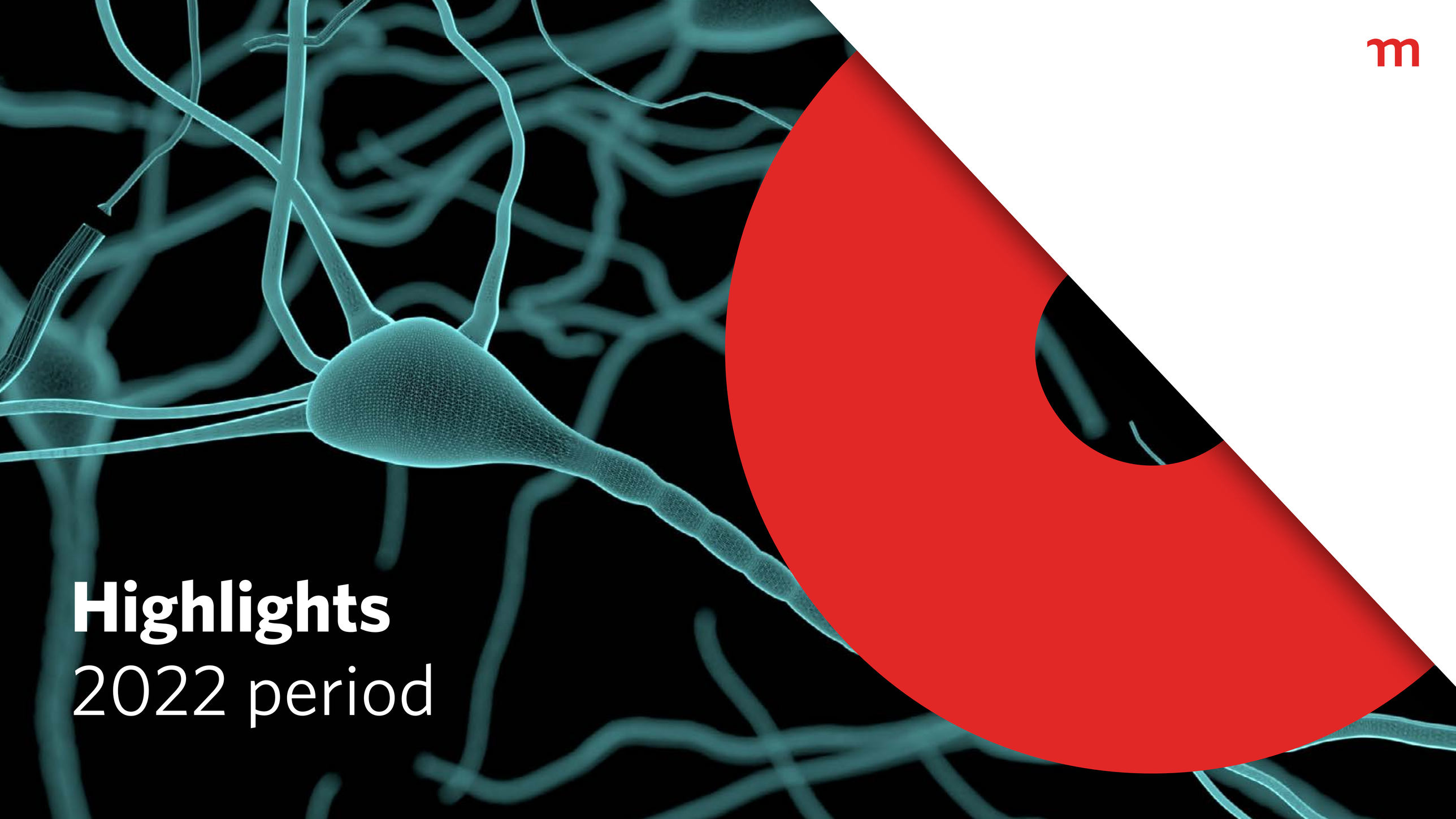
clients. To assist in doing this there is a great article by Prince Sarpong (University of the Free State), wealth management guidance from global thought leader Greg Davies from Oxford Risk in the United Kingdom (UK) as well as a financial therapy infographic in the appendix. These are all geared to help advisers with practical advice insights for client conversations. Investors and advisers both will need to deal with continued uncertainty. Switching investment strategies regularly is not a great way to tackle the new normal. Even with a negative overall behaviour tax*, our machine learning archetype (risk behaviour analysis) highlighted that 27% of investors still had a high behaviour tax (the Assertive archetype). This is an example of our (or our advisers') inherent risk preferences creating roadblocks to achieving investor goals.

It's not all doom and gloom though. We are also delighted to support the practical use of psychology in financial planning by launching South Africa's first money fingerprint. This assessment can be completed in layers over time and will allow advisers to gauge their client's long-term risk attitudes (risk tolerance) as well as their likely risk behaviour in the short term. Should the adviser see value they can also assess their clients' money attitudes, providing deeper insights into their relationship with money, for example whether they use it to express themselves or influence others. Does money cause anxiety and stress that may be associated with hoarding? The final layer of the fingerprint gives the adviser the ability to assess markers that are part of their personality and what this could mean for their financial behaviour. Are they present-oriented (inclined to spend) or future-oriented (inclined to save) revealing those that can benefit from coaching the most.

These will provide invaluable insights to the practitioner as well as Momentum Investments as we finetune our value proposition and enable financial advisers to move into the new age of financial therapy with the tools and techniques to manage or even eliminate the behaviour tax. Please feel free to reach out to me for more information or even a coffee chat about our coming behavioural finance plans and projects.

Paul Nixon
Head: Behavioural Finance

** Behaviour Tax: The performance of the fund switched from [A] less the performance of the fund switched to [B]. If A > B then the behaviour tax is positive and means that value was destroyed by switching. If A < B then the behaviour tax is negative and value was added by switching.



Highlights
2022 period

Highlights 2022* period

Archetype analysis

Even in a period of negative behaviour tax 27% of investors (Assertive investors) incurred a large behaviour tax.

Archetype analysis

Assertive investors incurred a **very high behaviour tax of 4.50%** per switch during 2022.

Flexible Investment Option

Growth in active investors slows dramatically to **11.1%**

Flexible Investment Option

Switching has eased slightly (down by nearly 16%) to **24 098 switches**

Flexible Investment Option

The negative behaviour tax in the 2022 period of -0.94% still cost investors **over R5 million** in behaviour tax.** In context, however, since COVID the behaviour tax in FIOs was a staggering **R146 million.**

Retirement Income Option

A negative behaviour tax in the 2022 period of -2.23% or just **over R33 million value added**. In context, however, the COVID pandemic behaviour tax in RIOs was a whopping **R494 million.**

Flexible Investment Option and Retirement Income Option

Both FIOs and RIOs have seen a **dramatic de-risking** over the 2022 period. Investors in RIOs have moved more than twice the magnitude towards the cash side of the risk spectrum.

Flexible Investment Option and Retirement Income Option

Despite the overall negative behaviour tax, nearly R110 million was switched into the Nedgroup Investments Global Flexible Fund off the back of 2021 **performance exceeding 15%**. The 2022 period however "rewarded" investors with a 0.01% return. In general these were Assertive investors.

* Note the 2022 period refers to 1 October 2021 to 30 September 2022 to allow for data collection & analysis
** It is still possible to get a positive Rand behaviour tax (value destroyed) from a negative % behaviour tax (valued added) because larger switches that destroy value carry more weight in the Rand calculation

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Putting the ‘psycho’ back into metrics like risk tolerance

Paul Nixon

Putting the psycho back into metrics like risk tolerance

Often ignored in the client's risk profile is the important dimension of behavioural risk capacity. Said differently, how composed will the client be in the face of market turbulence? Other challenges are often conflated constructs like risk tolerance and risk perception in the client's risk profile. Risk tolerance is a long term and stable attitude to risk and should give the same result if measured in a market crunch or market surge. Just like your personality doesn't change your attitudes to risk don't either (in general). If you get variable results, it means you're measuring this incorrectly and are capturing risk perception instead – how much risk the client is feeling in markets at the time of measurement. Ultimately this creates noise or random variability in the advice provided. This is different from bias, which is more systematic and therefore predictable. According to Klement (2015), less than 15% of the variation in risky assets between investors stems from their risk profile. If constituted correctly this should be far closer to 100%. The reasons are likely twofold:

Firstly, it is probable that investment advisers do not see the value in this process or indeed have different views in respect of what constitutes a risk profile and what the primary driver thereof should be. The variation in this case stems from the adviser. Some advisers focus on required return (based on a cash flow analysis) while others simply reverse engineer the process to arrive at a predetermined investment solution. Foerster et al., (2017) studied approximately 180 000 Canadian brokerage accounts and found that risk tolerance, time horizon, financial knowledge and income only explain 13.1% of the variation in risky assets. When considering the influence of the adviser, however, 31.6% of the variation is explained. Said differently, the adviser is more influential in the riskiness of the portfolio than the client circumstance. In a landmark study by Momentum Investments and Oxford Risk in the UK, it was found that only 28% of the variation in advice came from changing client circumstances – again this should be much closer to 100%.

Paul Nixon, CFP®
Head: Behavioural Finance

Putting the psycho back into metrics like risk tolerance

Secondly, a proliferation of instruments that are poorly designed leads to inconsistent outcomes. The variation in this case resides in the instrument itself. Rice (2005) demonstrates from questionnaires collected that even when they are answered in the most conservative way possible, the resulting equity recommendations range from 0% to 70%. Furthermore, instruments often confuse perceived and apparent risk tolerance as mentioned earlier.

We should be wary of hypothetical win/loss scenarios in respect of their likely framing effects. Both money and risk mean different things at different times to different people. The outcome is often that the results are not particularly scientific; the results are neither reliable (consistent) nor valid (accurate). This predictably leads to adviser disengagement.

So how should these tools be designed? The answer is relatively straightforward: They should be designed psychometrically. This is as much about the process as the outcome. Classical test theory (CTT) in psychology is based on the notion that the score an individual obtains from a test consists of two distinct parts. The first is the true score and the second is measurement error. The true score (such as measuring an attitude) can never be observed (only approximated) and the observed score will begin to resemble the true score as measurement error decreases (Grable, 2017). To do this the instrument should provide an outcome that is both reliable and valid. These are critical in the psychometric process.

Validity: This is the extent to which the tool measures what it was designed to measure (Grable, 2017). The purpose of the instrument is therefore an important starting point in its evaluation. Construct validity is important here. For example, are the items or questions related to the construct? If the instrument is testing risk tolerance or risk attitudes for example and is asking questions about the investor's time horizon or cash flow needs, the construct validity is low because these considerations (while important) will reveal virtually nothing about the investor's risk tolerance or attitudes. Convergent and divergent construct validity are important checkpoints here. We would expect items that are testing the same construct to converge (be strongly correlated).

Reliability: This refers to how much (or little) measurement error we are prepared to tolerate. The primary sources of measurement error stem from the test questions themselves (the list discussed in the previous section). Measures such as the Cronbach Alpha provide a reliability coefficient that can be used to determine whether measurement error is within acceptable parameters. An important part of this process is test-retest reliability where some time is allowed to pass and the same subjects tested again. The correlation between the first and second results give an indication of reliability.

You cannot get more personal than a fingerprint and Momentum Investments is proud to launch the first South African designed (in collaboration with the University of Pretoria) and psychometrically-tested investment behavioural fingerprint to give advisers diagnostic instruments to test attitudes and gain insights into their investment behaviour. With us, investing is personal.

Paul Nixon, CFP®
Head: Behavioural Finance

Adopting a therapeutic approach to investment advisory

While the advice to remain invested during times of extreme market stress is all too popular, some clients find it hard to adhere to this advice. Preventing clients from abandoning a well-designed investment plan in times of market stress is one of the most important duties of a financial planner.

It can therefore be frustrating to see clients disregard advice at the time when they need it most. To prevent clients from self-harm in such times, it is important to understand the underlying factors that push them to switch out of the market. In the following sections, we will delve into some of the factors that prevent clients from adhering to the advice to remain invested in times of severe market stress and discuss approaches to help clients remain invested.

Prediction errors and risk preferences

Many of our decisions are based on expectations. However, surprises happen sometimes and outcomes are not as expected. The discrepancies between expectations and actual outcomes are called prediction errors. Our brains recognise and use these prediction errors to modify our expectations and make them more realistic. This is through a process called reinforcement learning. In this process, the neurons that release the neurotransmitter dopamine show activity patterns that strongly resemble prediction errors. Interestingly, the same neurotransmitter also regulates risk preferences.

Dopamine levels control our willingness to take risks and since the learning process causes dopamine release, they change risk preferences as well. Studies have shown that people are more likely to make a risky choice just after they have experienced an outcome that was better than expected (overconfidence bias) and likely to be risk averse after experiencing a less-than-expected outcome.

The therapeutic side of investment advice

Both therapists and clients agree that the client makes the biggest contribution to success. When clients call their advisers

Prince Sarpong, PhD CFP®
Senior lecturer, UFS

Adopting a therapeutic approach to investment advisory

during periods of market distress, they most probably are not seeking financial advice; rather, they seek therapy. This might explain why regardless of the advice on the benefits of remaining invested and the significant losses associated with switching, they switch out of the market. Since therapy clients are aware that the biggest contribution to success (in this case, assuaging the feeling of distress) comes from them, they take action, albeit the wrong action, to sell out of the market to eliminate the distress.

