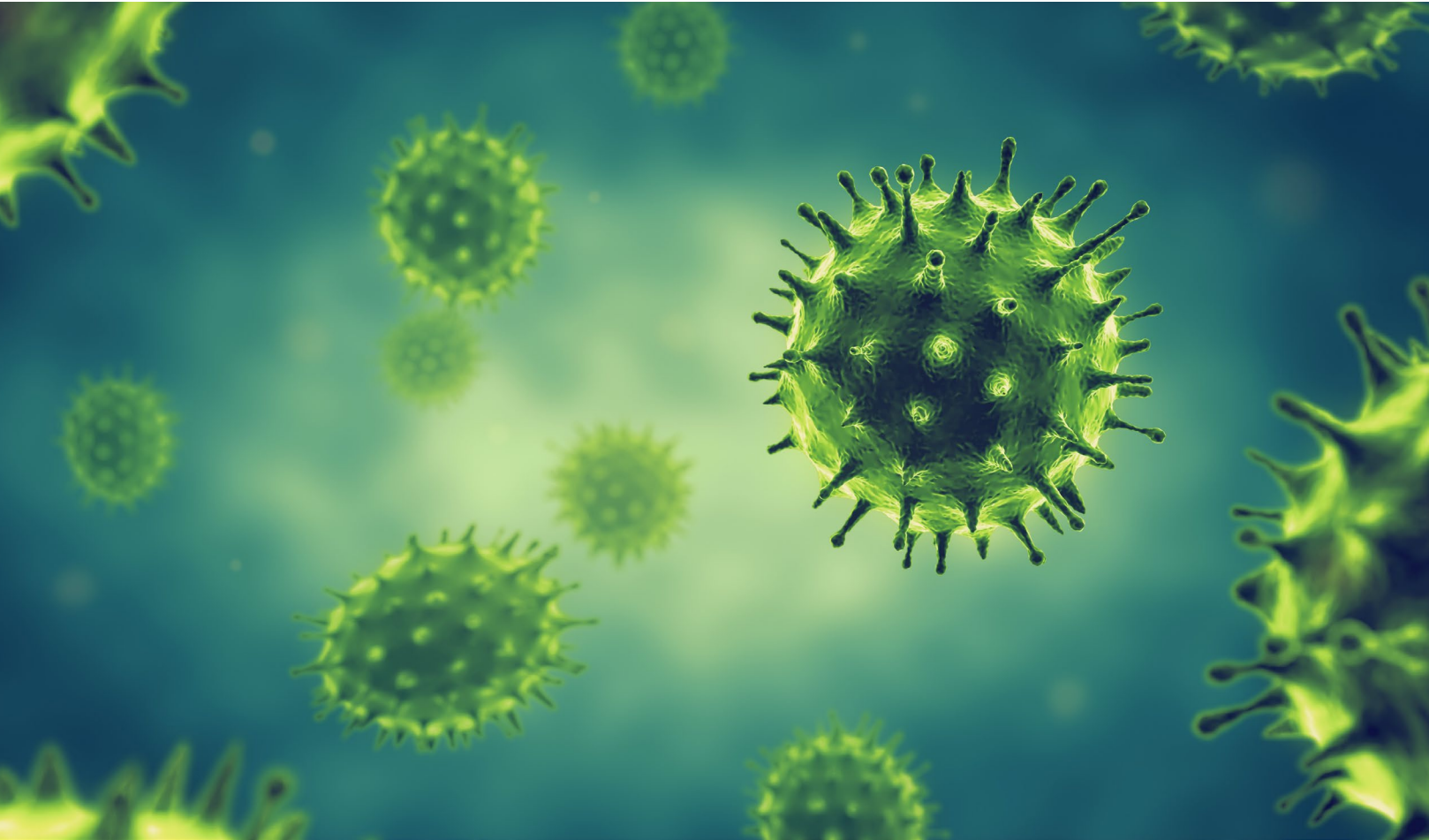




Omba Advisory & Investments Limited



COVID-19 & Market Impacts

An Update for Investors

17 March 2020

Stock Market Impact

	Currency	Original Currency			
		Yesterday 16 Mar 2020	Last Week 9-13 Mar 2020	Year-to-date 16 Mar 2020	52-wk peak to 16 Mar 2020
DAX - Germany	EUR	-5.30%	-20.02%	-34.24%	-36.68%
CAC40 - France	EUR	-5.75%	-19.86%	-35.07%	-36.49%
STOXX 600 - Broad Europe	EUR	-4.86%	-18.44%	-31.55%	-34.40%
FTSE 100 - UK	GBP	-4.01%	-16.97%	-31.71%	-33.34%
JSE TOP 40 - South Africa	ZAR	-8.04%	-15.58%	-28.56%	-31.81%
S&P 500 - US	USD	-11.98%	-8.79%	-26.14%	-29.69%
MSCI All Country World Index	USD	-9.13%	-12.39%	-27.49%	-29.46%
TOPIX - Japan	JPY	-2.01%	-14.26%	-28.18%	-29.24%
MSCI Emerging Markets	USD	-6.51%	-11.94%	-25.25%	-27.35%
CSI 300 - China	CNY	-4.30%	-5.88%	-9.00%	-11.74%

Last updated on 17 Mar 2020. *Source: Refinitiv.*

Following an extremely volatile few weeks many equity markets on Thursday 12 March officially entered bear market territory (dropping more than 20% since their recent highs). **On Thursday 12 March 2020, the S&P 500 dropped 9.5%, its worst 1-day drop since Black Monday in 1987. Yesterday, 16 March 2020, the largest recorded drop in 2020 was broken after investors responded terribly to the Federal Reserve's antidote of cutting rates to near zero on Sunday night** – with the S&P 500 finishing Monday 16 March 2020 down 11.98%. The S&P 500 has fallen a total of 29.53% between 19 Feb 2020 and 16 March 2020 on a close-on-close basis. This large drop in prices is **one of the fastest ever for the S&P 500**, taking just 18 trading days from the market close on 19 Feb 2020. The VIX, a measure of volatility, spiked to close at 82.69 yesterday, 16 March 2020 – **the highest ever recorded closing value** but still lower than the 89.53 intraday high reached in October 2008. Safe-haven assets like gold fell on both Thursday 12 and Friday 13 of March signalling that many investors were subject to margin calls and had to liquidate performing assets in their portfolios. As of the Friday 13 March 2020 close, yields on 10-year US Treasuries had decreased 95.6bps since the start of the year, with 10-year UK Gilts and 10-year German Bunds decreasing 42bps and 40bps over the same period, respectively. Yesterday, 16 March 2020, US 10-year yields ended 22.6bps lower to finish at 0.728% after Sunday's move by the Fed.

