momentum investments

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Covid-19 Investor Behaviour

Was 2020 that different after all?

About the authors

Paul Nixon, CFP® MBA
Head: Behavioural Finance

Paul heads up behavioural finance for Momentum Investments. He established an applied behavioural finance capability for the business after experiencing both client and adviser investment behaviour for nearly 20 years with various South African insurers and Barclays Bank. He recently completed a masterclass in behavioural science at the renowned iNudgeYou Institute in Denmark. Paul holds an MBA (with distinction) from Edinburgh Business School and is currently completing a Masters degree where he is researching risk behaviour at Stellenbosch University. Paul is a registered member of the Swiss-based Global Association of Applied Behavioural Scientists (GAABS).

Evan Gilbert, PhD
Senior Investment Strategist

Following the completion of his PhD at the University of Cambridge in 2000, Evan Gilbert worked for a major international strategy consultancy (the Monitor Group) for two years, followed by an 8-year period in the world of academia. He taught Corporate Finance on the MBA program at UCT's Graduate School of Business and Financial Economics at the Department of Economics at the University of Stellenbosch. His teaching and research specialties include: Capital Budgeting Theory and Practice; Real Options Analysis; Investments; Behavioural Finance; Equity and Bond Market Investment Strategies; Smart Beta/Factor-based Investing; Portfolio Solution Design; Portfolio Construction; Financial Risk Management.

Dirk Louw
Actuarial Analyst

Dirk Louw completed his Actuarial Science degrees (BCom and Honours), after which he did a Master's Degree in Business Mathematics and Informatics (BMI) at the North-West University. As part of his Master's degree he completed an industry-directed research project at Momentum Investments titled: "Investigating and quantifying the retail investor behaviour gap in South Africa (2018)". Continued interest in investment behaviour inspired him to remain part of the behavioural finance research group. Dirk is currently working as an actuarial analyst at Transaction Capital Recoveries.

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~R100 **million lost**
Apr ‘20 - Dec ‘20

19.44% **destroyed**
per switch in Aug ’20

Anxious **Archetype**
destroyed 41% of total value

>R1.5 **billion**
switched
Apr ‘20 - Dec ‘20

6.5% **portfolio value destroyed**
Apr ‘20 - Sep ‘20

Executive summary

This paper presents a detailed analysis of investor behaviour preceding and during the Covid-19 pandemic of 2020. In 2020 there was over 11 500 investment switches of more than R1000 each on the Momentum Wealth platform. As March 2020 saw a sharp decline in markets, switching activity spiked to 300% of normal levels. The behaviour tax on investors increased sharply to nearly 20% of portfolio value on average per switch in August of 2020. We also add to our understanding of the archetype behaviour patterns (published in a Momentum Investments white paper in 2020) by using unsupervised machine learning clustering techniques to compare archetype behaviour in a pre-Covid period (April 2020 – December 2020) and Covid period (April 2020 – December 2020) respectively. Results show that as market crashes go, the investor behavioural response was all too familiar.

1. Introduction

Will we ever forget 2020? Unlikely. Early February last year Covid-19 still appeared to many South Africans as a problem for the developed world and a global crisis that might just pass us by. At first, markets appeared relatively resilient, but on Monday 24 February 2020, for the first time in a while, we saw a sea of red on the local bourse as looming fears of Covid-19 hit commodity markets hard. This sent the gold price marching fast upwards as investors scrambled for more certainty. Global production forecasts tumbled, and with them, the oil price.

The consensus among market commentators was a warning of downside risks persisting and from a South African context, the looming Moody's downgrade in March wasn't helping. Things were about to get worse. On the morning of Thursday 5 March, the National Institute for Communicable Diseases would confirm that a suspected case of Covid-19 had tested positive in South Africa.

On Thursday 19 March the JSE All Share Index (Alsi) would dip to 37 963 points. Similar levels were last seen in July 2013 but reached from the opposite direction as a new record in a raging bull market. The rest is history.

This paper gives an account of the value destroyed by investor behaviour when faced with the global pandemic and volatile markets, and investigates which behaviour patterns resulted in the largest degree of value erosion.

