



Crash and learn...

After the Covid pandemic wiped millions off share prices in March 2020, Opto magazine commissioned me to write a history of other recent stock market crashes, how they happened and their winners and losers.

THE build-up to the Great Depression was three years. We saw the 2008 crash coming from about the same distance. But coronavirus had the same impact – around 30% wiped off the market – in just three weeks. To say the world has been shocked is an understatement.

As the virus spread around the world, the FTSE had eight years of gains wiped out in a month, plunging from 7,403 on February 21 to 4,993 by March 23, its lowest level since 2011. The Dow Jones crashed from a record high of 29,568 on February 12 to 18,591 by March 23, including a 20% drop in 20 days – 16 sessions faster than the Great Crash of 1929. The S&P500, which over the past half-century has taken an average 336 days to lose 30% of its stock, this time managed that in 30 days. Coronavirus has therefore caused, by some distance, the fastest freefall into a bear market in history.

And all this on top of a continuing global economic slowdown and just as sharp a downturn in oil prices – international benchmark Brent recently suffered its biggest one-day drop since the 1991 Gulf War, precipitated by a Russia-Saudi Arabia supply and demand row and compounded by the expected lower demand for fuel that the virus will inevitably bring.

But despite all this, it's not the plunge that's rocking investors' boats so much as the unprecedented volatility. At one point on Thursday, March 11 the Dow had fallen 3,000 points, its worst single day decline since 1987 but by close of play Friday had regained two-thirds of that – only to shed a further 3,000 points on the following Monday.

This rollercoaster pattern was repeated across the world – in the same three-day period the S&P500 lost 10%, gained 9% and lost 11% and the Australian S&P500 shed 8%, regained it and collapsed 9.5%. The Nikkei fell 17%, then rallied 14% in the next 48 hours before falling again.

So how can investors possibly ride these waves? Of course we've seen crashes before, and volatility before. The smartest investors survived Black Monday in 1987, the dot.com crash of the early 2000s and the global financial crash of 2008, and lived to tell the tale. The Covid crash is, however, a crisis of a different order, according to downside risk management expert Aymeric Forest.

"The amplitude of Covid 19's impact on the markets is comparable to previous shocks," he says. "But what's interesting in this case is that this is affecting the real economy. Previous shocks started within the financial industry or were brought on by particular political events, such as the energy crisis. This time it's not political or financial action that has caused it. There's also the speed of this bear market. There are now a lot more interconnected contagion channels in a world where usage of leverage is a lot more common and the amount of debt has continued to accumulate since the great financial crisis. That's created vulnerability, so this correction has moved very, very quickly from real economy to become a liquidity crisis and to become now a solvency crisis."



The speed and nature of response also makes this different, adds Forest, global head of multi-asset solutions at Aberdeen Standard Investments. "Central banks and now governments are willing to do anything it takes to sort it out, and the response has been extremely quick. The problem is the nature of the crisis is a virus so it's not something that will necessarily will be sorted out by fiscal and monetary policy."

Kylie-Anne Richards, a lecturer in financial discipline at the University of Technology in Sydney, agrees. "Previous shocks had a lead-in time," she says. "There were underlying economic or social processes that had built up a situation that then proved ultimately to be impossible to sustain. But there was none of that in the bubble that preceded this coronavirus crash. Although, there was ultra-easy monetary policy, including quantitative easing. However, with rates across the world so close to zero, and in some cases negative, it becomes increasingly difficult for banks to tame the turmoil by taking the usual route of cutting interest rates."

But while the events leading up to the Covid crash were more fast-moving and arguably less controllable than previous shocks, we can still take some lessons from history – and those whose strategies and prescience enabled them to swim their way out of this whirlpool. Over the next few pages we look at how investors survived before – and what those strategies can teach us now...

Black Monday – October 19, 1987

"Earlier on today, apparently, a woman rang the BBC and said she heard there was a [hurricane](#) on the way. Well, if you're watching, don't worry, there isn't!"