Oil prices have plummeted further since we last wrote. Brent Crude has fallen 54.5% YTD to trade down to USD 30.05/bbl as of yesterday's close. The initial price declines in oil were driven by demand side worries on the back of Covid-19 but a subsequent OPEC and Russia spat has resulted in announcements by Saudi Arabia that their National Oil Company, Saudi Aramco, will increase output capacity to 13 million barrels per day following Russia not agreeing to production cuts. Pre-engineering work has already started to unlock this additional Aramco supply, which will be an increase from the current maximum output capacity of 12.3 million barrels per day.

As investors we've been reminded of how quickly sentiment can change. Many market participants entered 2020 with a bullish tone following a successful Phase I trade deal between the US and China and a dovish Federal Reserve who remains responsive to economic conditions. Heading into 2020 we became cautiously optimistic for the first nine months of the year building up to the US election as we anticipated steady and less volatile policy actions from the Trump administration and continued global growth, albeit slowing, due to low (or even negative) developed market interest rates. In the back of our minds we've remained concerned about global debt and credit markets which we wrote about in Q1 2019 after the Fed had been on their 2018 hiking path. Valuations have also been extended and thus we entered 2020 with some more defensive positioning. We've had overweight positions in European Healthcare, US Consumer Staples and an ESG ETF in Europe which screens out many energy companies. These positions have all helped our equity exposure this year on a relative



basis but make no mistake they're still down as they're equities. We also cut our outright long in European Oil & Gas last year as the sector and oil prices were not responding to geo-political tensions in the Middle East as one would expect (we believe driven by slowing demand and excess supply). In our USD balanced portfolios last year, we also extended duration in US Treasuries moving some of our 1-3 year Treasury exposure to 7-10 year Treasuries. In hindsight this extension of US Treasury duration has been a blessing.

Although we entered 2020 slightly underweight equity for balanced portfolios, there have been very few places to hide within the equity asset class and thus we have also seen portfolios suffer in this sell-off. We've retained our overweight to Spain, which was an equity market we liked for various reasons even preceding this sell-off and certainly on a relative basis compared to the rest of Europe. We also increased our LatAm exposure slightly as we liked the Brazil recovery story under Bolsonaro with his pro-market reforms. We also initiated a position in India last year following Modi's win and continue to believe in the long-term merits of an Indian growth story under his leadership. Preceding this correction, we also reduced Japanese equity and added or increased positions in a US Minimum Volatility ETF, China and Canada.

Exclusively using ETFs has served us well. Inherently our process is extremely diversified by number of securities, whether bonds or equities. We have not had a single stock or position blow up and cause significant loss in a portfolio and as we've always highlighted: it is asset class exposure which drives most of the return, not security selection. We've also done some trading in recent weeks and, although bid offer spreads have widened at times during the day in periods of high volatility, ETFs have maintained adequate levels of liquidity.

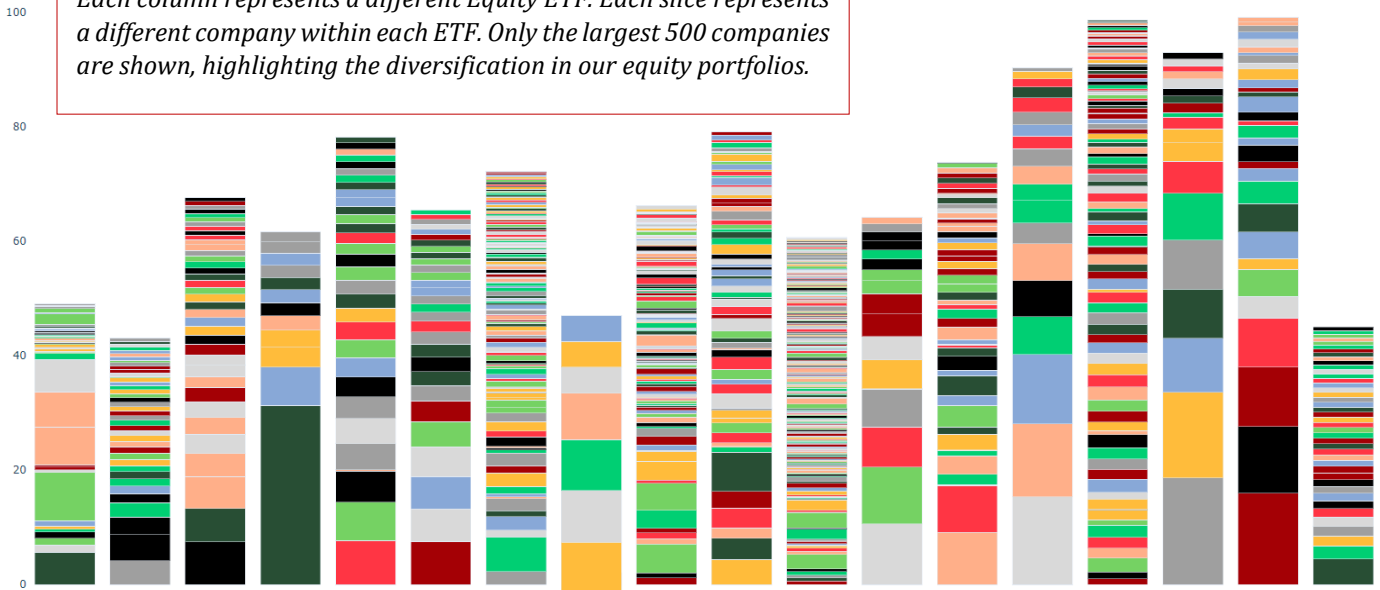
So where do we stand on this sell-off in summary?