2. The four most dangerous words in investing

South African investors were once again faced with the four most dangerous words in investing: This time it's different. And to be fair, 2020 looked a bit different. Where did all the toilet paper go? Snapshots of empty store shelves and bizarre reports of standoffs and aggravated assault over sanitisers and tissue paper in once peaceful neighbourhoods escalated panic-buying. Almost overnight the transaction utility of these goods, usually in high supply, skyrocketed. Was it different this time?

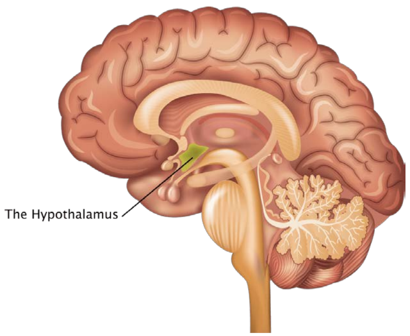
"...to be fair 2020 looked a bit different. Where did all the toilet paper go?"

5 March 2020 and zero toilet paper to be found in US supermarket chains.

3. Some neuroscience behind 'uncertainty'

We really don't like uncertainty – it is way more stressful than knowing something bad is going to happen. We even have machinery located near our brain stem called the *locus coeruleus* (LC) that is continually trying to predict physiological painful outcomes and prepare us accordingly. On the emotional front a stress response sets the hypothalamus into action to instruct our adrenal glands to release hormones to combat stress.

Figure 1: The hypothalamus



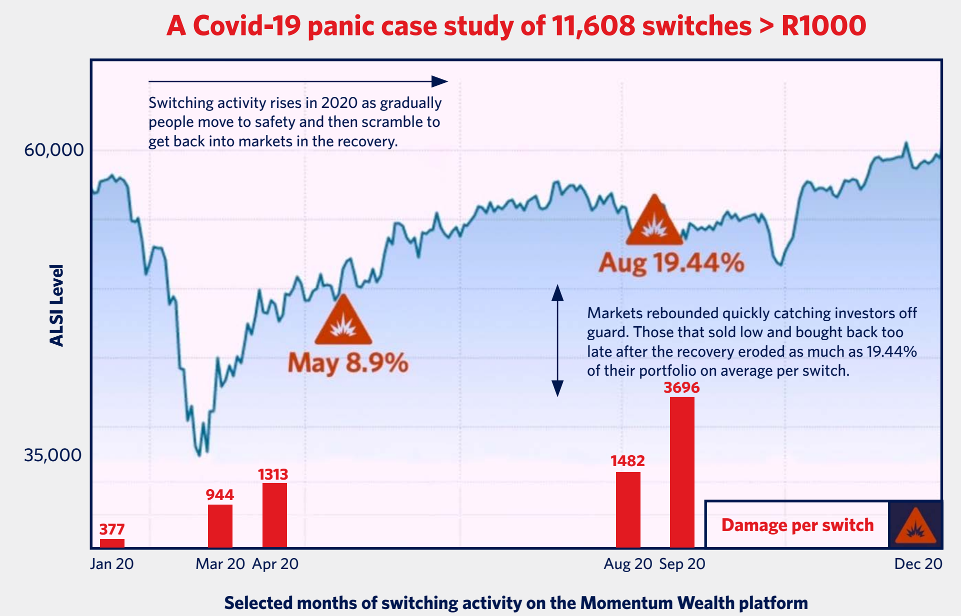
The hypothalamus-pituitary-adrenal (HPA) axis acts to release cortisol into the blood stream. Cortisol calls the body into action to combat stress.

Research presented by Wharton Business School also helps us understand how the stress hormone cortisol makes us more likely to make quick decisions using our gut instinct. But did our natural stress response (forgoing critical thinking and going with our gut) help us protect our financial security in 2020?

4. Behavioural report card for the class of 2020

From January 2020 until the end of September last year, 11 608 switches were made on the Momentum Wealth platform of at least R1 000 or more. An investment switch represents a change in strategy – moving from the current portfolio of investments to another that often represents a trade-off of future investment returns for current emotional comfort. The flight to safety. The average value of these switches was slightly in excess of R150 000. As panic set in, the number of switches in March 2020, at the time of the crash, spiked to nearly 300% compared to the number of switches in January 2020. We also clearly see a 'risk off' strategy for March and April as investors moved to 'safety', or at least they think so.