Advising clients to remain invested

We now delve into three approaches that can be employed in the investment planning process to help clients remain invested during times of extreme market volatility, namely the precommitment statement, the African time approach and shifting from recommendation to discovery and harmony.

1. Precommitment statement

We use precommitment devices in different aspects of our lives to overcome our self-control problems. Alarms, for example, help us to wake up on time and reminders from various apps let us remain on schedule.

In finalising the financial plan for clients, a useful precommitment tool could be a statement by clients to their future selves, acknowledging that there will be turbulent times and their future selves are likely to over-react and this overreaction will not be in their (further future selves') best interest. Once the market experiences a major decline, emailing a copy of this statement to clients could remind them of what they have committed to in advance and could set the tone for further in-person or online advice sessions.

2. The African time approach

In the context of African time, events that have not yet taken place are outside of time and are classified as 'no-time'... The activities or events are central, not the time at which they have to take place. So, it is more important for Africans 'to be in time than on time'. While the market is in turmoil, it is important to focus attention on what has happened in clients' financial lives. If the decline did not permanently damage the client's financial plan, then this event should be viewed as 'no-time'. This approach can help refocus clients' attention on their financial plans and not the financial market.

[3] Thomas ML (2006) The contributing factors of change in a therapeutic process. Contemporary Family Therapy 28(2):201-210

Adopting a therapeutic approach to investment advisory

> *A financial plan is a recommendation on the best course of action put forward by an authoritative body – the financial planner.*

3. From recommendation to discovery and harmony

Given the extent to which clients' emotions can push them to disregard the financial plan, it is advisable to rope clients into the planning process. Finding out the life plan and what matters most to the client, for example, can lead to important discoveries as clients identify what is important to them. This process can help harmonise the financial plan with the client's life plans. It can also create an IKEA Effect[5] where clients now put more value on the financial plan since they were involved in its creation.

Conclusion

The investment planning process goes beyond creating a suitable investment plan for the client. It also entails an understanding of the factors that influence client decision-making and how to prevent clients from ditching a well-structured financial plan.

Prince Sarpong, PhD CFP®
Senior lecturer, UFS

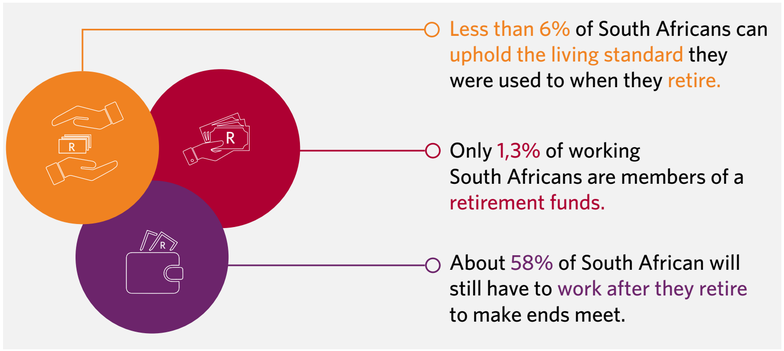
[4] Viljoen, H. and Painter, D., 2003. African perspectives. Personology. From individual to ecosystem, pp.528-549.
[5] The term was named after the Swedish furniture giant IKEA. It describes how people tend to put more value on things that they make (or assemble) themselves.

The ABCs of boosting preservation in South Africa using behavioural science

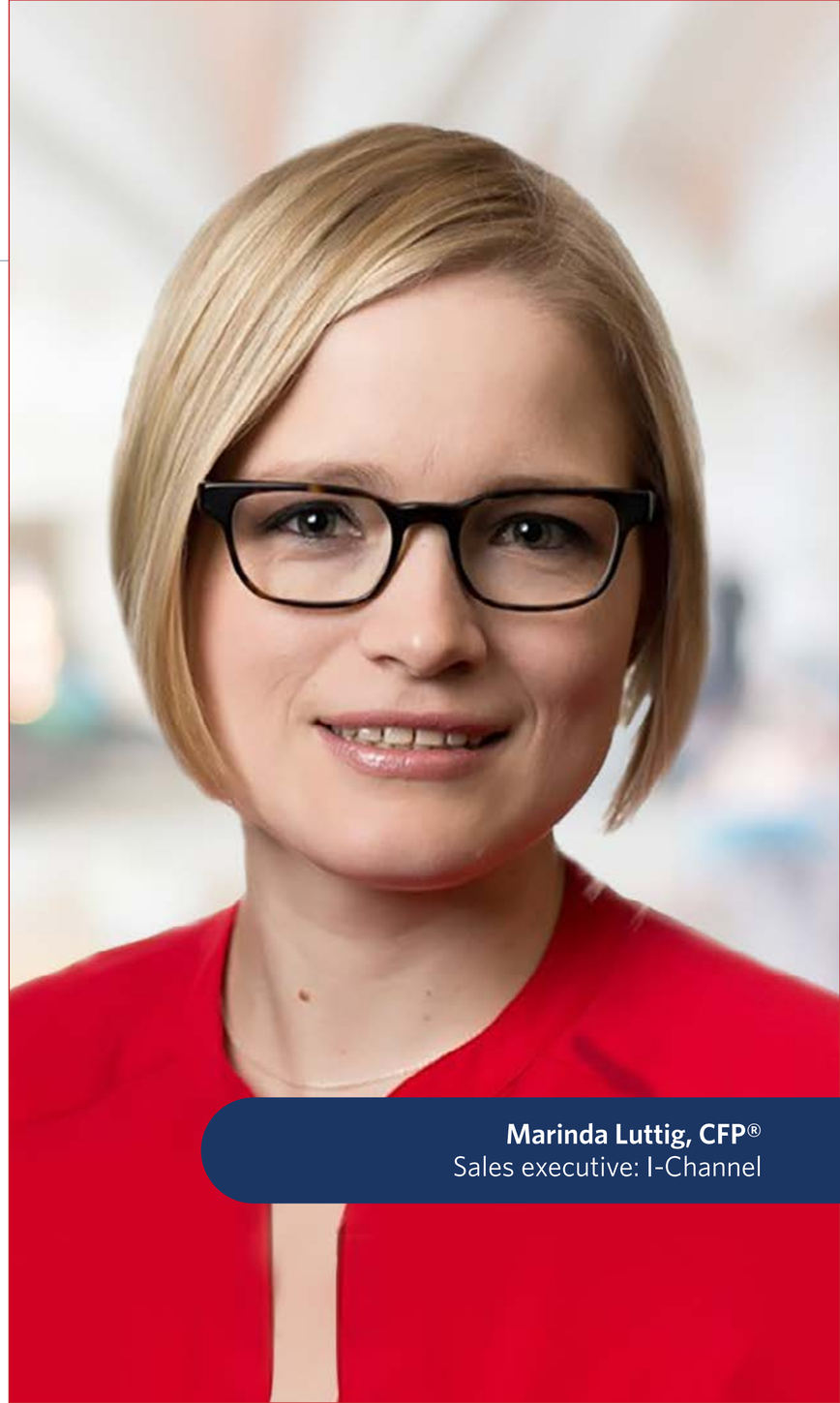
Would you steal from an old person? When posed with this question, the answer is usually overwhelmingly, “No! I would never do something like that!”. However, when you withdraw your pension fund upon leaving an employer, instead of preserving it, you are in fact stealing from an old person.... yourself. Humans are very present-oriented. Hitting the snooze button is an example of how we are present-oriented every day. We trade off sitting in more traffic for an extra few minutes of sleep now. We do not like to think about the future. But using simple behavioural science principles – like helping people visualise the future – can change behaviour. Even looking at a picture of yourself in old age makes you more likely to save.

Using behavioural science principles, the Momentum Investments Behavioural Finance project team, consisting of individuals from various parts of Momentum Investments, Momentum Corporate and MFP, got together in 2022 to figure out how to address a big behavioural problem – people withdrawing and not preserving their hard-earned savings when changing jobs.

The extent of the problem is quite dire. The statistics below show that being present-oriented costs South Africans a lot in lifestyle and psychological tax in retirement (such as being reliant on friends and family for money).



Source: treasury.gov.za



The ABCs of boosting preservation in South Africa using behavioural science

Behavioural problems are all around us. We often struggle to act in even our own best interests. Have you ever missed an important appointment because you had too much to do and forgot? Given up on completing a form because it was too cumbersome and hard to understand? Driven a little above the speed limit because the other drivers were fast as well?

These are examples of how context and behavioural biases can influence decision-making. To tackle the preservation problem the behavioural finance team used the ABCD framework used by the OECD in public policy making. This framework assists behavioural scientists in analysing and diagnosing behavioural problems related to Attention, Belief, Choice and Determination.

A. Attention is about what to focus on in a given context. This is easier said than done. We're exposed to around 18 million bits of information each and every second and can process about one tenth of what a modem could in 1988 at a mere 120 bits per second. Put differently, your brain needs to work very hard to figure out what is important and in ignoring the rest we often do not see important stuff.

B. Belief formation is about making judgments based on the (often limited) information that one has available. Here the rules of rationality are quite complex and have been a subject matter of philosophy and theory of science since Ancient Greece. Simplified somewhat, to act rationally, people should form their beliefs according to the rules of logic as applied to well-defined propositions as well as rationally update their beliefs in light of new information according to sound probability theory. This is how Mr. Spock does it – we are closer to Homer Simpson.

C. Choice is about making decisions between the available options given one's preferences. How to do this rationally has traditionally been the subject matter of philosophy of choice, decision theory and microeconomics. But even something as simple as changing the words in a choice can impact what we choose. It is not very rational, but very human.

D. Determination is about sticking to our choices. Neuroscience has taught us that self-control and willpower are like a muscle – we need energy to use it and the more we use it the more tired we get. This is why the sweets are usually near the check-out counters – after an hour of walking and making a multitude of choices we have the least willpower at that part of the shopping experience – the end.

The behavioural finance team put together some strategies using the above framework to see if we could make a difference in preservation behaviour. While this process is still underway – and we will definitely provide feedback on the results in next year's report –a summary of our recommendations is as follows:

1. Drawing attention that by preserving cash, the resigning member is also preserving the option to withdraw their savings at a later date. This removes the potential regret of not withdrawing funds now in case of an emergency and addresses loss aversion (losing the option on preservation).

Hansen, P.G., 2019. Tools and ethics for applied behavioural insights: the BASIC toolkit. Organisation for Economic Co-operation and Development (OECD).

The ABCs of boosting preservation in South Africa using behavioural science

This should be made salient and clear for the member to see (not lost within a form).

2. Addressing a faulty belief system that retirement will be cheaper than it actually is by including the 4% rule as a rule of thumb. You will need R1 million for every R40 000 of annual income increasing with inflation every year.

3. Impacting the choices members make by reframing the choice. Changing the frame on the paper-based withdrawal form, smart exit process and benefit counsellor script from "withdraw" to "preserve my future".

4. Changing the defaults on all electronic processes to preserve savings.

5. Cognitive dissonance is a term used to describe the mental discomfort that results from holding two conflicting beliefs, values or attitudes. For example, while you are on diet you attend a work conference where they serve your favourite chocolate brownie. Feeling guilty after having one, you promise yourself you will run an extra kilometre the next morning to make up for it. Similarly, we can ease cognitive dissonance by encouraging people to commit to restarting retirement savings or increase retirement savings if they still decide to withdraw. People tend to want to follow through with their intentions once they have committed to a goal. A written plan would also cement the commitment toward further retirement savings.

6. Finally, after analysing the customer journey, we could recommend that retirement benefits counsellors contact the member sooner and try to secure a commitment to save – this would create cognitive dissonance should the member change their mind later. This should be reinforced with timely communication (perhaps an SMS or Whatsapp) congratulating the member on making a choice for which their future self will thank them. Retirement benefits counsellors would also receive basic behavioural science training and behaviourally-informed and adjusted client scripts.

We look forward to reporting back in 2023 on which of the above recommendations were implemented and of course how effective these recommendations were. Context is one of the most important considerations in behavioural science which is what makes the field such a fascinating one to be involved in. Continually developing hypothesis and testing the efficacy thereof sets the groundwork for understanding South African investor retirement behaviour.

Marinda Luttig, CFP®
Sales executive: I-Channel

A wealth manager's guide to keeping clients invested during periods of market instability

A recent study from Oxford Risk found that one in six investors had withdrawn money from their investment portfolio in response to market volatility. With more than one in 10 of those respondents withdrawing 25% or more, in this extract we review why this happens more often than it should and what wealth managers can do to mitigate this. In theory, a portfolio withdrawal should signal a simple need for cash. In practice, economic needs are regularly usurped by emotional ones. Clients sell investments not when something is wrong, but when something *feels* wrong. They are often chasing emotional security rather than financial security.