- 1) We cannot predict the bottom – anyone who says they can in our view is guessing with confidence. It could easily get worse and similarly it might be overdone and equities could whip-saw back quickly.
- 2) We know most companies around the world will have a hit to revenue and earnings but we don't know how badly. This will only become known as quarterly earnings are announced and guidance is given in months to come. What we do know is that there are about 8 billion people on this planet and the demand for goods and services will return. Companies which weather this storm, which will be mostly the larger, better capitalised ones with diverse earnings streams, will rebound. They may even pick up market share from smaller and weaker companies. People will still need to replace their light bulbs, broken kettle, fridge, toaster or phone. They'll still need or want that new car. Maybe not during this half of the year but perhaps in the second half, or perhaps next year. Companies will still need to rent office space, people will still need to live in a house. People still need to eat and buy toilet paper and other basic goods and all these items will be supplied by companies. People will still want to watch Netflix or Disney streamed shows (perhaps more so now as they're at home more). People working from home will increase demand for cloud services. No doubt there is also an increased demand for healthcare and companies which supply medical equipment and medicines will benefit from that demand. We can go on. Demand is not going to be zero!
- 3) There is a floor on equity prices but calling it is impossible. It requires a managed and measured approach to taking risk. For clients of ours long cash or in moderate risk portfolios (which hold safe-haven US Treasuries) we're moving into more equity during this correction, but slowly and cautiously.

Our Diversification and Metrics of our Equity Exposures

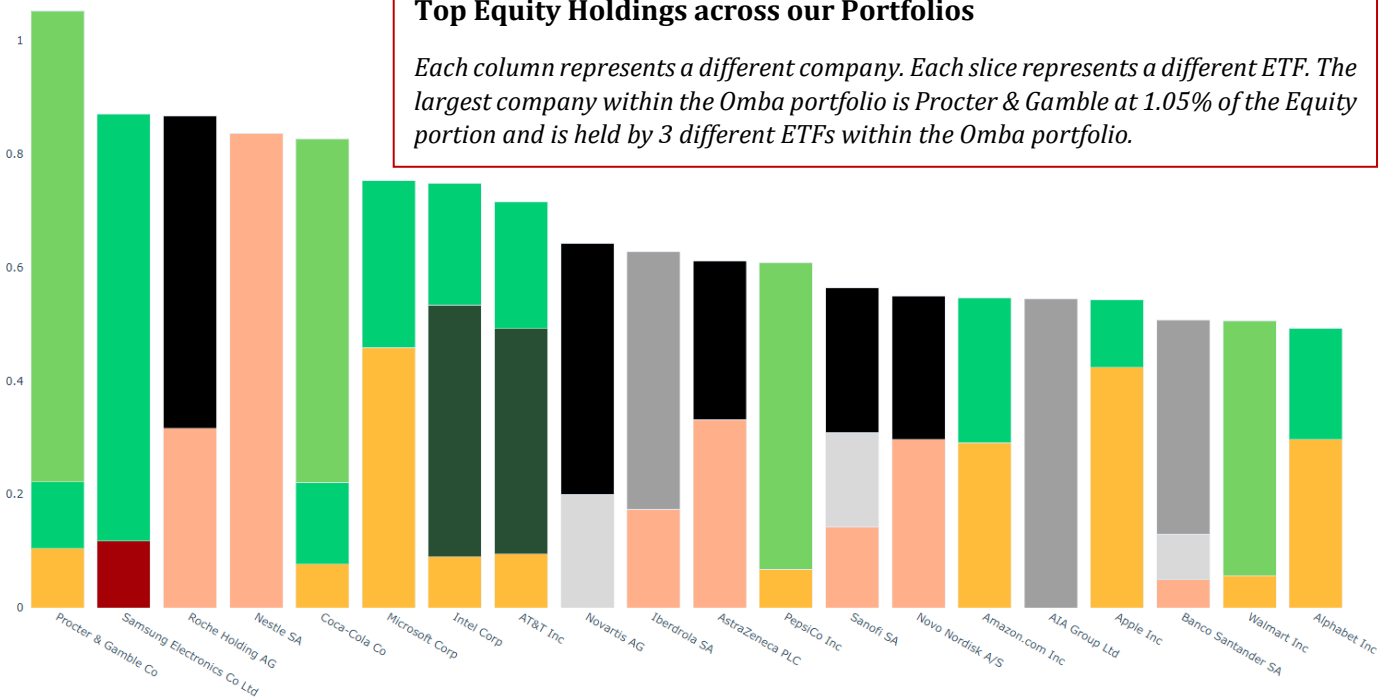
Top Holdings within our Equity ETFs

Each column represents a different Equity ETF. Each slice represents a different company within each ETF. Only the largest 500 companies are shown, highlighting the diversification in our equity portfolios.