Figure 2: Average investment value destroyed per switch in 2020



4. Behavioural report card for the class of 2020

To measure the 'behaviour tax' of these switches, we look at the investments people moved from, what they moved to, and measure any difference in returns between these two values. The results are staggering. From an average annualised value of 0.13% of investment value destroyed per switch in March, we see an aggressive escalation to 8.9% of investment value in May to a whopping 19.44% of investment value in August. Remember, this is per investment switch.

The latent effects of this value destruction are rooted in investors rushing for safety and getting stuck in safe assets where they remain for a large portion of the inevitable market recovery. They're in the wrong place at the right time; on the side-lines watching. The damage was severe, particularly considering that a 20% loss in investment value requires a 25% market return to get back to level pegging.

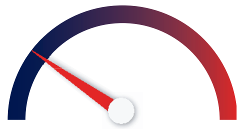
5. Recap on SA behaviour archetypes

In 2020 Momentum Investments embarked on identifying patterns of investment behaviour in discretionary unit trusts on the Momentum Wealth platform. Using unsupervised machine learning clustering algorithms, we were able to identify switching behaviour patterns over time.

In short, while investors may have stable risk preferences, ultimately decision-making behaviour in risky conditions is also affected by the 'label' attached to the situation by the decision makers (their risk perception) and their experience of similar decisions as being profitable or otherwise (their risk propensity). The combination of these factors can trigger emotions that can lead to decisions being taken that appear contrary to their stable long-term risk preferences. More information on the clustering methodology and variables considered are available in our white paper titled Understanding the great forces that rule the world: A study on South African investor behaviour, at momentum.co.za.

It is important to remember that the five switching behaviour patterns revealed are not necessarily 'people'. In other words, Mr Manaka (hypothetical investor) may be represented as one archetype in one period and another in the next (more about this in section 7). Before proceeding however, it is important to summarise the behaviour patterns identified in the 2020 Momentum Investments white paper.

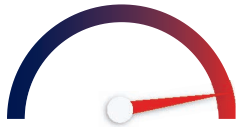
Assertive



Average behaviour tax

More risk tolerant and clearly set on chasing past investment performance. Generally overconfident and influenced less by financial advice. Influenced more by greed (relative outperformance of others).

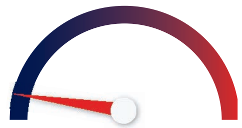
Anxious



Average behaviour tax

Lower risk appetite but don't avoid risk altogether. Very sensitive to downside risk and likely to act out of fear during market turbulence. Prone to switching to better performance below inflection point*.

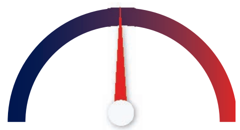
Contrarian



Average behaviour tax

Generally, behaviour is the opposite of the other four archetypes. Generally exhibits a greater tolerance for risk and demonstrates self-control. Significantly smaller proportion of the overall population.

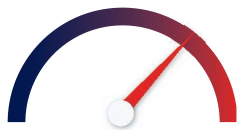
Avoider



Average behaviour tax

Lower risk appetite and have a preference to avoid risk altogether. They retain generally conservative portfolios over time. When they do make investment switches it is more likely in response to fear.

Market Timer



Average behaviour tax

Greatest propensity to perform investment switches and their defining behaviour pattern is being greedy when others are greedy and fearful when others are fearful.

Refer to prospect theory inflection point calculated as ≈12.5% in white paper

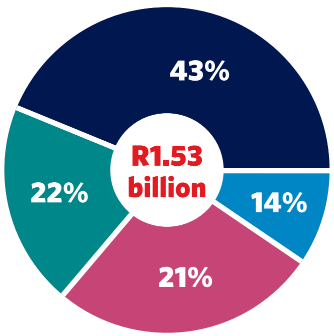
6. Behaviour tax by switch archetype in 2020

This section deals with the switch behaviour and value erosion detailed per investment archetype in 2020. Interestingly, and unfortunate for investors who switched in 2020, not a single archetype or behaviour pattern managed to avoid a behaviour tax if switching between the crash in March and the recovery in September 2020.