This is why simply telling someone on the brink of panic-selling that it's safer to stay the course is largely ineffective. Upon investing, most clients are clear that they are doing so for the long term and that the long term includes short-term fluctuations. However, for many, expecting these short-term fluctuations in theory does not make them any easier to cope with in practice. This is bad for both clients and advisers. Not only do unnecessary disinvestments lead to dissatisfying returns, but even if clients are persuaded to sit tight, there are also likely to be less quantifiable, but no less real, costs incurred, for example anxiously wondering what is happening to their life savings and repeatedly contacting their adviser to ask. If investors recovered from rises in stress as quickly as markets recovered from falls in value, this would not be all that important. But while market shocks are usually short-lived, their human aftereffects are often not. Maybe the next investment of accumulated savings is delayed or diminished. Maybe just one bad experience is enough to keep somebody permanently in cash, immune to the promises of even the most charming expected-returns chart.

This requires both investment management and investor management. It is not market instability that infects investment experiences, but a mismatch between that instability and how personally prepared each individual investor is to deal with it. Good preparation does not need to struggle for the words to stabilise an investor's emotions in unstable times, because it sidesteps the stress before it boils up. Appropriate matching of

Greg Davies, PhD
Head of Behavioural Finance, Oxford Risk

A wealth manager's guide to keeping clients invested during periods of market instability

investments to investors is the job of a suitability process. So, we need to look to a suitability process when working out how to help keep clients comfortably invested in times of short-term instability.

Keep clients invested the easy way: start with suitability

This preparation could be about investment selection, though more often it is about tailoring decision-making processes and communication to account for an investor's behavioural traits and tendencies. An investment is suitable when it aligns with the investor's willingness and ability to take investment risk. When turbulent markets cause clients to feel like something is wrong and that therefore something – like the amount they have invested – needs to change, it is usually not because of a misalignment between their investments and either their psychological willingness or their financial ability to take risk. It is their emotional ability to take risk that is the issue.

Keeping someone invested and helping them feel good about doing so is primarily a question of behavioural capacity, rather than risk tolerance, or even risk capacity. It is behavioural capacity that determines how to interact with investments to ensure ongoing comfort with the risk being taken. When persuading someone to stay invested, it pays to focus not on what they are invested in, but how they experience being invested in it. The best way to get an investor to keep their short-term emotions from derailing their long-term plans depends on each investor's financial personality. Financial personality profiling allows us to predict where we are likely to make poor decisions and helps us avoid them. It helps us acquire the emotional comfort we need in a cheap, planned and efficient way, rather than panic-buying our way back to comfort by panic-selling under stress.

Three personality-driven prescriptions for client comfort

Tempting as it can be to isolate a particular psychological trait or cognitive 'bias' and apply an intervention targeted directly at it, interventions work best when they treat the whole human, rather than their component parts. Targeting techniques at given behaviours can work and work well, but ultimately comfortable and confident investors are more than robotic cognition machines operating in controlled environments: they are humans relating to their finances in ever-changing sets of complex circumstances. In addition to analysis of the financial circumstances which provide the context in which any personality assessment should be used, the full Oxford Risk Financial Personality Assessment measures investors on up to 20 dimensions (of which six relate to sustainable-investing preferences). The simple examples here focus on three of the most important: composure, confidence and impulsivity.

i. ***Composure*** is an investor's tendency towards emotional responses to the present state of their investment journey (and external stimuli such as the news). It is a measure of an investor's comfort or anxiety with the ups and downs along the journey.

A wealth manager's guide to keeping clients invested during periods of market instability

ii. ***Confidence*** is how capable and comfortable an investor feels about their ability to make good financial decisions.

iii. ***Impulsivity*** is an investor's propensity to act quickly and on emotional instinct when making decisions about investments and – often more importantly – spending.

We end off with some advice strategies for different combinations of the above dimensions.

Scenario 1: Low composure, low confidence and high impulsivity

Imagine an investor that is nervous, unsure and quick to act. The combination of low composure, low confidence and high impulsivity is an unfortunate common behavioural timebomb. The key for these investors is avoiding big mistakes, like cashing out entirely when markets fall on impulse and inexperience suggest that avoiding the markets altogether is the only way back to 'safety'. Managing low composure and high impulsivity could include:

i. ***Simple pre-set rules*** – Avoid making important decisions in the moment. Use preset rules to allow actions to be taken in the present, based on decisions made in a calmer, cooler-headed past.

ii. ***Investment to-do lists*** – To-do lists assuage the need to take action, especially in times of turmoil.

iii. ***Automatic investing*** – This lessens both the ongoing need to make decisions and helps stop an investor focusing on a single investment amount which encourages unhelpful short-term (and frequent) performance checking.

iv. ***Focus on education*** – Use meetings and interim communications to focus on key investment principles, rather than comment on market news.

Scenario 2: High composure, high confidence and high impulsivity

Imagine an investor that is calm, confident and quick to act. The key for these investors is avoiding overconfidence and staying engaged at the right time. Managing overconfidence could include:

i. ***Product selection*** – Using less-liquid products can help put a brake on impulsivity as long as the investor understands what they are investing in and why.

ii. ***Stick to pre-set review times*** – Restricting decision-making to specific times helps with focus and reduces the chances of overconfident snap decisions.

iii. ***Frequent, high-level communication*** – Stay in contact regularly, but keep communications brief, bringing up investment details only when necessary for decision making.

A wealth manager's guide to keeping clients invested during periods of market instability

Scenario 3: Medium composure, low confidence and low impulsivity

Imagine an unengaged investor: the sort whose default is apathy born of lack of both confidence and a sense of urgency. The key for these investors is to make investing feel more relevant, manageable and urgent – to not sit on the sidelines for long periods. This could include:

i. ***Avoid day-to-day market news*** – Daily market news amplifies perceived complexity in an off-putting way and it is almost never relevant to an individual investor.

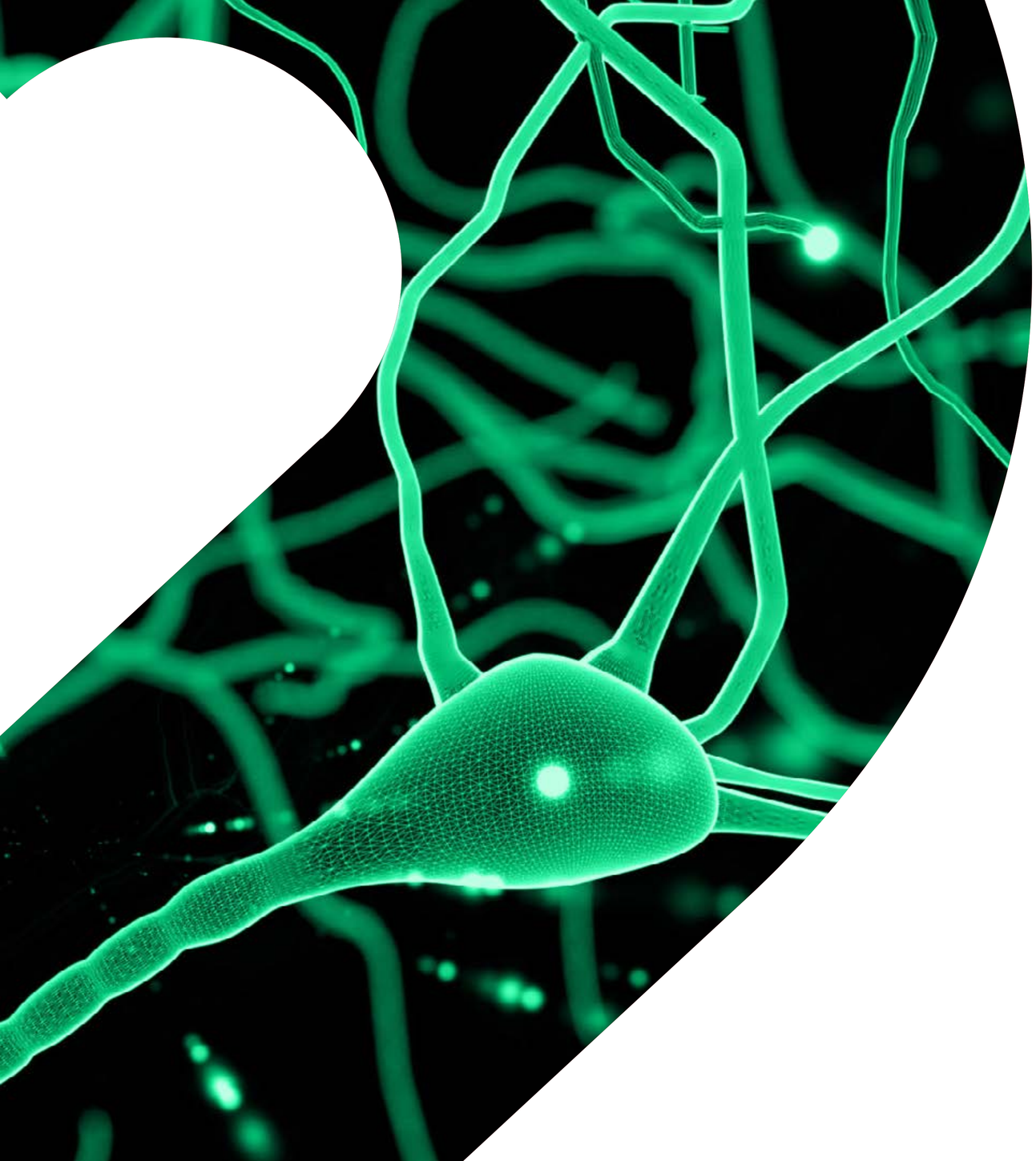
ii. ***Shortlists, defaults, and deadlines*** – These avoid actions being continually postponed. The default decision-making process should be a shortlist with a default option that the investor must sign off on.

iii. ***Stories*** – Stories of particular investments can emphasise more engaging aspects or provide a hook for engaging with unfamiliar ones.

iv. ***Agree a phased investing plan*** – Apathetic investors do not want to, or will not, make frequent decisions. So instead, get them to agree once to a schedule of future investment, putting a portion of assets to work automatically every few months without the need for renewed engagement each time.

Greg Davies, PhD
Head of Behavioural Finance, Oxford Risk

(Full guide available at: https://www.oxfordrisk.com/downloads/a-wealth-managers-guide-to-keeping-clients-invested-during-periods-of-market-instability)



2

Investor behaviour [Discretionary Unit Trusts or FIO*]

*FIO = Flexible Investment Option

Investor behaviour [Discretionary Unit Trusts or FIO]

2.1 The switch itch in FIOs

The investor switch itch subsided slightly in the 2022 period of analysis with a 15.96% decline to 24 098 behavioural switches. A behavioural switch is identified as a change in risk preferences of the investor. A rule engine is constructed to filter each switch transaction to eliminate regular income withdrawals, switching between fund classes and phasing into or out of markets, for example. It is also important to note that 24 098 switches is still well above pre-COVID switching levels (approximately 30% greater than what was considered normal prior to the pandemic).

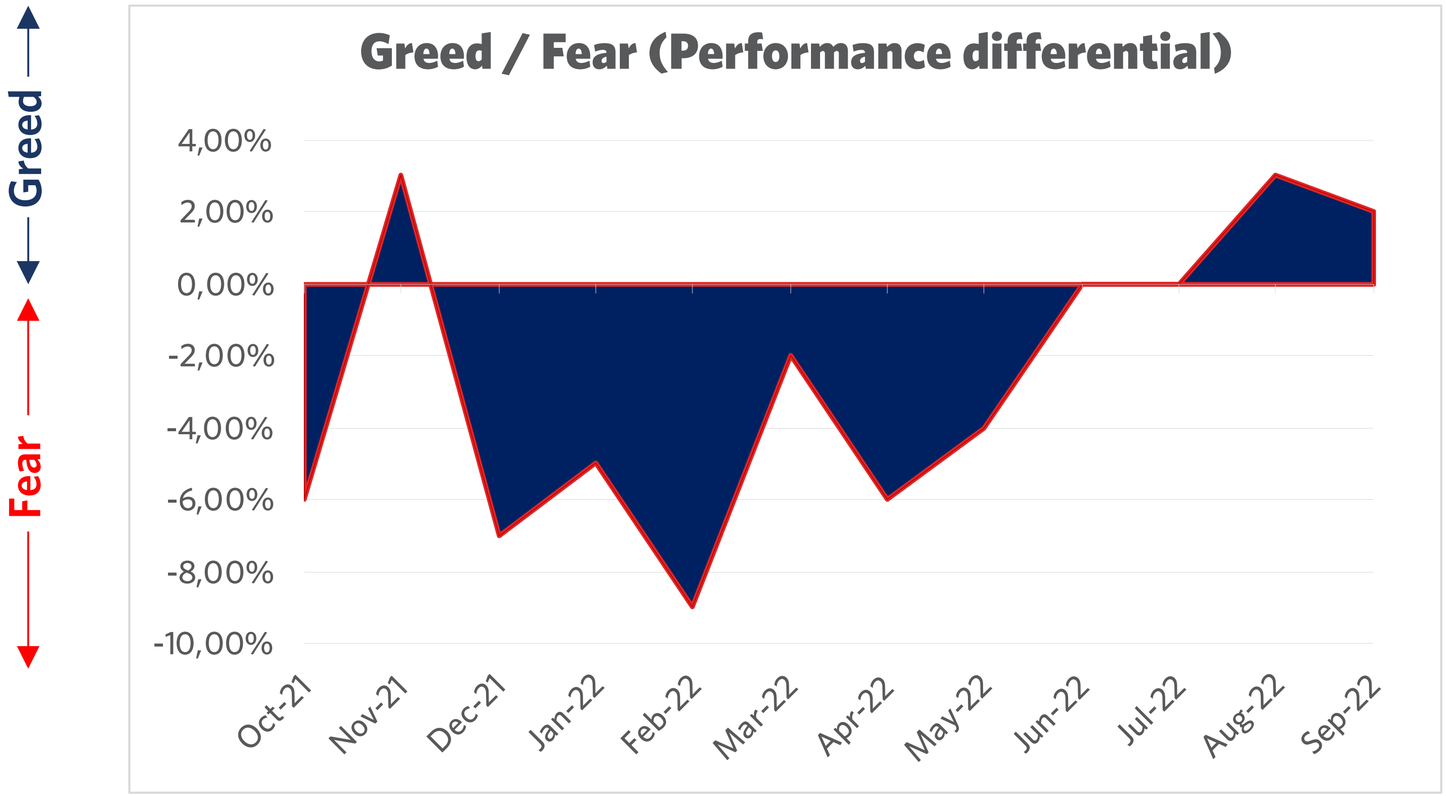
> *The onset of the pandemic together with increased digital adoption appears to have escalated desired investor engagement.*