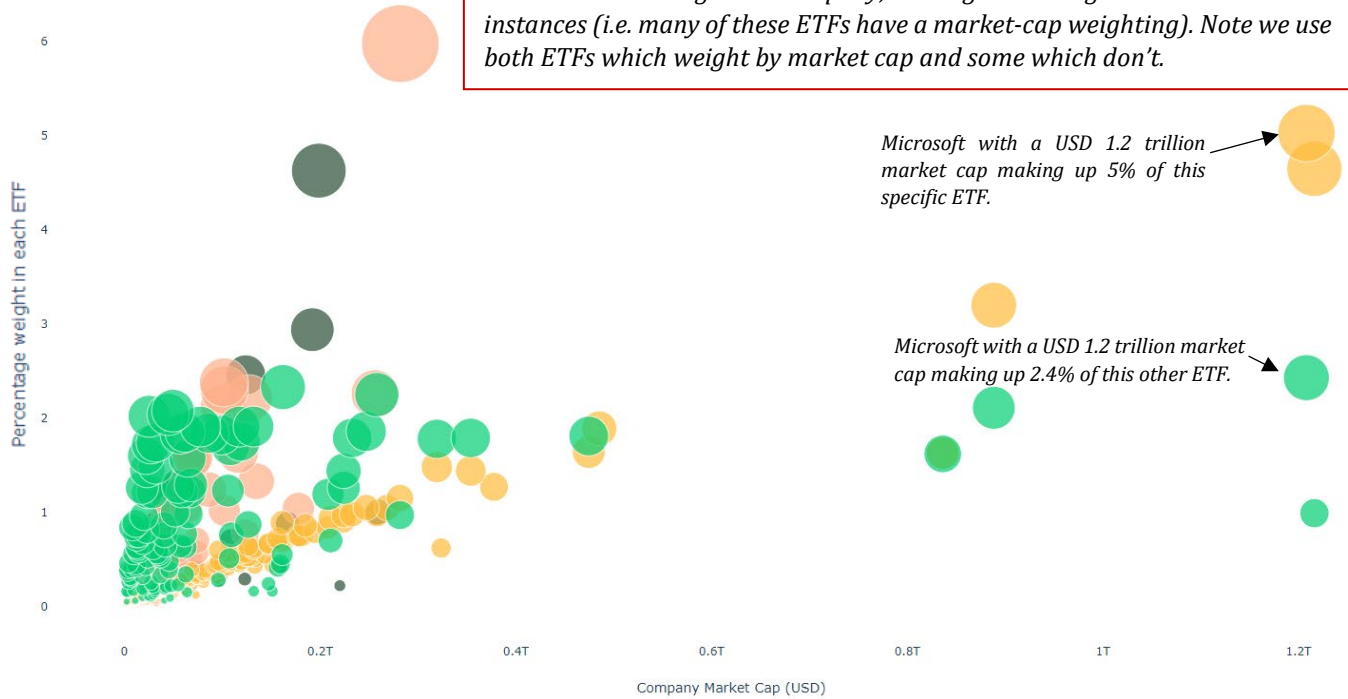
Top Equity Holdings across our Portfolios

Each column represents a different company. Each slice represents a different ETF. The largest company within the Omba portfolio is Procter & Gamble at 1.05% of the Equity portion and is held by 3 different ETFs within the Omba portfolio.



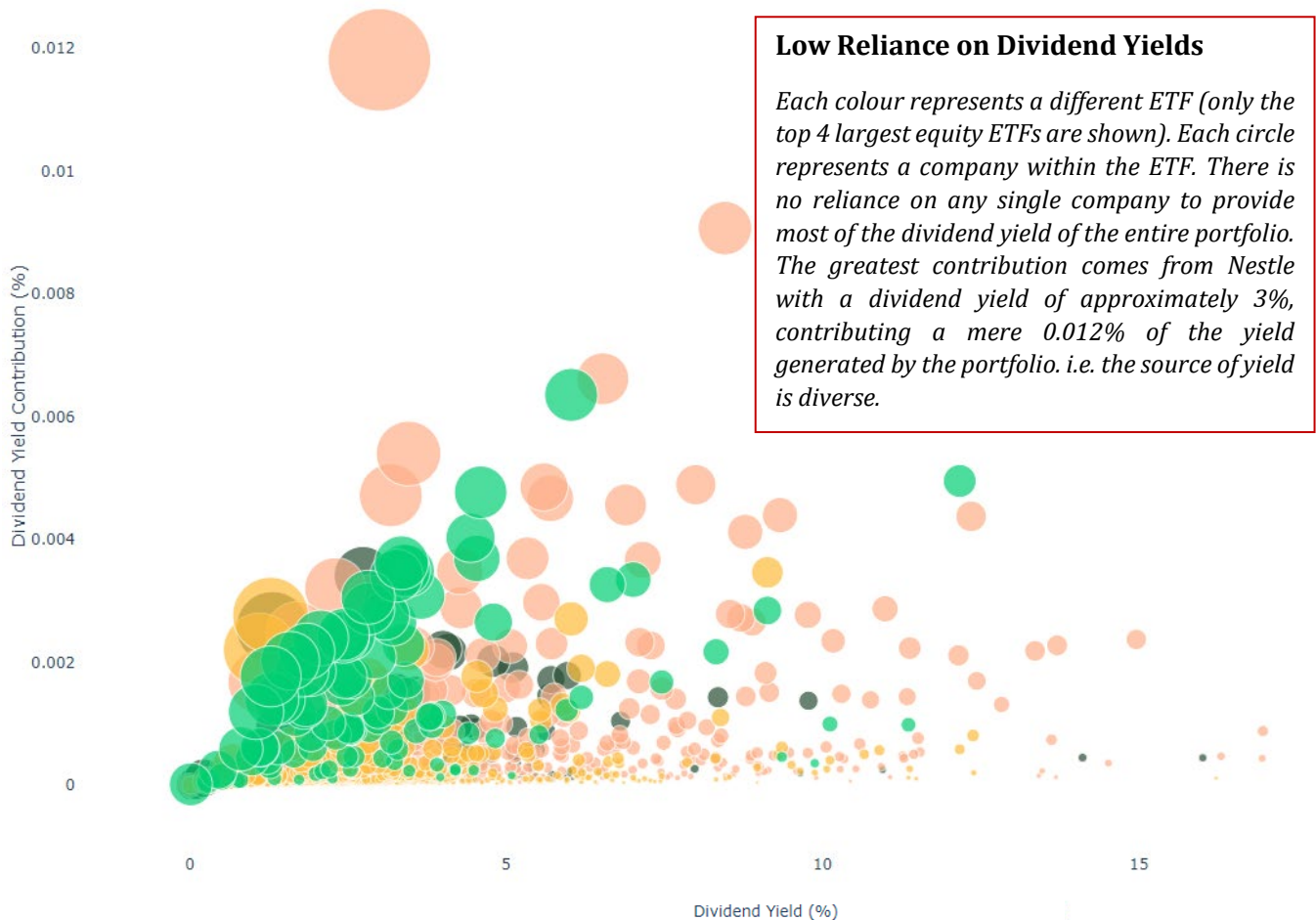
Exposure to Companies of different sizes

Each colour represents a different ETF (only the top 4 largest equity ETFs are shown). Each circle represents a company within the ETF. Each ETF is notably diverse with the larger the company, the larger the weight in the ETF in these instances (i.e. many of these ETFs have a market-cap weighting). Note we use both ETFs which weight by market cap and some which don't.