6.1 Dominant switch behaviour archetype

The total value of switches for the period March 2020 to December 2020 was nearly R1 530 000 000. The composition of archetype behaviour is shown below.

Figure 3: Proportion of total switches per archetype (April to December 2020)



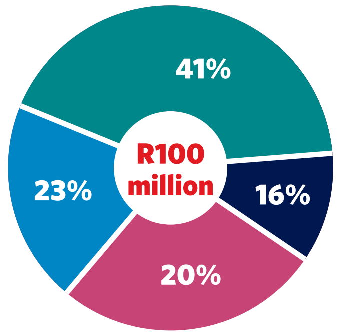
These three archetypes are similar in respect of 'risk-off' behaviour in that they are likely to act out of fear. The key differences are in their response to the market recovery. This is discussed in more detail shortly.

Source: Momentum Investments, 2021

6.2 Total value eroded, or money lost

The total value of behaviour tax for the period March 2020 to December 2020 was nearly R100 000 000. The composition of archetype behaviour follows:

Figure 4: Value eroded per switch archetype (April to December 2020)



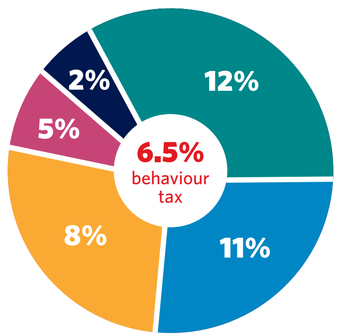
While 22% of the total value of switches belonged to anxious investors, they still manage to destroy the highest amount of value overall. The reason is that it takes a lot for them to regain confidence. They sell out of markets at the low point and buy in again near the top, missing the recovery. Avoiders don't switch back to risky assets and market timers tend to switch back a little faster.

Source: Momentum Investments, 2021

6.3 Overall annualised % losses per archetype

Overall, from the period March until September 2020 investors realised an annualised behaviour tax of 6.5% on their discretionary unit trust investments.

Figure 5: Value eroded per switch archetype (April to December 2020)

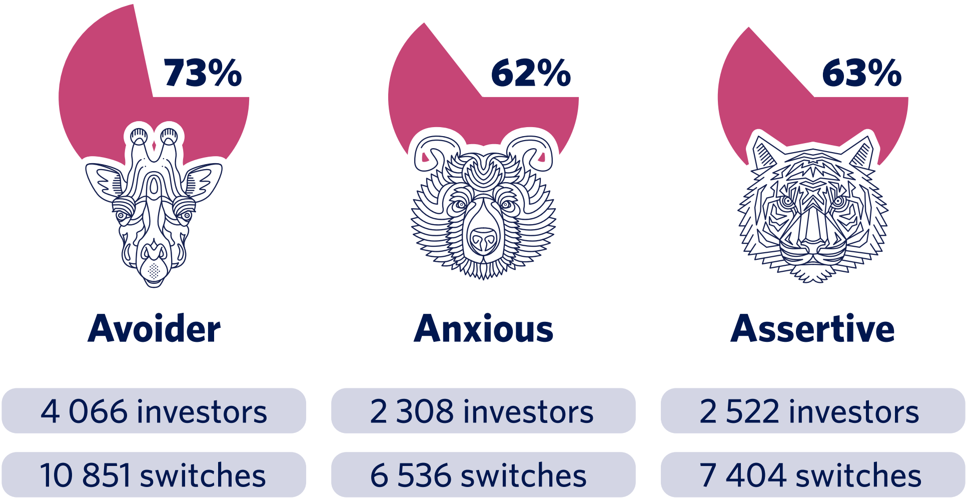


Anxious investors and market timers incurred the largest behaviour tax. Avoiders, if driven by fear, remain on the sidelines for some time and therefore avoid the large behaviour tax from exiting the market and re-entering once the recovery is complete.

Source: Momentum Investments, 2021

7. Stability of switching behaviour archetypes in general

Membership to the behavioural archetypes is not always constant. To gauge the level of consistency of the archetypes in general, more than 51 000 switches from 2006 to 2020 were categorised into their respective archetypes by investor for each month of this time period. It was therefore possible to ascertain which archetype grouping each investor belonged to every month over the 14-year period. The results showed three relatively stable behavioural archetypes.