2.2 Fear and greed in FIOs

The 2022 period was one with a clear trend of taking risk off the table. Figure 1 (page 26) and Figure 2 (page 27) clearly demonstrate this. In Figure 1 the direction of all switches is shown through the lens of investment performance. In general, switching to investments with greater past performance reflects an optimistic sentiment (greed) while the opposite reflects a negative sentiment (fear). In general, switches to asset classes that have lower past performance historically reflect movement away from risky asset classes towards safer asset classes (equity to cash).

Source: Momentum Investments (2022)

Investor behaviour [Discretionary Unit Trusts or FIO]



Source: Momentum Investments (2022)

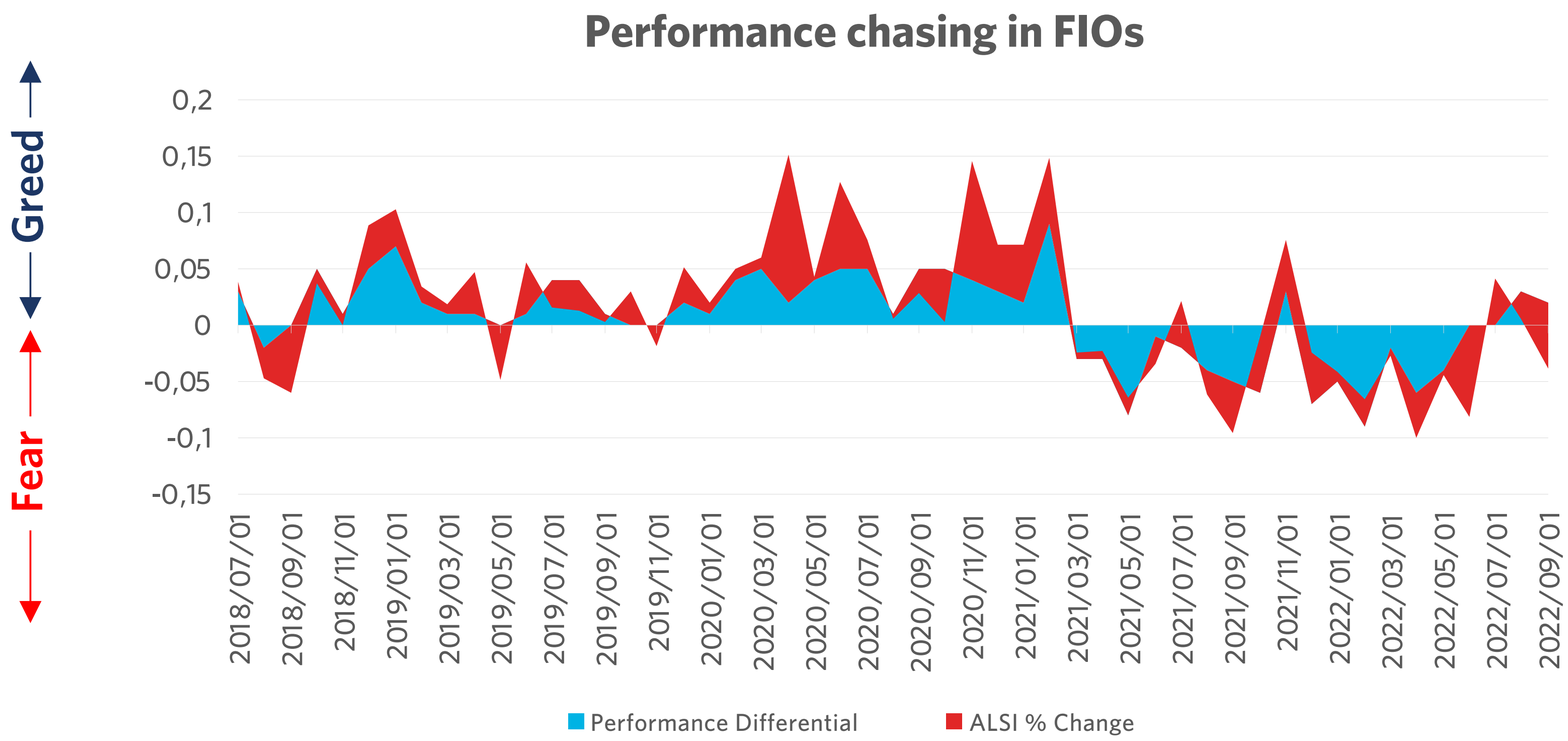
Figure 1: Performance differential of funds switched to (negative = perceived safety)

Figure 1 shows the clear trend of switching to worse performing funds usually coupled with perceived safety. The apparent switching to funds with better past performance begins to come through at the end of the timeline but this is to be expected as historical equity investment performance disappears and is hurdled by more recent and stable fixed income performance. Said differently, this picture tells a story in normal market conditions where we expect investors to be rewarded for taking equity risk. When this reverses it may hide the full fear/greed story. When we look at this relationship over time, switch decisions are clearly being made based on past investment performance.

Investor behaviour [Discretionary Unit Trusts or FIO]

Figure 2: Performance chasing in FIOs

When overlaying the JSE All Share Index (ALSI) returns with investor switches to better and worse past performance, a clear relationship presents itself. Increased ALSI performance invariably leads to switching to higher performing funds in retrospect. This is the equivalent of driving using only the rearview mirror.

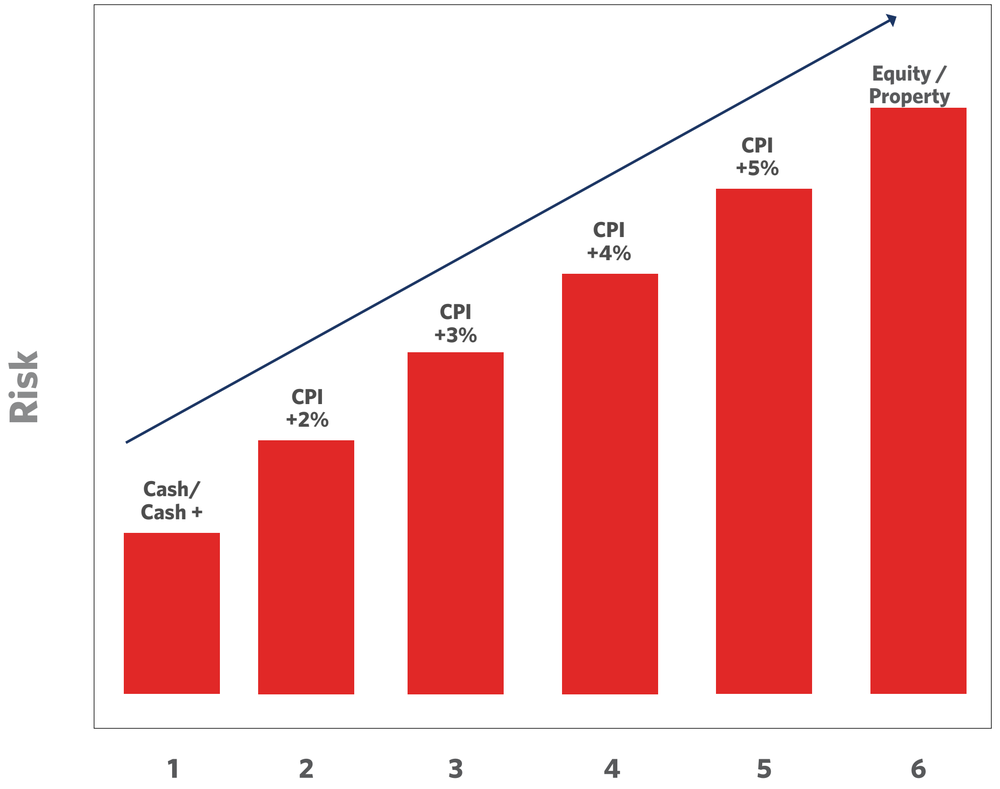


Source: Momentum Investments (2022)

Investor behaviour [Discretionary Unit Trusts or FIO]

The full picture is, however, revealed when we consider switches based on asset allocation. Each fund on the Momentum Wealth platform is assigned a score based on its asset allocation and the proximity to the asset allocation of the Momentum Focus range of funds that target real returns. A category is created on either side for cash and cash plus funds then full equity/property/offshore exposure (1 and 6). This creates a risk-return spectrum where each fund is placed. The score of the fund switched from less the score of the fund switched to provides the pulse of investor switch behaviour (risking up or down).

Figure 3: Framework to determine greed/fear

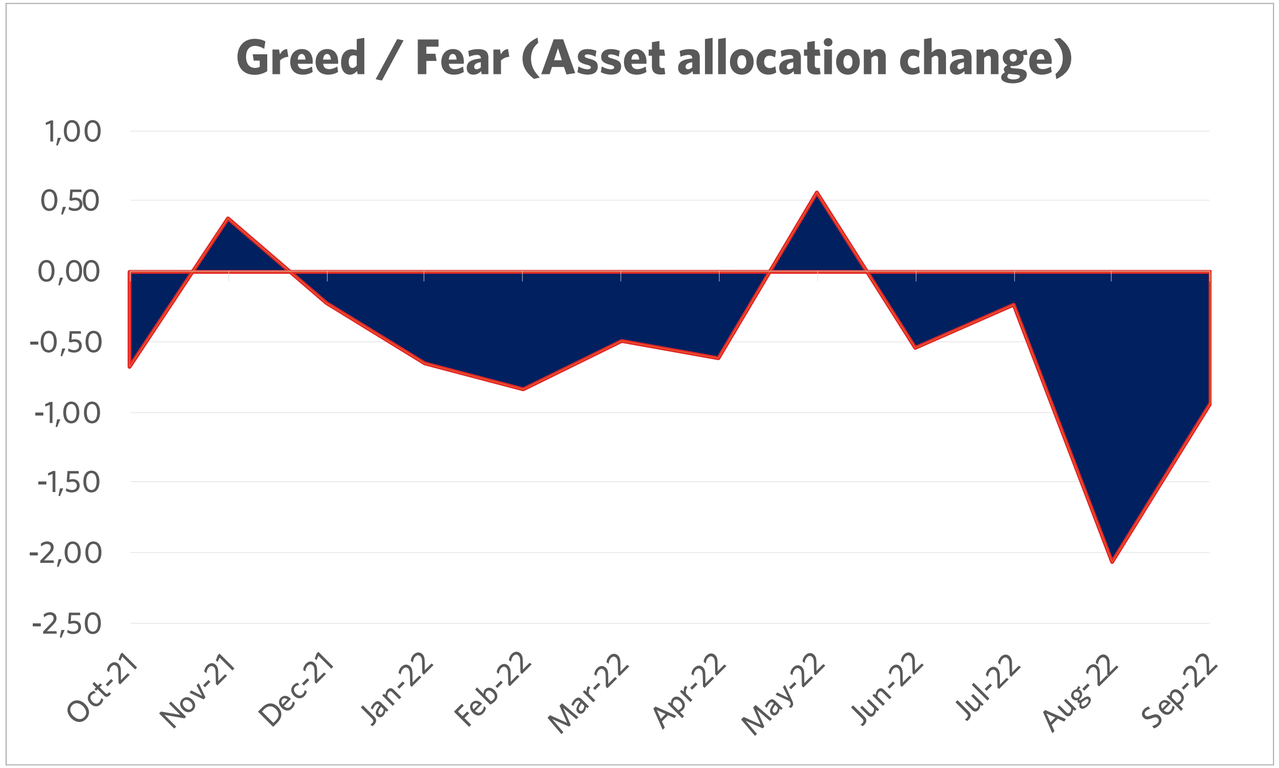


Source: Momentum Investments (2022)

Investor behaviour [Discretionary Unit Trusts or FIO]

The results of this exercise are shown in Figure 4. While similar to Figure 1, it is more revealing as this methodology is not sensitive to riskier asset classes either outperforming or underperforming fixed income assets (for example). Figure 4 shows clearly that on average investors were consistently switching towards the cash side of the spectrum.