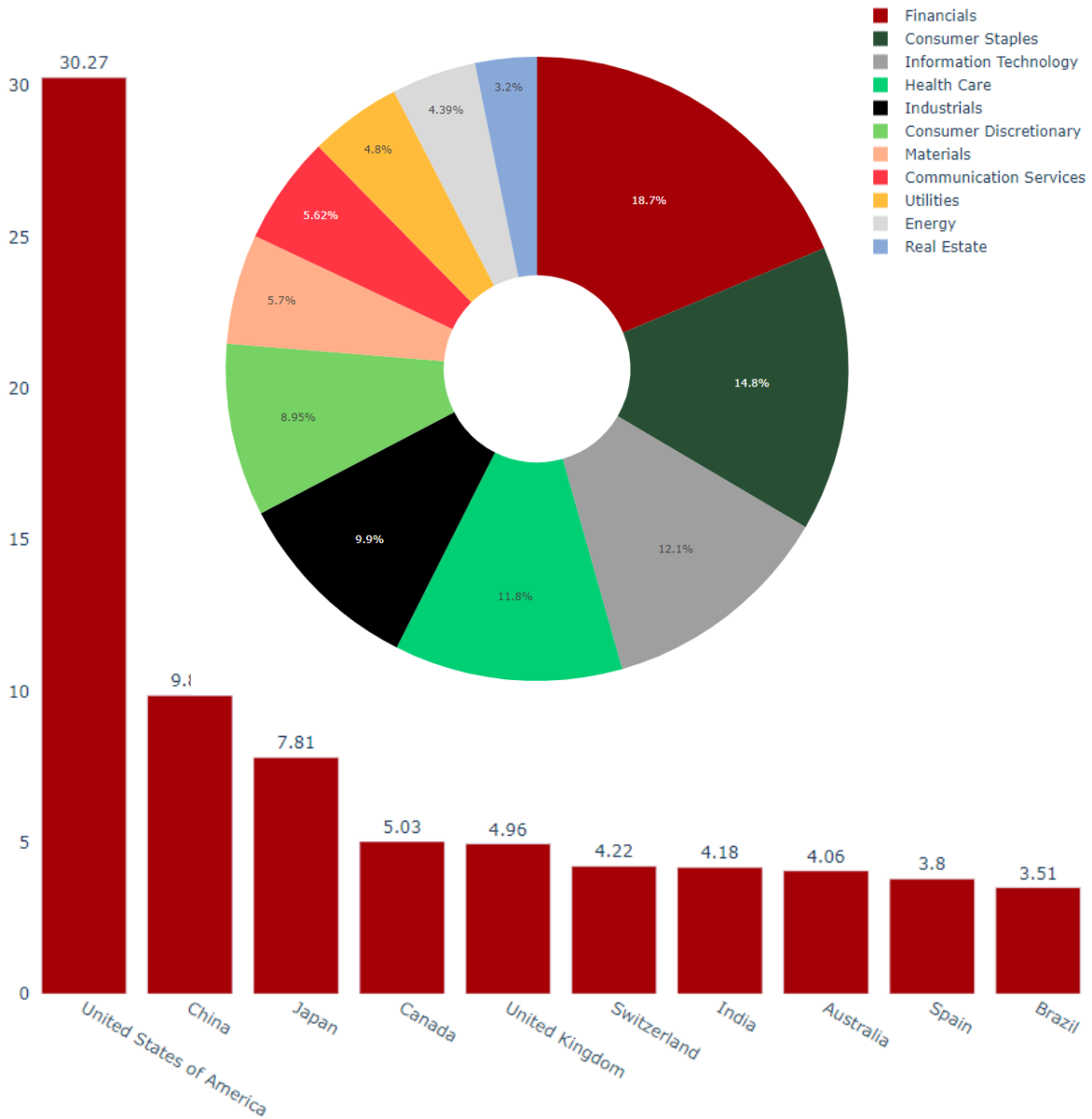
Low Reliance on Dividend Yields

Each colour represents a different ETF (only the top 4 largest equity ETFs are shown). Each circle represents a company within the ETF. There is no reliance on any single company to provide most of the dividend yield of the entire portfolio. The greatest contribution comes from Nestle with a dividend yield of approximately 3%, contributing a mere 0.012% of the yield generated by the portfolio. i.e. the source of yield is diverse.



Top 10 Countries and Sector Exposure for the Equity portion of the Omba portfolio