The interpretation of the information above would be as follows using the avoider archetype for illustration purposes. For those investors that exhibit avoider behaviour on average, on 73% of occasions that they performed an investment switch it fitted into the avoider behaviour pattern. The contrarian archetype that clearly exhibits the most preferred behaviour pattern was the least stable. This is insightful as it likely represents coincidence on the part of the investor and is therefore not a deliberate attempt to be 'contrarian'. The market timer archetype was also inconsistent albeit less so. Further research into these archetypes is ongoing.

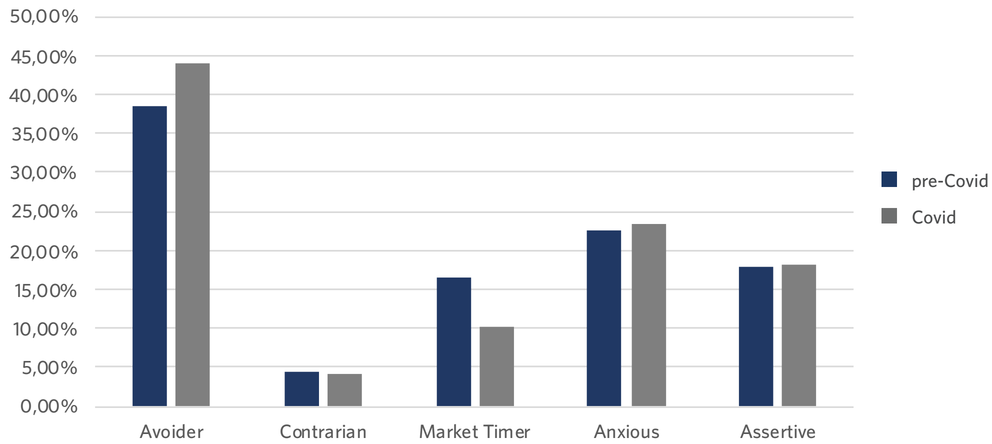
8. Stability of behaviour archetypes before and during Covid-19

To gauge the extent of the level of behaviour change, we examined two distinct clusters.

1. A pre-Covid cluster of behaviour from March 2019 to March 2020; and
2. A Covid cluster of behaviour from April 2020 to September 2020.

These two periods are referred to as 'March' and 'September' for this section. Of particular interest is that while investors may migrate between the various archetype behaviour patterns, the proportions of the archetypes remained stable even considering the market turbulence. Below we can see that, apart from the market timers who generally exhibit erratic behaviour, the other four archetypes overall remained relatively stable as behaviour patterns.

Figure 6: Archetype stability: pre-Covid cluster versus Covid cluster



Source: Momentum Investments, 2021

9. Conclusion

"In the 20th century, the United States endured two world wars and other traumatic and expensive military conflicts; the Depression; a dozen or so recessions and financial panics; oil shocks; a flu epidemic; and the resignation of a disgraced president. Yet the Dow rose from 66 to 11,497."

Warren Buffett

There is little doubt that the Covid-19 pandemic will go down as a global event and will be added to infamous lists much like the one above. However, from an investor behaviour perspective, 2020 really wasn't that different after all. Despite everything that we know about investor behaviour, when it comes down to the crunch, sadly a tremendous amount of investment value was destroyed once again.

In a fascinating practical example of neuroplasticity (our brain's ability to modify itself and to change neural pathways), Destin from the YouTube channel called 'SmarterEveryDay' demonstrates something profound:

Knowledge ≠ Understanding

By swapping the controls of a simple bicycle around, the adult brain required eight months of training to unlearn and relearn to ride a bicycle (a child only required two weeks). Investors know what the right thing is to do, but it appears the understanding of these principles remain ever elusive. The golden rule is simple: If your investment goals haven't changed, your investment strategy to achieve those goals shouldn't be changing either. When faced with a market crisis or the equally dangerous, unicorn promising returns into the stratosphere, just remember the four most dangerous words: This time it's different. Because it's probably not.

"The four most dangerous words in investing are: this time it's different."

Sir John Templeton

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