Figure 4: Asset allocation differential of finds switched to (negative = lower risk)



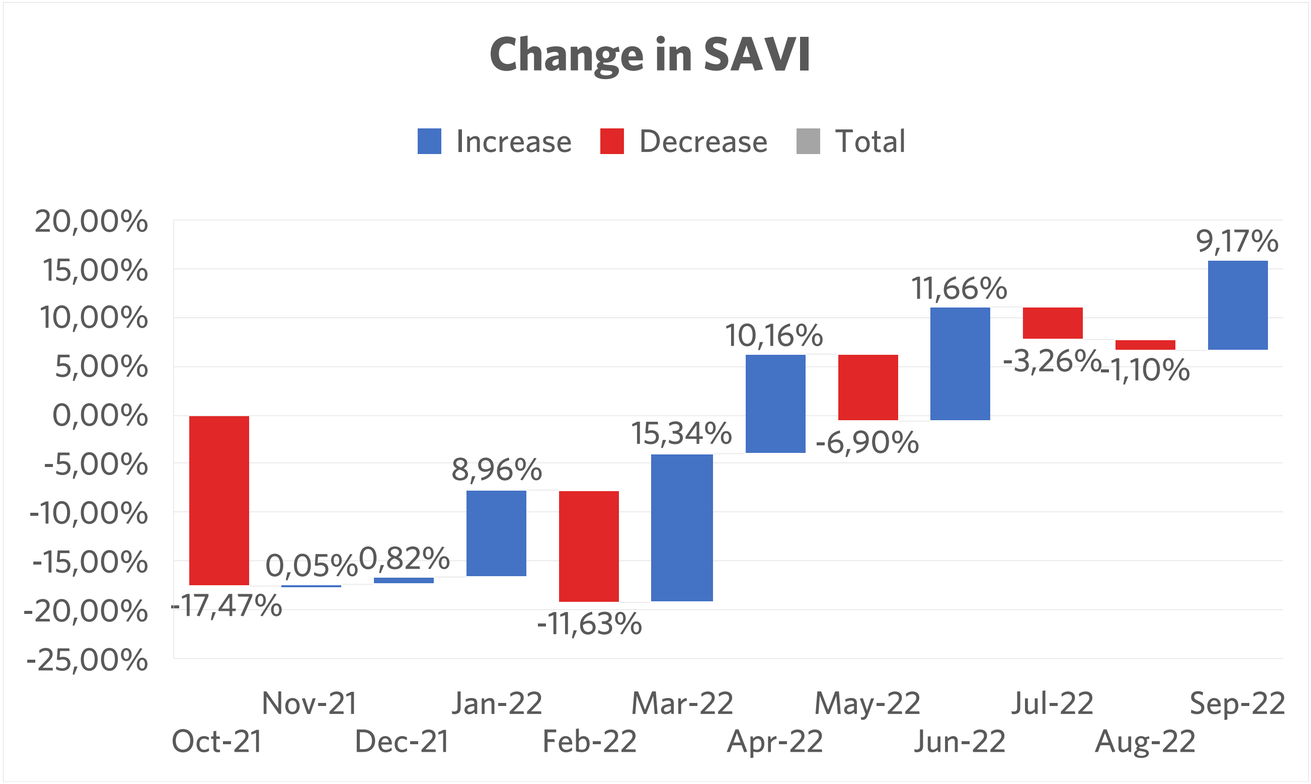
Source: Momentum Investments (2022)

Investor behaviour [Discretionary Unit Trusts or FIO]

The reason for this behaviour becomes clear when we consider risk levels in the JSE All Share Index (ALSI) as measured by the South African Volatility Index (SAVI). There appears to be a lagged correlation between volatility and the risk behaviour in switches. The period begins with a sharp falloff in SAVI levels (decrease of 17.47%) which is followed in November 2021 by up-risking portfolios (Figure 4) and switching and chasing better past performance (Figure 1). The size and frequency of the blue bars (representing sharp increases in volatility) then rapidly increases in the months to follow which is followed by de-risking behaviour.

This is also confirmed in a later section investigating the net inflows and outflows of unit trust funds. The brief decrease in volatility in May 2022 also appears to coincide with investors taking more risk and shifting to funds with better past performance. This is short-lived, however, and reverts to the general trend of the year shortly after, which is a risk-off story.

Figure 5: Change in SAVI (increase = riskier)



Source: Momentum Investments (2022)

Investor behaviour [Discretionary Unit Trusts or FIO]

2.3 The behaviour tax in FIOs

What was the net result? The COVID pandemic period effectively drew to a close during the latter part of 2021 and was followed by a period of life looking more similar to pre-pandemic levels. Markets responded in kind by breaking the 75 000-point level in January 2022 and the National State of Disaster was lifted in April 2022. At the same time uncertainty of a different kind would force the South African Reserve Bank to rapidly accelerate the normalisation of interest rates. Upwards pressure on inflation and global inflation-focused monetary policy would result in rapidly rising interest rates and global inflationary pressures seeping into South Africa from a stronger dollar and more expensive imports (notably oil). A 10-year government bond yield in November 2022 of over 10% and prime lending rate at nearly this level have likely encouraged investors to make switches into cash and fixed income instruments.

When considering how the behaviour tax is calculated (performance of the fund switched from less the performance of the fund switched to), the behaviour tax (or lack thereof) reveals some intriguing insights. Table 1 on page 32 shows a decomposition of the behaviour tax for the 2022 period. When examining the average performance of funds switched from and those switched to combined with the asset allocation decrease (risk-off) insights, it becomes clear that investors left equity markets to be knocked slightly more softly in bond markets amidst inflationary pressures and rising interest rates. Table 1 also shows an overall average negative behaviour tax for the year of -0.94% where there was still an overall positive behaviour tax for the year. This is possible as the average percentage values are not weighted by the size of the switch. In other words, although the overall behaviour tax was negative (value was added by switching on aggregate) there were slightly more larger switches made that destroyed value. So, the timing of larger switches was such that overall value was destroyed by switching even though this value was marginal in comparison to previous years.

Investor behaviour [Discretionary Unit Trusts or FIO]

Table 1: Decomposing the FIO behaviour tax

	Average performance (switched from)	Average performance (switched to)	Average behaviour tax	Average behaviour tax
October 2021	-1.06%	-0.56%	-0.44%	R1,078,547
November 2021	-1.63%	-1.41%	-0.20%	-R193,020
December 2021	-6.70%	-2.54%	-0.70%	R2,825,410
January 2022	-2.55%	-1.51%	-1.01%	R2,654,704
February 2022	-5.20%	-3.15%	-2.01%	R2,805,720
March 2022	-5.85%	-4.26%	-1.58%	-R4,339,352
April 2022	-2.86%	-0.92%	-1.94%	-R826,840
May 2022	-2.20%	-2.61%	0.41%	R916,571
June 2022	0.77%	0.80%	0.17%	R172,789
July 2022	-1.79%	-1.57%	-0.19%	R110,707
August 2022	-4.57%	-1.72%	-2.86%	-R2,462,335
September 2022	-3.17%	-1.87%	-0.95%	R2,742,901
			-0.94%	**R5,485,802**

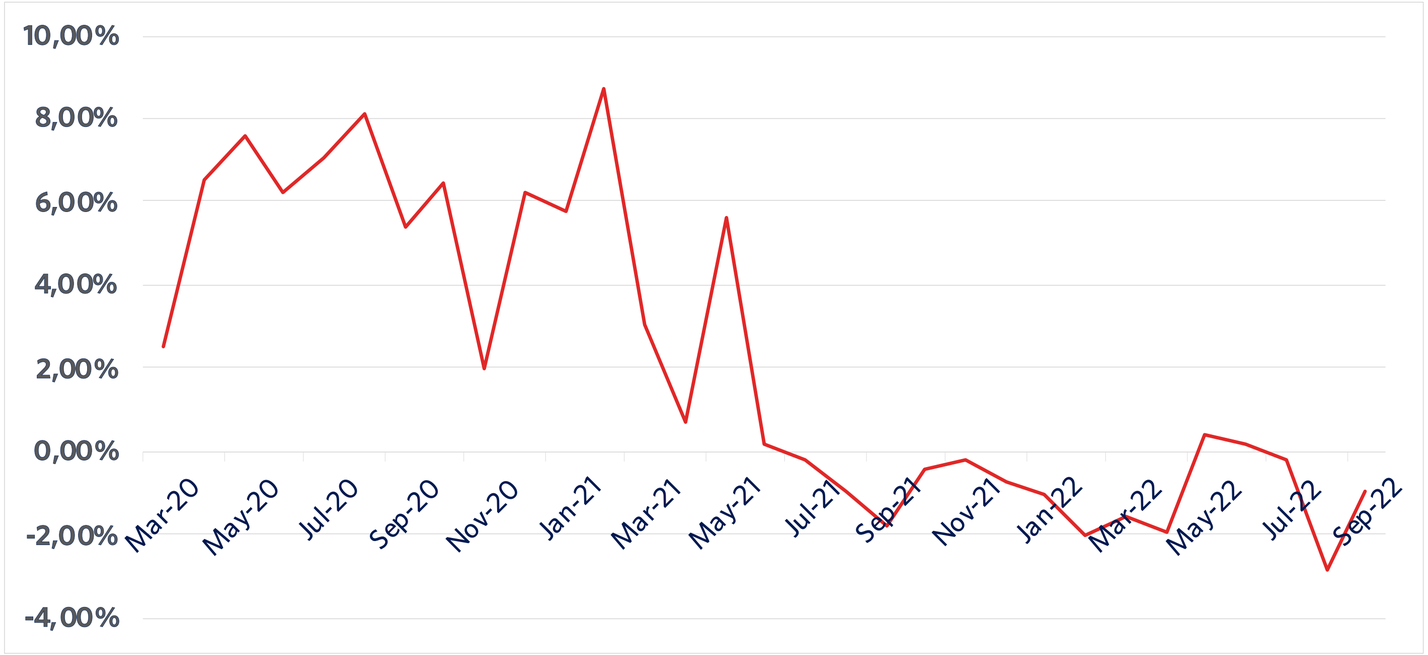
Source: Momentum Investments (2022)

Investor behaviour [Discretionary Unit Trusts or FIO]

Figure 6 shows the passing of the COVID period to the post-COVID period and how the behavior tax has now gone slightly negative. There remains a large asymmetry, however, in respect of the near R100 million destroyed on average each year during the COVID period.

> *6.5% value eroded per switch in 2020 and 3.5% per switch in 2021.*

Figure 6: FIO COVID versus post-COVID behaviour tax



Source: Momentum Investments (2022)

Investor behaviour [Discretionary Unit Trusts or FIO]