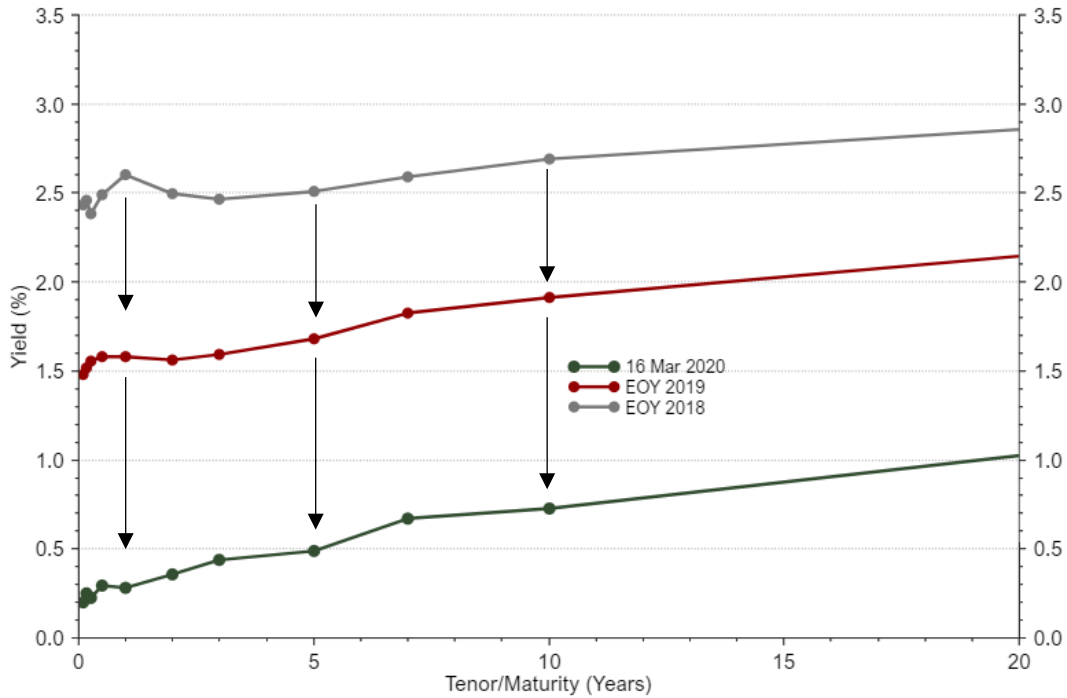
Approximately 30% of the portfolio is headquartered in the US, with 18.7% being in the Financials sector (which comprises Banks, Insurers and other Capital Market entities).



US Treasuries

We often have questions from clients relating to why we hold US Treasury Bonds in our Moderate and Aggressive risk portfolios when yields are so low. Due to the strong shift in US yields downwards as can be seen in the first chart below, the performance of US Treasuries during this crisis has been markedly positive. The charts speak for themselves.

The US Treasury Yield Curve over Time



Source: Refinitiv Datastream - 17/03/2020

Performance of two US Treasury ETFs



Source: Refinitiv Datastream - 17/03/2020

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Volatility and Price Moves

To illustrate the magnitude of the recent volatility, we look at daily price returns across a variety of assets stretching back to early 2019. We format the two grids below using a consistent colour grading to identify the magnitude of daily returns optically. The period since late February 2020 has been zoomed into in the lower section as it covers the period of recent volatility.

Measures of “regular” volatility differ between asset classes and benchmarks, but we focussed on the S&P 500 due to its longer history of high-quality data. Interestingly, the S&P 500 finished last week with two back-to-back swings in excess of 9% - the largest two-day swing ever recorded when considering S&P 500 data stretching back to 1960. The last time broader US stocks fell 9% then recovered 9% over two consecutive sessions was in 1931 amid the throes of the Great Depression – a time which predates the existence of the S&P 500 benchmark. As you can see below, the S&P 500 swung over 4% each day for 5 days (9–13 Mar 2020) – a pattern which hasn’t been seen in US stocks since 1929!

Daily Price Returns		1-29 Mar 2019	1-30 Apr 2019	1-31 May 2019	3-28 Jun 2019	1-31 Jul 2019	1-30 Aug 2019	2-30 Sep 2019	1-31 Oct 2019	1-29 Nov 2019	2-31 Dec 2019	1-31 Jan 2020	3-28 Feb 2020	Mar
MSCI ACWI	USD													
MSCI EM	USD													
S&P 500 - USA	USD													
Stoxx 600 - Europe	EUR													
Topix - Japan	JPY													
CSI 300 - China	CNY													
Russell 2000	USD													
FTSE 100 - UK	GBP													
DAX - Germany	EUR													
CAC 40 - France	EUR													
JSE Top 40 - S. Africa	ZAR													

Daily Price Returns		13 Feb	14 Feb	17 Feb	18 Feb	19 Feb	20 Feb	21 Feb	24 Feb	25 Feb	26 Feb	27 Feb	28 Feb	02 Mar	03 Mar	04 Mar	05 Mar	06 Mar	09 Mar	10 Mar	11 Mar	12 Mar	13 Mar
MSCI ACWI	USD	-0.2%	0.1%	0.0%	-0.5%	0.4%	-0.5%	-0.8%	-3.0%	-2.3%	-0.6%	-3.3%	-1.8%	3.1%	-1.2%	2.7%	-2.0%	-2.0%	-7.1%	2.7%	-3.6%	-9.5%	5.3%
MSCI EM	USD	-0.3%	0.0%	0.2%	-1.1%	0.7%	-0.8%	-1.0%	-2.7%	0.1%	-1.3%	-1.2%	-2.4%	1.1%	1.1%	1.0%	0.1%	-2.6%	-6.3%	1.8%	-1.9%	-6.7%	0.9%
S&P 500 - USA	USD	-0.2%	0.2%	na	-0.3%	0.5%	-0.4%	-1.1%	-3.4%	-3.0%	-0.4%	-4.4%	-0.8%	-4.6%	-2.8%	-4.2%	-3.4%	-1.7%	-7.6%	-4.9%	-4.9%	-9.5%	9.3%
Stoxx 600 - Europe	EUR	0.0%	-0.1%	0.3%	-0.4%	0.8%	-0.9%	-0.5%	-3.8%	-1.8%	0.0%	-3.7%	-3.5%	0.1%	1.4%	1.4%	-1.4%	-3.7%	-7.4%	-1.1%	-0.7%	-11.5%	1.4%
Topix - Japan	JPY	-0.3%	-0.6%	-0.9%	-1.3%	0.4%	0.2%	0.0%	na	-3.3%	-0.7%	-2.4%	-3.6%	1.0%	-1.4%	-0.2%	0.9%	-2.9%	-5.6%	1.3%	-1.5%	-4.1%	-5.0%
CSI 300 - China	CNY	-0.6%	0.7%	2.2%	-0.5%	-0.2%	2.3%	0.1%	-0.4%	-0.2%	-1.2%	0.3%	-3.5%	3.3%	0.5%	0.6%	2.2%	-1.6%	-3.4%	2.1%	-1.3%	-1.9%	-1.4%
Russell 2000	USD	0.3%	-0.4%	na	-0.2%	0.5%	0.2%	-1.0%	-3.0%	-3.5%	-1.2%	-3.5%	-1.4%	2.8%	-2.1%	3.0%	-3.4%	-2.0%	-9.4%	2.9%	-6.4%	-11.2%	7.8%
FTSE 100 - UK	GBP	-1.1%	-0.6%	0.3%	-0.7%	1.0%	-0.3%	-0.4%	-3.3%	-1.9%	0.4%	-3.5%	-3.2%	1.1%	1.0%	1.4%	-1.6%	-3.6%	-7.7%	-0.1%	-1.4%	-10.9%	2.5%
DAX - Germany	EUR	0.0%	0.0%	0.3%	-0.7%	0.8%	-0.9%	-0.6%	-4.0%	-1.9%	-0.1%	-3.2%	-3.9%	-0.3%	1.1%	1.2%	-1.5%	-3.4%	-7.9%	-1.4%	-0.4%	-12.2%	0.8%
CAC 40 - France	EUR	-0.2%	-0.4%	0.3%	-0.5%	0.9%	-0.8%	-0.5%	-3.9%	-1.9%	0.1%	-3.3%	-3.4%	0.4%	1.1%	1.3%	-1.9%	-4.1%	-8.4%	-1.5%	-0.6%	-12.3%	1.8%
JSE Top 40 - S. Africa	ZAR	0.1%	0.0%	0.6%	-0.8%	0.4%	-0.2%	-0.9%	-4.5%	0.0%	0.4%	-3.0%	-4.5%	na	4.0%	-0.2%	0.1%	-1.8%	-6.6%	1.3%	-0.8%	-9.9%	-0.2%