Weatherman Michael Fish's infamous words on October 15, 1987 lulled the UK into a false sense of security – only for the nation to be battered within hours by what became known as "the storm of the century".

Just days later world's stock markets were savaged by another storm just as brutal, and for many, as unpredictable – Black Monday. Prices had begun to slide on Wall Street at the end of the previous week,



but London's Stock Exchange had been shut on Friday by storm damage and the travel disruption caused by Fish's "non-existent" hurricane – so the shock to the FTSE was accelerated when exchange reopened after the weekend.

"On Monday, the FTSE opened lower as it caught up with lost trading, but then it just kept falling," recalls Jeff Keen, of Waverton Investment Management.

"Face-to-face share trading between

relatively rational human beings had been replaced by computers, so investors and dealers watched helplessly as screens turned red, and a year's worth of gains disappeared in minutes."

While the scale of the crash was unexpected, many analysts had feared a bursting of the bubble that had been growing throughout the 1980s. The previous five years in the UK had seen Margaret Thatcher's Conservative government fulfil its promise to "extend as widely as possible" the public's opportunities to build up capital by privatising a swathe of British industries, including Jaguar, BT and BP. The so-called "Big Bang" of 1986 saw the London market deregulated and switch to electronic trading. Costs of trading fell, fired by huge competition between financial institutions, and private individual share ownership soared. All this helped the UK stock market surge in the six months to July 1987 by 47%.

Meanwhile, across the pond all the major US indices hit record levels in August but through the late summer the numbers began to fall, affected by tensions in the Persian Gulf, a fear of higher interest rates and a growing feeling that the five-year bull market must correct eventually.

And when it did, so spectacularly, many blamed Black Monday itself on recently introduced program-trading, by which computer software still in its relative infancy would automatically buy or sell as prices went up and down. In theory, this was a good thing – automatic portfolio insurance algorithms meant as soon as a low threshold was reached, that would trigger the software to sell. In practice it meant they did so without either hesitation or, crucially, instinctive human understanding of why prices were moving the way they were. These automatic programs then proved impossible to halt – and as prices entered the resulting unstoppable freefall, they sparked investor panic.

"With the London Stock Exchange closed by the storm, investors had to carry their positions throughout the weekend because they couldn't square them on the Friday," recalls Schoders equities fund manager Andrew Rose. "Traders had bought portfolio insurance and investors thought it was a free lunch, that losses would be limited. But everyone was a seller and no one was a buyer when markets went into freefall on Monday morning. The automated mechanism of selling at a certain price actually exacerbated the issue. Ironically, if they hadn't taken out this sort of insurance then markets might never have fallen as much as they did."

Darius McDermott, of fund shop Chelsea Financial Services, agrees the computer trading played a big part. "Why did it happen? Stocks in an already overvalued market were falling because of a slowing US economy, Iran attacks on American ships and falling oil prices – and these factors were then compounded by computer trading, which in turn sparked panic."

That month all 23 major world markets lost between 20 and 30%, three of them – Hong Kong, Australia and Singapore – by more than 40%.

"Our mouths were wide open, our jaws were hitting the desk," later recalled Peter Borish, who at the time was second in command at US hedge fund Tudor Investment Corp.

But there were winners, and Tudor was arguably the biggest after its founder Paul Tudor Jones had seen the crash coming eight months out. "There will be some type of decline," he predicted in February 1987, "without a question, in the next 10 months and it will be earth-shattering, sabre-rattling."

Throughout the summer Borish and Jones ran their own computer models based on the 1929 crash, noting any comparisons and at the start of October, Tudor raised more than a few eyebrows as it began actively to trade against the market. "For 130 years all commodity futures had limits," he later recalled. "Because they knew the irrationality of human nature and the possibility of what a mob can do. But by 1987 there were no limits on any financial futures – it was obviously an absolute accident waiting to happen. You could see on any historical metric that the stock market was stupidly overvalued."