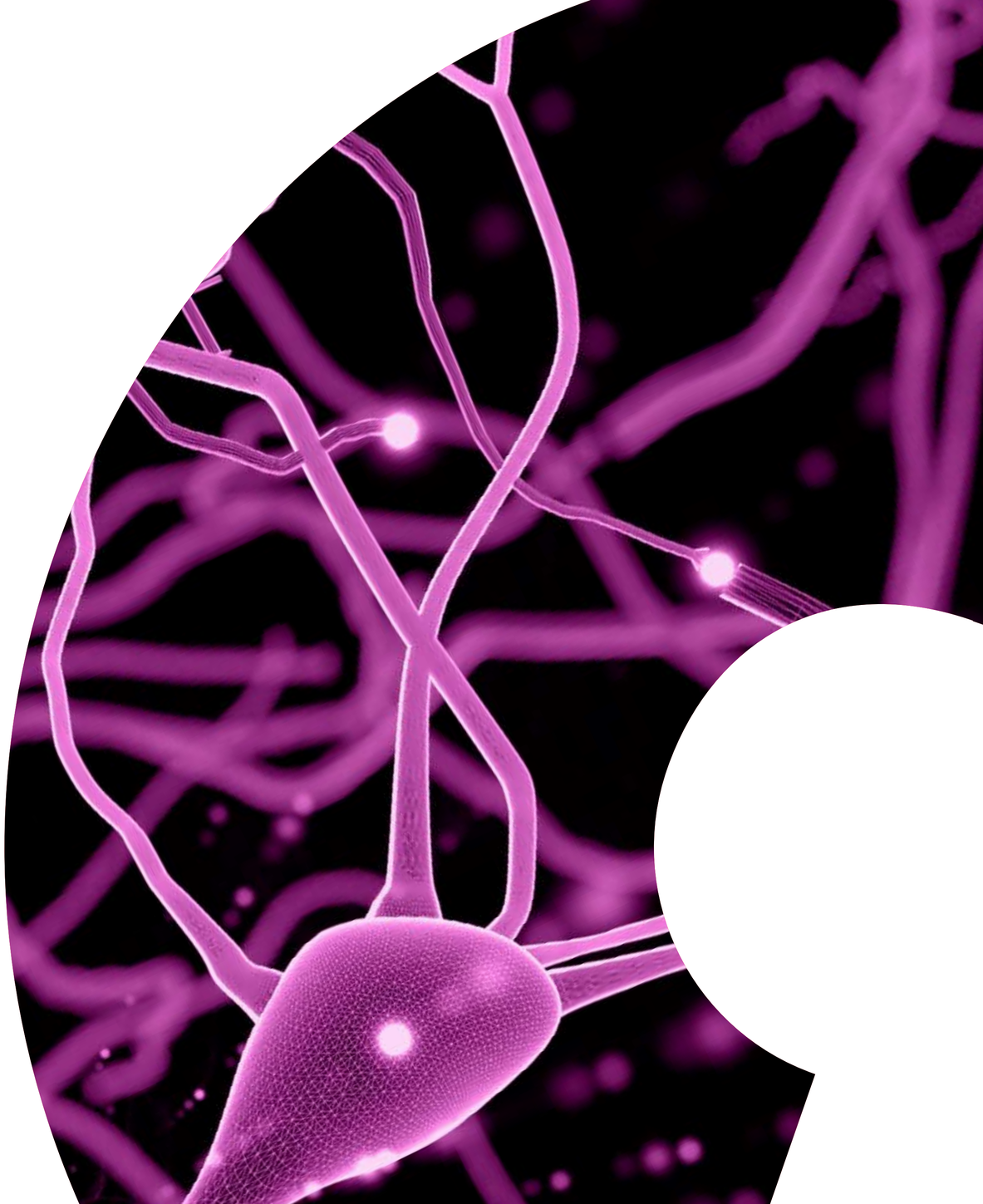
2.4 Advice insights: A cautionary note

A cautionary advice note is warranted here. The behaviour tax is calculated as the performance differential between the fund switched from and the fund switched to. Consider that most switch transactions have been away from risky asset classes towards the cash and fixed income side of the risk spectrum. Added to this at the time of calculating the performance of the funds switched from saw the All-Share Index dipping below 64 000 points. This has recovered (in November) to over 74 000 points once more. The result is that the behaviour tax over the last two months would have accelerated rapidly for those investors that left the general equity market earlier in 2022. This is illustrated in Figure 7. This also highlights the dangers of market timing. What do advisers do with clients with long-term investment goals? Switch back into markets now or wait for the next dip? This is the wrong question as clients with long-term investment goals should not have been switched out of markets in the first place. A diversified approach would leave clients participating in the market recovery that has taken place as well as in a good position to benefit from the brighter outlook for the South African fixed income environment.

Figure 7: Behaviour tax loading...

Source: markets.ft.com

Investor behaviour [Living annuity or RIO*]



*RIO = Retirement Income Option

Investor behaviour [Retirement Income Option or RIO]

3.1 The switch itch in RIOs

The 2022 period of analysis saw a marginal increase in active investors (those performing at least one behavioural switch) in the retirement income option of 3.53% with an increase of 7.65% in the number of switches performed to 33 583. This switching level, however, remains high and is nearly 25% above normal levels experienced before the COVID pandemic. This trend mirrors that witnessed in FIOs and it appears on the surface at least that investors have indeed become far more engaged with their savings since the onset of the pandemic. The greater number of switches and active investors is also to be expected in the Retirement Income Option as investors and advisers are managing cash flows and allocations between 'buckets' (usually to solve for long-term, mid-term and short-term cash flow requirements). While every effort is taken to eliminate regular income withdrawals from the analysis (for example) it is not possible to distinguish between switch transactions between these buckets so they would be included in the analysis.

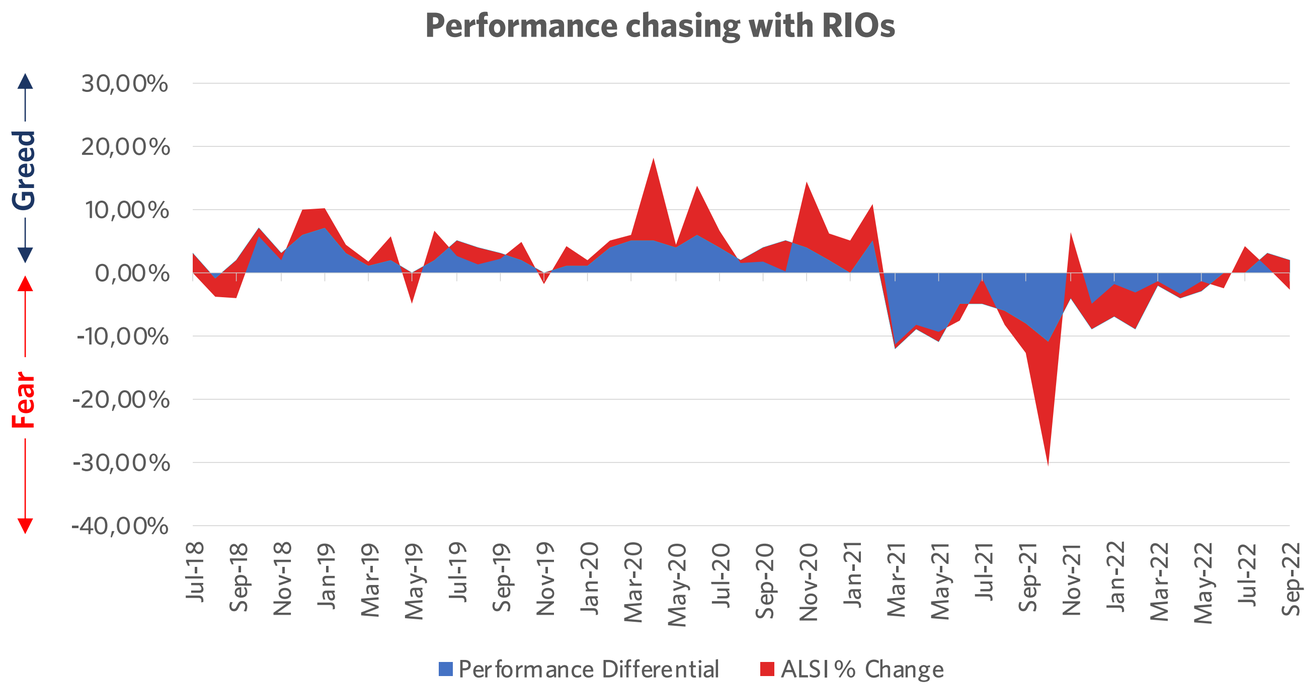
3.2 Fear and greed in RIOs

Figure 8 on page 37 also shows the same close relationship between market performance and whether switches are made to funds with better or worse past performance (towards the cash side of the risk/return spectrum). The fact that the red and blue areas move in unison is testament to this. Market performance coincides with switches to better past performance. In a similar manner when compared to discretionary investments (FIOs) investors are switching in tune to general market movements. The greed/fear or pulse of switches plays out in Figure 9 (page 38). There was a greater reaction to the market turbulence experienced in FIOs. In Figure 3 there was a much gentler shift away from risk during the 2022 period (FIOs). In FIOs the de-risking was just over one half a point or -0.53. In other words, on average, investors shifted 53% of the way from a CPI + 3% mandate to a CPI + 2% mandate on average (for example). The negative means the move was away from the CPI + 3% portfolio and towards the CPI + 2% portfolio (downwards). However, when considering RIOs the shift was more pronounced at -1.31 on average. Using the previous example from the CPI + 3% portfolio downwards by 131% or to a portfolio more conservative than the CPI + 2% portfolio.

> *"The numbers in absolute terms do not reveal much but do give a good indication of shifting risk preferences with each investment switch performed."*

Investor behaviour [Retirement Income Option or RIO]

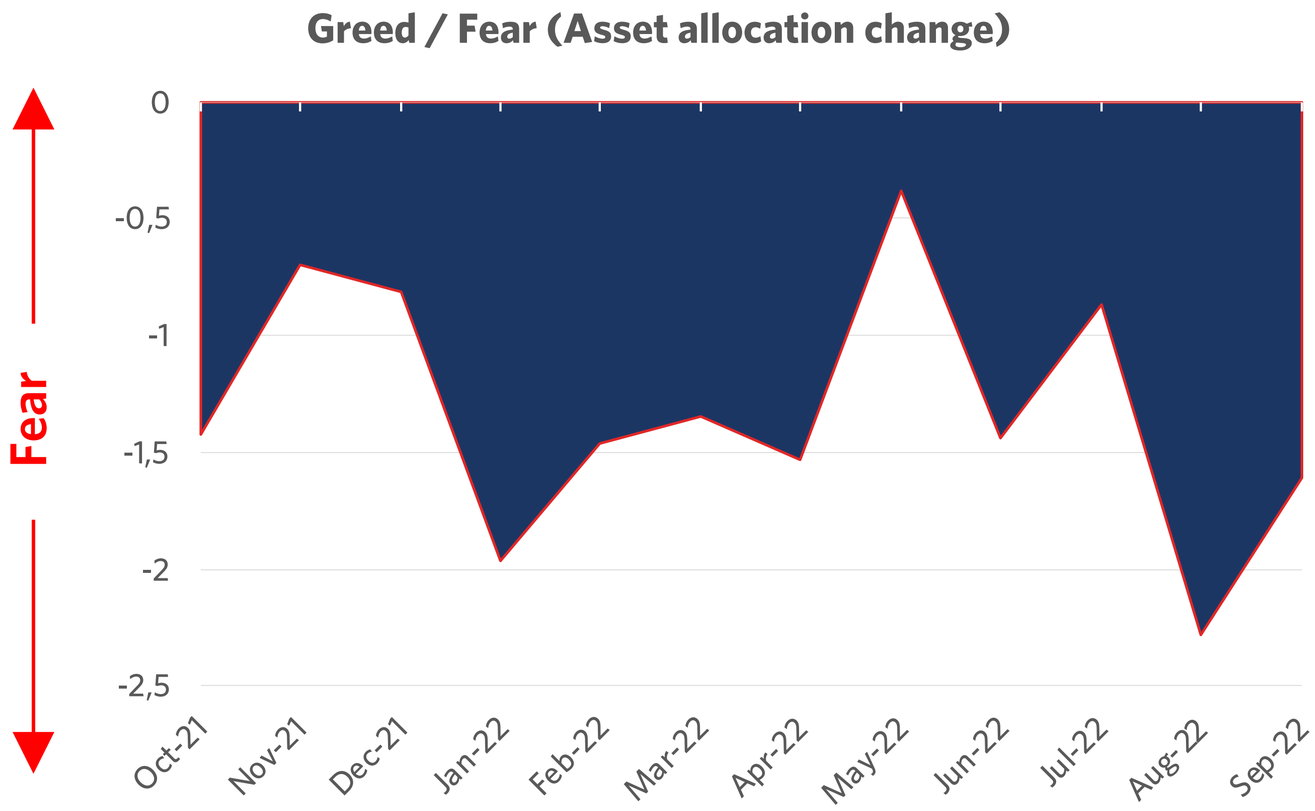
Figure 8: Performance chasing in RIOs



Source: Momentum Investments (2022)

Investor behaviour [Retirement Income Option or RIO]

Figure 9: Performance chasing in RIOs



Source: Momentum Investments (2022)

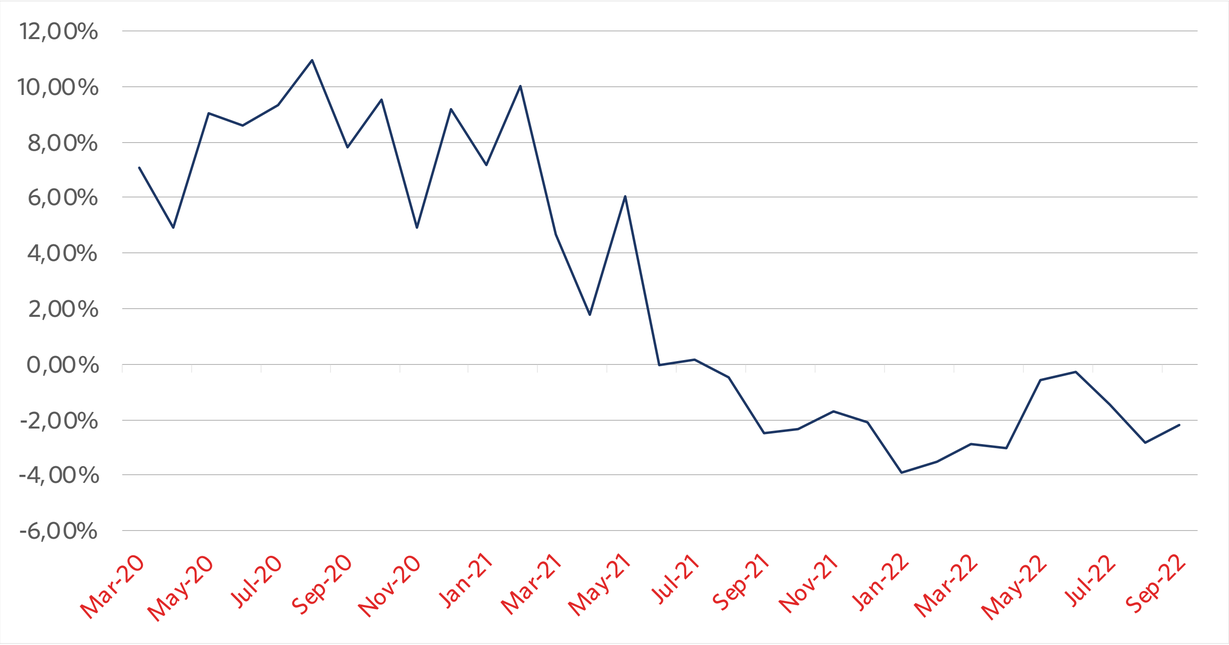
3.3 The behaviour tax in RIOs

The behaviour tax picture for the COVID and post-COVID periods in RIOs is similar to that of FIOs. The particularly interesting dimension is that the behaviour tax was worse in RIOs during the COVID period (6.9% in RIOs versus 6.5% in FIOs) but was better during the post-COVID period (-2.23% in RIOs versus -0.94% in FIOs).