In the next table we show the number of days when the S&P 500 moves up or down more than 3% and 5% when the VIX is in different bands since 2 Jan 1990. The VIX is a US volatility index that measures the implied volatility of the S&P 500. Implied volatility is a measure of investors’ expectations of future volatility and is based on the cost of hedging the S&P 500 using options contracts.

This table considers 7,606 trading days for the S&P 500 since the start of 1990. We further divide the data into different “regimes” whereby the 5dma (day moving average) of the VIX CBOE Volatility Index is bucketed into 10-point intervals. We then consider swings in excess of 3% and 5% on a close-on-close basis and draw conclusions about frequency. Data about 5% swings is clustered separately from data about 3% swings. The VIX 5dma is at 63.44 points as of the 16 March 2020 close (compared to the outright close of 82.69 points).

		When Considering Values for the VIX 5dma									
		0≤ & <10	10≤ & <20	20≤ & <30	30≤ & <40	40≤ & <50	50≤ & <60	60≤ & <70	70≤ & <80	80≤ & <90	TOTAL
All days	Day count in Regime	58	4'826	2'134	424	109	20	28	7	0	7'606
	% of All Days	1%	63%	28%	6%	1%	0%	0%	0%	0%	100%
5% swings	Day Count with >5% Swings	0	0	2	7	7	6	7	4	0	33
	Frequency of >5% Swing within Regime	0%	0%	0%	2%	6%	30%	25%	57%	na	0.43%
	% of Total Count of >5% Swings	0%	0%	6%	21%	21%	18%	21%	12%	0%	100%
	Of >5% swings, Days to Downside	0	0	2	4	5	4	5	1	0	21
	% of 5% Swings which were to Downside	na	na	100%	57%	71%	67%	71%	25%	na	64%
3% swings	Day Count with >3% Swings	0	10	48	59	27	7	17	4	0	172
	Frequency of >3% Swing within Regime	0%	0%	2%	14%	25%	35%	61%	57%	na	2.26%
	% of Total Count of >3% Swings	0%	6%	28%	34%	16%	4%	10%	2%	0%	100%
	Of >3% swings, Days to Downside	0	10	28	27	15	4	9	1	0	94
	% of 3% Swings which were to Downside	na	na	58%	46%	56%	57%	53%	25%	na	55%

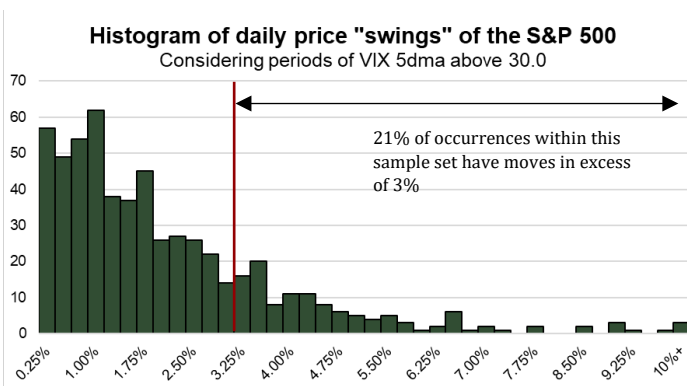
Source: Refinitiv



As you can see, the vast majority of trading days (6,960/7,606 days since 2 Jan 1990 or 92%) occur in a “normal” regime which can be defined by the VIX 5dma bound between 10 points and 20 points. Swings greater than 3% are rare (only occurring 172/7,606 days or 2.26%) but swings greater than 5% are rarer still (only occurring 33/7,606 days or 0.43%). As you can see, there were only 2/33 trading days in which >5% swings occurred in “normal” implied volatility regime while the other 31/33 occurred when VIX was elevated above 30. In fact, the higher the implied volatility on S&P 500 options the greater the occurrence of big swings (>3% moves). Further, big >5% moves are more common than small moves (less than 3%) during volatility regimes in which the VIX 5dma is between 70 points and 80 points. The table shows us that the majority (57%) of trading days within this 70-80 points “high volatility” regime post a swing in excess of 5% (4/7 days). However, keep in mind that this regime is exceptionally rare as there have been only 7 days in which the VIX 5dma was defined by this regime.