By the end of Black Monday, Tudor had cleaned up with \$100million. "Fear always trumps greed," recalled Borish, "and fear was at its maximum point then, so when people are fearful, rationality goes out the door and they just start selling."

It took the FTSE 648 days to return to the same level as the day prior to the crash, according to data from fund shop AJ Bell. But there was money to be made in the aftermath – if you timed it right.

"In October 1987 there were three single-day crashes of at least 5%," says Nicholas Colas of DataTrek Research. "Buying the first one would have cost investors 10% over the next three months – yet buying the second and third would have brought a 12.4% overall gain. It's a pattern replicated in shocks in 2000 and 2008 – and therefore investors need to decide whether the current crisis is the true end of the bull market or a natural correction that will settle down."



As for lessons learned – soon after the crash, so-called "circuit breakers" were implemented preventing the automated downward spiral happening again. Some of the escape routes that were in existence then seem not so appealing now – bonds were returning 10.2% in 1987. Yet they should still be considered, says Forest – especially as no-one has any idea how long the current situation will last. "Investors should look more towards active diversification," he advises. "A 30-year bond that returns only 1% can still be useful in your portfolio. An active risk mitigation approach could be useful and just

buying and holding may not be sufficient."

Most analysts and fund managers look back on Black Monday 1987 as a blip that eventually ironed itself – within two years the markets had fully recovered – with Keen recalling it as a "valuation correction, rather than a harbinger of economic recession". Tom Stevenson, investment director for personal investing at Fidelity, said anyone looking back at Black Monday through today's lens "might wonder what all the fuss was about", adding: "Those few days now seem like no more than a stumble in the market's relentless long-term rise. Even the unluckiest investors, one who invested just before the crash, would still have made positive returns over the long term."

However, argues Forest, it's difficult to compare 1987 with the Covid crisis. "We've been used to volatile events which have been short-lived and manageable, which makes it very difficult for risk mitigation strategy to deliver effectively. So it was buy and hold, a small bit of volatility with strong intervention.

Thirty years ago, 20 years ago, we had volatility that was closer to the long-term average for equity markets. I think investors have to understand that this decade will be different.”

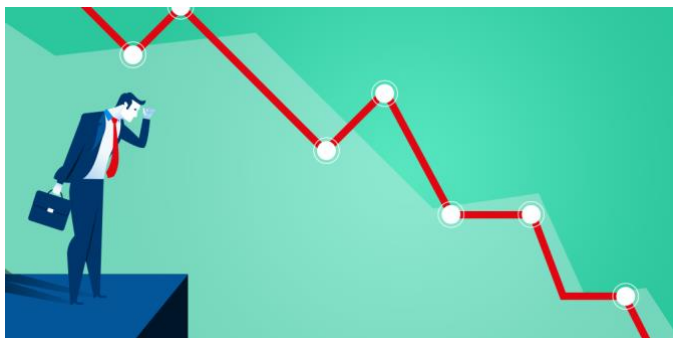
The dot.com crash – 2000

It’s just over 20 years to the day since Nasdaq hit a lofty, tech-fuelled peak of 5,048.62. The index’s weight towards internet companies had attracted a flood of investors and traders who truly believed that as long as a stock name had an “e” at the start or a “.com” at the end, it was a certainty to make them a fortune. The world – that is, the worldwide web – was their oyster.

But just one month later the Nasdaq had lost 34% of its value. By the autumn of 2002 it was dragging along the bottom at 1,114.11, having shed an extraordinary 80% of that post-millennial euphoria.

“Investors had been lulled into having enormous expectations,” recalls Gary Reynolds, Chief Investment Officer at Courtiers Investment Services. “They didn’t just hope, they expected to make loads of cash. I made 17% for an investor in 1999, which I was really pleased with. But then showed me his own personal selection of tech companies which he said had made 60% and told me he could do much better than me. Sadly for him, in 2000 most of the stocks he’d chosen went bust.”