> *"The more aggressive de-risking in asset allocation appears to have been more beneficial to investors in the RIO."*

Investor behaviour [Retirement Income Option or RIO]

Figure 10: RIO COVID versus post-COVID behaviour tax



When decomposing the behaviour tax in Table 2, there is a clear and consistent negative behaviour tax throughout the year. In fact, the negative behaviour tax was over R33 million in total over the 2022 period. This sounds like a large amount and indeed is, but to place this in context the value destroyed since the onset of the COVID pandemic has been a staggering R493 561 733. The more than R33 million given back through switching activity is a mere 6.8% of the value destroyed. We also need to consider that after value has been destroyed the number of positive returns required to restore the position is more onerous. A 50% loss requires a 100% return to restore the position. It most definitely appears that investors and advisers are more sensitive to risk and returns in RIOs. This anxiety creates a much larger behaviour tax in times of a market crash but in the 2022 period it also gave a much larger behaviour tax back to investors.

Source: Momentum Investments (2022)

Investor behaviour [Retirement Income Option or RIO]

Table 2: Decomposing the RIO behaviour

	Average performance (switched from)	Average performance (switched to)	Average behaviour tax	Average behaviour tax
October 2021	-0.36%	-2.21%	-2.35%	-R2,036,074
November 2021	-1.52%	0.57%	-1.68 %	-R477,297
December 2021	-5.75%	0.09%	-2.08%	-R486,060
January 2022	-2.74%	1.34%	-3.88%	-R372,747
February 2022	-5.52%	-1.76%	-3.51%	-R6,444,306
March 2022	-5.54%	-2.21%	-2.87%	-R7,860,574
April 2022	-2.72%	-0.48%	-3.01%	-R4,686,665
May 2022	-2.20%	-2.61%	0.41%	-1,652,588
June 2022	0.56%	1.05%	-0.30%	-R380,634
July 2022	-1.97%	-0.65%	-1.44%	-R2,298,482
August 2022	-4.09%	-1.17%	-2.82%	-R6,164,882
September 2022	-3.15%	-0.39%	-2.19%	-R599,908
			-2.23%	**-R33,460,217**

Source: Momentum Investments (2022)

3.4 Advice insights: A cautionary note

Precisely the same advice insights and cautionary note apply to investors in retirement in living annuities. Most of these investors will still require protection from inflation and as such exposure to risky asset classes in the long term. It appears that on average these investors have been shifted into much safer asset classes in the 2022 period. Have their goals changed accordingly? When will they be shifted back to risky asset classes? Will the timing create a behaviour tax? These are important questions. Apart from the first question, the second and third are unimportant as the strategy to reach an investor's goals should not change unless their goals are changing.

Following the money

Following the money

4.1 The top funds ditched and switched for 2022

4.1.1 Flexible Investment Option

Table 3 confirms the previous analysis that much investor switch activity was taking risk off the proverbial table. Over R200 million in net flows went in the direction of Money Market Funds. Note these funds are sorted on absolute values in switch activity so even though the Momentum Enhanced Yield fund only had a net flow of R1 839 980 it was still one of the top funds switched into (over R50 million in inflows). It is, however, interesting to note the funds highlighted in red. Approximately R250 million was switched into these funds and for at least three of the four (excluding the Prescient Income Provider) it appears that the drawcard was past performance.

Table 3: Top net inflows for the 2022 period

Fund name	Net inflows	2021 Performance	2022 Performance
Momentum Money Market Fund (C1)	R139,547,343	4.14%	4.91%
Nedgroup Investments (IOM) Limited Global Flexible Fund	R108,795,746	15.39%	0.01%
Prescient Income Provider Fund (A2)	R46,209,688	7.19%	5.36%
Catalyst SCI Flexible Property Fund (C)	R53,280,353	55.58%	-10.11%
PSG Wealth Moderate Fund of Funds (D)	R43,559,976	23.25%	0.45%
Allan Gray Money Market Fund	R33,905,226	4.29%	5.23%
Momentum Money Market Fund (A)	R33,175,139	3.87%	4.62%
Momentum Enhanced Yield Fund (D)	R1,839,980	4.61%	5.23%

Source: Momentum Investments (2022)

Following the money

The question is always whether investors were rewarded for this strategy? The same results that were shown in 2021 Sci-Fi report are repeated here. Investors migrating to the Nedgroup Investments Global Flexible Fund off the back of a 15.39% performance in 2021 effectively received a 0% return for the period thereafter. The Catalyst Flexible Property Fund also attracted just over R53 million in flows after more than a 55% return in 2021. Investors migrating to this fund, however, then received just over negative 10% in the period to follow. The same story plays out for investors that switched into the PSG Wealth Moderate Fund of Funds. Slightly over a 23% return is then followed by a near 0.5% return in the period to follow.

Table 4 shows the funds with relatively high outflows for the 2022 period. The table also confirms the de-risking trend identified in previous sections as investors switched away from balanced funds and towards cash and cash plus solutions. It is interesting to note that even within the low-risk options there is still elevated switching activity. This could indicate that even in low-risk options investors are still focused on past investment performance. The highlighted rows in red show this (top two outflow classes). We know that on aggregate investors were de-risking their portfolios but the top four fund outflows were in fact from low risk solutions.

Table 4: Top net outflows for the 2022 period

Fund name	Net outflows	2021 Performance	2022 Performance
Momentum Enhanced Yield Fund (B5)	(R95,148,838)	4.48%	5.10%
Coronation JIBAR Plus Fund (P)	(R84,500,284)	4.50%	5.17%
Momentum Income Plus Fund (C1)	(R81,920,797)	6.77%	6.56%
Coronation Strategic Income Fund (P)	(R73,107,438)	7.57%	3.69%
Allan Gray Balanced Fund (C)	(R40,046,989)	21.87%	5.23%
Coronation Balanced Defensive Fund (P)	(R30,360,616)	13.26%	1.38%
Coronation Balanced Plus Fund (P)	(R4,364,922)	24.03%	-1.58%

Source: Momentum Investments (2022)

Following the money

4.1.2 Retirement Income Option

In the retirement income option similar patterns are evident although there is most definitely a greater focus on shifting to lower risk solutions. This was confirmed in the asset allocation analysis presented in the third section. The focus of inflows was clearly on the lower end of the risk spectrum although the Catalyst Flexible Property Fund also attracted significant inflows (nearly R80 million) after which the fund delivered a -10% return. The inflows to the other highlighted funds were likely more for the perceived safety than past investment returns.

Table 5: Top net inflows for the 2022 period

Fund name	Net inflows	2021 Performance	2022 Performance
Momentum Money Market Fund (C1)	R1,148,397,294	4.14%	4.91%
Momentum Money Market Fund (A)	R122,947,167	3.87%	4.62%
PSG Wealth Income Fund of Funds (D)	R100,844,936	7.62%	4.92%
Catalyst SCI Flexible Property Fund (C)	R79,067,629	55.58%	-10.11%
MI-PLAN IP Enhanced Income Fund (A1)	R52,579,526	8.47%	6.09%
PSG Wealth Enhanced Interest Fund of Funds (D)	R48,103,231	4.24%	4.91%
Prescient Income Provider Fund (A2)	R34,769,356	7.19%	5.36%

Source: Momentum Investments (2022)

Following the money

The reverse of this trend is evident in the outflows. The Allan Gray Balanced Fund topped the outflows with over R120 million that left the fund. Towards the bottom of the table outflows from the balanced funds as well as the Momentum Core Equity Fund were also seen. The second, third and fourth entries also show once more that cash and cash plus solutions were not immune to outflows. This indicates that even investors already in stable solutions were shifted to those with more stability (cash) but also those that offered better 2021 yields (see inflows in Table 5). The question remains when are retired clients who need exposure to risky asset classes going to get back into markets and how much of the negative behaviour tax are they going to give back in periods to follow from trying to time re-entry into equity markets.

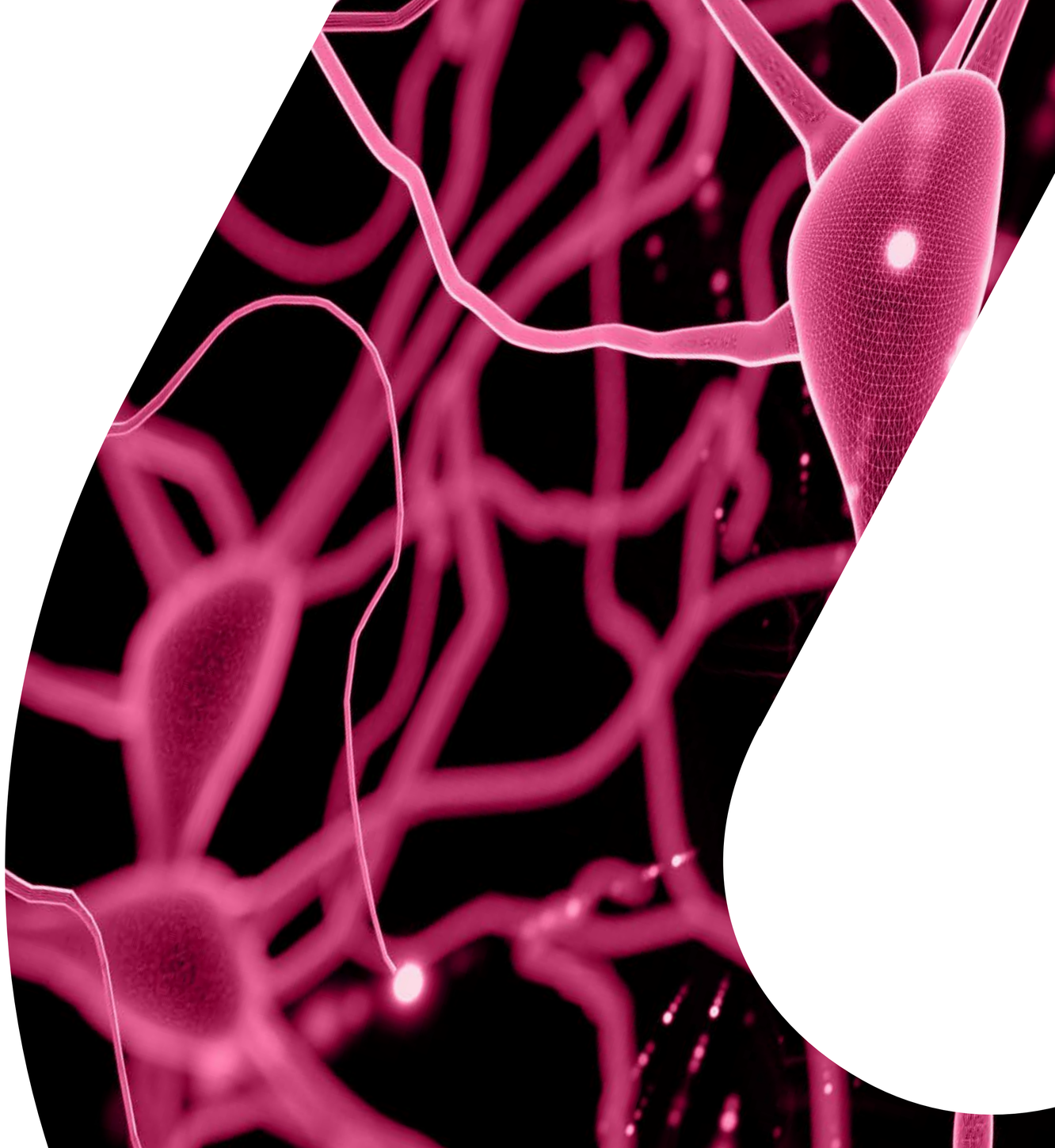
Table 6: Top net outflows for the 2022 period

Fund name	Net outflows	2021 Performance	2022 Performance
Allan Gray Balanced Fund (C)	(R120,888,128)	21.87%	5.23%
Momentum Income Plus Fund (C1)	(R101,280,516)	6.77%	6.56%
Coronation JIBAR Plus Fund (P)	(R84,598,587)	4.50%	5.17%
Coronation Strategic Income Fund (P)	(R68,857,390)	7.57%	3.69%
Coronation Balanced Plus Fund (P)	(R57,060,665)	24.03%	-1.58%
Momentum Enhanced Yield Fund (B5)	(R50,252,668)	4.48%	5.10%
Coronation Balanced Defensive Fund (P)	(R46,888,644)	13.26%	1.38%
Momentum Core Equity Fund (C)	(R29,769,697)	29.71%	1.80%
PSG Wealth Moderate Fund of Funds (D)	(R24,595,360)	23.25%	0.45%

Source: Momentum Investments (2022)

5

Investor archetype analysis
[machine learning update]



Investor archetype analysis [machine learning update]

5.1 Risk behaviour 2022 winners and losers

The 2022 period was an interesting one in that destroying or adding value with switching behaviour was far from uniform. As usual, Market Timers were the most active archetype (switched most). In contrast to 2021, Market Timers actually gained slightly by switching. This makes sense as the dominant switching behaviour for the year was de-risking and switching to perceived safety. Said differently, we would expect the Market Timer to be displaying similar behaviour to the dominant behaviour overall. It is interesting to note here why the Anxious investor archetype is dominant and not the Avoider archetype (characterised by adopting low risk investments over time). This highlights the difference between risk averse and loss averse behaviour. The anxious investors were in risky asset classes already and as market volatility rose, they scrambled to get back to safety. Avoiders never left that safety.