The key take-away is that while a high volatility regime is rare, one must expect large daily swings during such times due to the increased uncertainty. While the count of large >5% swings are stable across differing volatility regimes moving from left to right columns (at around 7 occurrences), the percentage likelihood of a big move dramatically increases as investors price-in higher implied volatility (ranging from 2% of occurrences in a 30-40 point regime to 57% of occurrences when the VIX 5dma is 70-80 points). **Investors should brace for continued elevated volatility if the VIX continues to hold at these historically high levels.**

We also highlight the symmetry of volatility in driving large upwards movements as well as downward movements. Despite “volatility” often being viewed as the counterpart to increased risk and uncertainty (and rightly so), the data above shows us that large rebounds are nearly as common as large falls. While the catalyst for elevated volatility will often be a panic-driven correction, we see that only 55% of all >3% swings were actually 3% moves to the downside. That means, almost as often as not, higher volatility means greater swings higher. This is an optimistic fact to remember in times of such harsh volatility.



The histogram on the left counts the frequency of occurrences of daily swings of the S&P 500 when bucketed into 0.25% intervals. Daily “swings” refer to the magnitude (or absolute value) of the daily return and does not account for the direction of the move. The data considered only accounts for periods in which the VIX 5dma was greater or equal to 30.0 points – or what we regard as a “high volatility” regime. The data suggests that, for the considered sample, the most common (or modal) occurrence was a return which can be bucketed into the 0.75%-1.0% at a count of 62. We can also see a degree of “tailedness” as high-magnitude outliers do appear in the data.

Although the histogram does not indicate the direction of these large moves, the table above suggests that they may be more evenly split between up-moves and down-moves than one might expect without conducting the previous analysis.



Behavioural Finance Considerations

Below we outline a few behavioural finance biases which impact investor behaviour, often more so in times of crisis.

Myopia and loss aversion - "Myopic loss aversion occurs when investors take a view of their investments that is strongly focused on the short term, leading them to react too negatively to recent losses, which may be at the expense of long-term benefits (Thaler et al., 1997). This phenomenon is influenced by narrow framing, which is the result of investors considering specific investments (e.g. an individual stock or a trade) without taking into account the bigger picture (e.g. a portfolio as a whole or a sequence of trades over time) (Kahneman & Lovallo, 1993). A large-scale field experiment has shown that individuals who receive information about investment performance too frequently tend to underinvest in riskier assets, losing out on the potential for better long-term gains (Larson et al., 2016)".¹

Negativity bias - This is the notion that, even when of similar intensity, things of a more negative nature have a greater impact on one's psychological state and processes than positive things. Generally positive things will have less of an impact on one's behaviour than negative ones. The negativity bias has been studied within many different domains including risk considerations. As pertains to investing, an investor who had recently suffered a loss (negative event) and who was told they had an equal probability of gaining 20% or losing 15% on their investments could be biased towards the negative outcome and avoid the opportunity for a positive one. Interestingly, voting behaviours have been shown to be more affected or motivated by negative information than positive information: people tend to be more motivated to vote against a candidate because of negative information than they are to vote for a candidate because of positive information.²

Herd bias - Also known as the 'bandwagon effect', is a psychological phenomenon in which people rationalise that a course of action is the right one because 'everybody else' is doing it. In the world of investment, this can take the form of panic buying or selling. When many people are selling and panicking it causes more investors to do so as they "jump on the bandwagon".

Anchoring - This is a bias where individuals depend too heavily on an initial piece of information offered (considered to be the "anchor") when making decisions. An example of this now might be investors prior experience in the Global Financial Crisis of 2008/9 where many developed markets fell more than 50% from peak to trough. They have this memory front of mind and are anchored to the prior drawdown number as a possible or probable outcome now. They might also be anchored to a recent price of a stock, bond, country or regional index and instead of looking at the position objectively based on the data they believe it might return to that prior level or fall to a previous recorded low.

Confirmation bias - This is a bias where investors seek out or interpret information that supports their existing market beliefs. For example, in the current period people who have become particularly negative and believe the world is about to fall apart and markets are going to fall further seek out information in the press or elsewhere which supports their negative view. This causes potentially more irrational, inadequately informed behaviour resulting in further selling. Their view is not balanced by positive information which might assist the formation of their view. i.e. they are ignoring facts that could help them make smarter investment choices.

Mental Accounting - This is the process whereby people categorise and evaluate economic outcomes in terms of mental accounts. They bucket their spending and assets into separate categories. Like many other cognitive processes, it can prompt biases and systematic departures from rational, value-maximising behaviour. Understanding the flaws and inefficiencies of mental accounting is essential to making good decisions and reducing human errors. As pertains to times like these people might fail to look at their holistic balance sheet which might include less risky assets like bonds and cash held away from portfolios being managed. They might exclude their properties and physical assets in consideration of their overall exposures. In order to avoid making judgement errors investors should try look at the entire balance sheet and total income and expenditures and not bucket them as they'll then have a better perspective on exposures and risk in aggregate and can thus make more informed decisions about whether to increase risk in these times or de-risk.

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Conclusion

Our overall view is that this sell-off presents an opportunity for investors who are underinvested to begin investing into risky assets. We can't call the bottom of this market. It might have occurred yesterday, and it might be 3-6 months or longer away. For long term investors who have a time horizon exceeding 5 years we're confident now is an entry point many will wish they had acted upon similar to buying in 2009 when it felt like the world was falling apart. We're slowly and cautiously rotating from well-performing government bonds to more equity for our clients and will continue to do so over coming weeks. As Warren Buffet the famous investor has previously said, "*Be Fearful When Others Are Greedy and Greedy When Others Are Fearful*" – easier said than done but we share his sentiment.

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¹ <https://www.behavioraleconomics.com/resources/mini-encyclopedia-of-be/myopic-loss-aversion/>

² Klein, Jill G. (1991). "Negativity effects in impression formation: A test in the political arena" (PDF). *Personality and Social Psychology Bulletin*. 17 (4): 412–418. doi:10.1177/0146167291174009. hdl:2027.42/69102