Table 7: 2022 Behaviour tax by archetype

Population proportion	Archetype	Average switch frequency	Value destroyed (-) /added (+)	Behaviour Tax % per switch
23%	Market Timer	3.19	R15,548,108	-0.86%
27%	Assertive	1.32	-R11,470,140	4.50%
38%	Anxious	1.57	R18,701,052	-3.44%
19%	Avoider	1.42	R193,040	-0.07%

Source: Momentum Investments (2022)

Investor archetype analysis [machine learning update]

The most penalised behaviour for the period was by far the Assertive investors. They realised the only and therefore largest average behaviour tax at 4.5%.

> *Assertive investors are the performance chasers and as markets declined, we see that high past performance did not result in high future performance.*

Returning to the fund flows section will reinforce that those riskier funds switched into resulted in subsequent flat or indeed negative returns that caused this high behaviour tax.

Table 8: Archetype behaviour tax over the period

	Market Timer	Assertive	Anxious	Avoider
September 2021	-1.26%	0.62%	0.64%	-0.06%
October 2021	0.45%	0.90%	2.62%	0.46%
November 2021	-2.97%	0.34%	-1.34%	-0.58%
December 2021	0.07%	1.75%	-1.54%	-0.21%
January 2022	-4.67%	2.95%	-5.99%	-0.01%
February 2022	0.71%	0.41%	-2.07%	-0.29%
March 2022	-2.73%	1.13%	-5.87%	-1.66%
April 2022	-1.50%	2.14%	-7.97%	-0.98%
May 2022	-1.08%	8.23%	-6.04%	-0.71%
June 2022	-1.33%	9.41%	-10.22%	-0.76%
July 2022	4.72%	15.38%	-1.60%	3.04%
August 2022	-21.74%	24.89%	-17.33%	-7.80%

Source: Momentum Investments (2022)

Investor archetype analysis [machine learning update]

Figure 11: Rising South African volatility index (SAVI) in 2022

Source: markets.ft.com

Table 8 and Figure 11 show that the rising market volatility towards the latter part of the analysis period penalised the risk behaviour associated with the assertive investor heavily while rewarding risk behaviour associated with removing risk from the proverbial investment table. The same anxioius behavioural pattern that penalised the investors heavily in the 2020 and 2021 periods added value in 2022 market conditions (although this restored only a fraction of the value eroded in the 2020/2021 period).

Table 9 on the next page shows how the proportion of archetypes has changed during the 2022 period at a cluster level. The first highlighted cell shows that 46.5% of Market Timers in the 2021 period were again classified as Market Timers in the 2022 period. The adjacent cells then show where the remainder of Market Timers shifted towards. As discussed earlier, this confirms the reason the Market Timers end up with a negative behaviour tax overall for the period. By far the most of them (32.25%) choose to follow the dominant market behaviour (de-risking) or shifting to the Anxious investor traits that ultimately result in value added from Market Timer switching behaviour during the year.

> *"The 27% who chose to switch in line with the Assertive archetype would have incurred an overall behaviour tax for the 2022 period."*

Investor archetype analysis [machine learning update]

Table 9: Proportionate archetype stability over the 2021/2022 period

2021↓ 2022→	Market Timer	Assertive	Anxious	Avoider	Total
Market Timer	46.45%	9.86%	35.25%	8.43%	100%
Assertive	22.84%	22.63%	42.48%	12.05%	100%
Anxious	26.94%	16.12%	40.10%	16.83%	100%
Avoider	18.22%	13.83%	36.37%	31.58%	100%

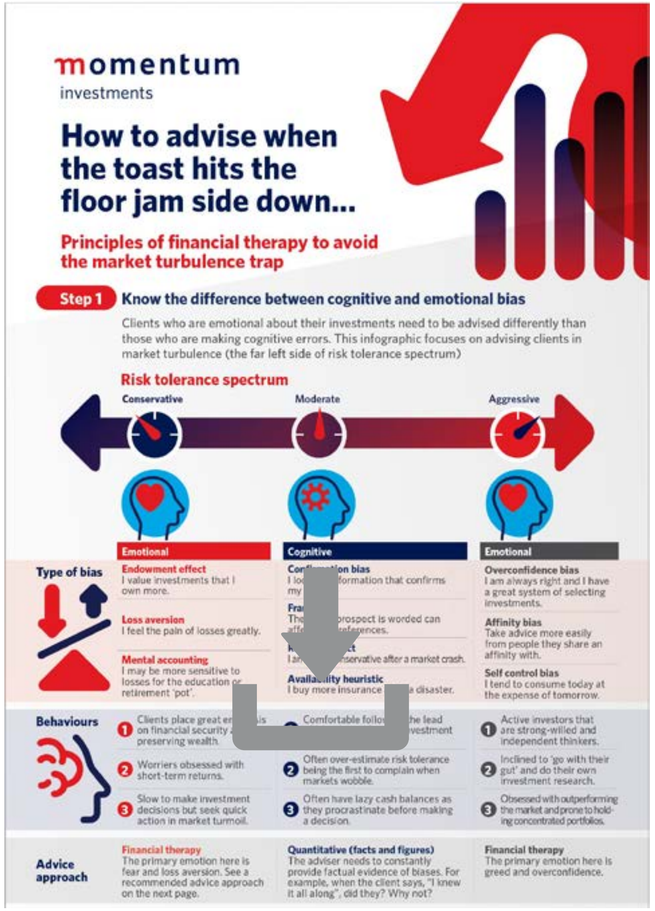
Source: Momentum Investments (2022)

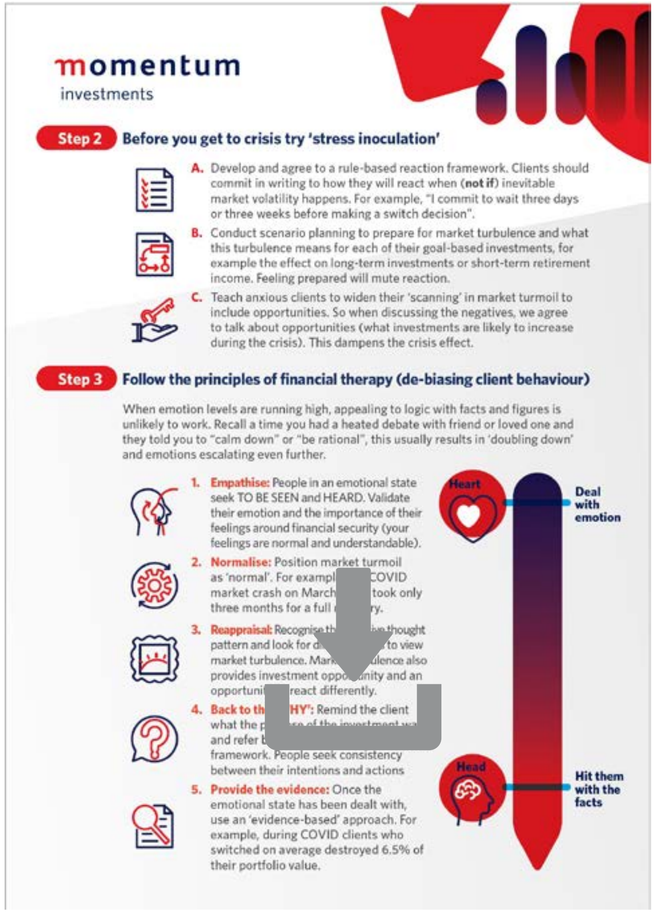
Also clear is that the Assertive risk behaviour preferences were challenged in the 2022 period of analysis that resulted in the least consistent archetype switch behaviour. Said differently, only 22.63% of Assertive investor behaviour was consistent with the prior period with most of these investors abandoning risk behaviour preferences and de-risking their portfolios accordingly. The net result was that these investors would have escaped the overall behaviour tax incurred by Assertive investors for the period. Finally, also notable was that Avoiders who had taken on slightly more risk during the previous period were also quick to de-risk their portfolios in 2022 to fall back into line with their long-term risk preferences.

Appendix

Financial therapy infographic and market heatmap for 2022

Financial therapy infographic and market heatmap for 2022





Source: Adapted from: Pompian, M., 2016. Risk profiling through a behavioral finance lens. CFA Institute Research Foundation.

ALSI heatmap (1996 -2022)

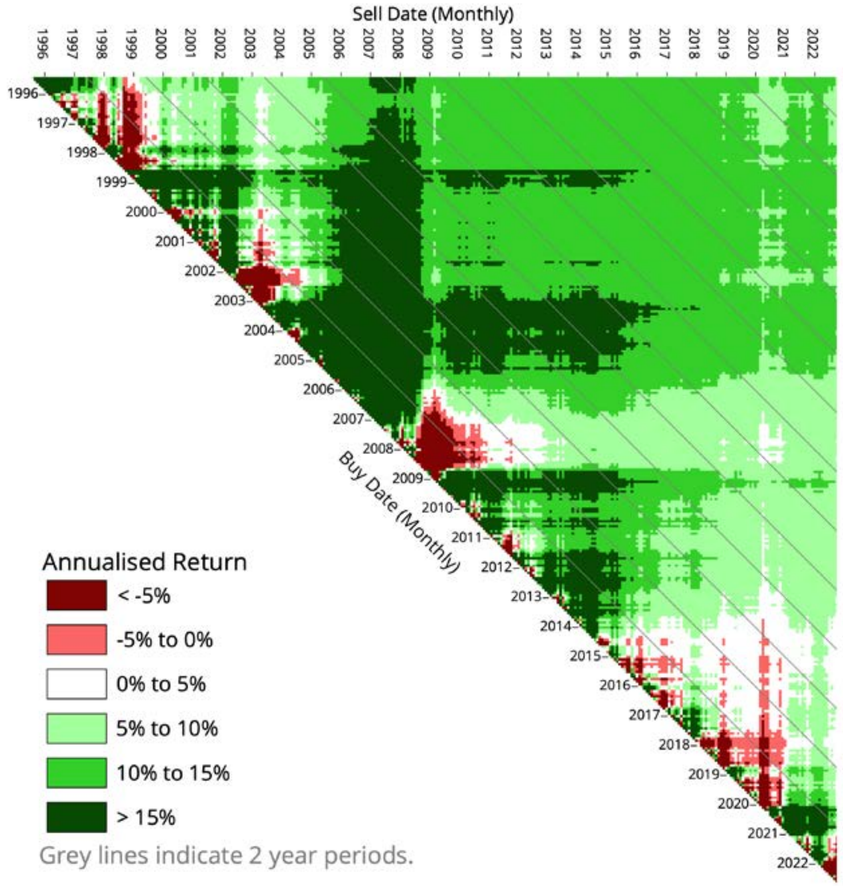
Key takeaways

1. South African investors in the market (ALSI) need to stay invested for longer to hope for an inflation-adjusted return. In the past approximately six to seven years would do it, but now we need to count many more grey diagonal lines (two-year holding periods) to avoid the red and white areas.

2. Short holding periods in the equity market (particularly under four years) have proved disastrous for many investors. See all the dark red periods that fall within two grey diagonal lines (four years).

3. Periods of dark green (returns > 15%) usually follow periods of red. Buying in a market crunch in most cases rewards investors.

4. Diversifying across regions, currencies and asset classes provides the opportunity to dramatically increase the odds of reaching an investment goal and enhance risk-adjusted returns.



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Paul heads up behavioural finance for Momentum Investments. He established an applied behavioural finance capability after experiencing both client and adviser investment behaviour for 20 years with various South African insurers and Barclays Bank in London. Paul holds an MBA (with distinction) from Edinburgh Business School and recently completed a master's degree (with distinction) where he researched risk behaviour at Stellenbosch University using machine learning. This research was published in the international Journal of Behavioural and Experimental Finance. Paul is a soon-to-be published author on financial psychology and is a registered member of the Swiss-based Global Association of Applied Behavioural Scientists (GAABS) where he co-leads the Middle East and Africa regions.

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