The dotcom bubble had grown out of a global fantasy of what the internet might bring – and crucially, a manic fear from investors that they had to buy into something or miss out on the whole revolution. In a kind of mass hypnosis, venture capitalists were so sucked into the tech hype that they eschewed



traditional valuation methods such as whether a company was making a profit – indeed, most of them weren’t – but were happy to throw money to grow a business quickly enough to corner the market and race to an IPO that would provide the VCs with a speedy and lucrative exit strategy. Whether or not a company was making a profit, effective cash flow or even, in the most extreme cases, even a finished product, did not matter, as long as it could

market itself effectively as the next big thing. It was to be a “new way of doing business” from a new type of entrepreneur, so new they even dressed differently: tieless, even shoeless – but many, it turned out, ultimately clueless.

“If investors’ approaches been more traditional and they’d done proper due diligence, they could perhaps have focused on the true business efficiencies that we now know come from trading online,” says Reynolds. “And they could have grown into sustainable businesses as a result. But that wasn’t how you did it back then – it somehow became much cooler to throw away the rule book. But of course it didn’t last.”

By 1999, 39% of VC inflow to the Nasdaq came to tech firms and 60% of IPOs were related to internet companies. It helped that there was money to invest – central banks had freed up liquidity, partly (certainly in US Federal Reserve chairman Alan Greenspan’s case) to offset the presumed cost of what turned out to be another white elephant, the Y2K bug. “It was a combination of easy capital, overconfidence and, as it usually is, greed,” says Reynolds.

The peak of ambition came just after New Year when dotcom poster boy AOL announced a \$165billion takeover of steady-eddie corporate entertainment giant Time Warner. Although many analysts were wary of the gleeful photo-op smiles and handshakes, even they couldn’t have foreseen the jarring culture clash between the two firms would within weeks make this one of the most spectacular merger failures in corporate history.

The crash was sparked in February when, with the threat of Y2K disruption vanished, Greenspan raised interest rates – which immediately exposed just how overstretched the dotcom market was. On March 10, the very day of the Nasdaq peak, computer giants Dell and Cisco began to offload stocks and three days later Japan entered a recession, sparking a sell-off of its tech firms which then spread around the world.

The highest profile casualty was, inevitably, AOL – within two years it had had to write off nearly \$99billion and its stock value tumbled from \$226bn to just \$20bn. There were however survivors, most notably eBay, Yahoo, Amazon – despite the latter's share price dropping from \$100 to just \$7 before famously rallying.



And again, savvier investors who weren't sucked in rode out the storm. Active management flourished – not surprising when it's remembered most of the crash came in the tech sector – and every UK equity income manager outperformed the FTSE All-Share index, most of them by largely avoiding the dividend-shy tech bubble altogether. The top performers in the first three years of this century read like a Who's Who of equities management – Anthony Bolton (17.02%, Fidelity), Carl Stick (Rathbone, 14.82%), Bill Mott (Credit Suisse, 12.51%)... and with 8.02%, a certain Neil Woodford.

The dotcom crash also launched the hedge fund boom, as investors became attracted to their ability – unlike mutual funds – to protect themselves by selling short or switching asset classes. As the S&P lost 9.1%, 11.9% and 22.1% in the three years up to the end of 2002, taking most mutual funds with it, hedge funds gained 4.9% and 4.6% before slipping a negligible 1.45% (*figures from Chicago research group Hedge Fund Research*). Hedge funds were suddenly the place to be and began to spring up everywhere – two years before the dotcom crash there were around 3,200 – by 2007 there were 10,000, with a total asset value of \$1800billion.

"Ironically of course in the current Covid crisis it is again the tech companies that we're more likely to have faith in," says Forest, "but with much more good reason this time. With everyone on lockdown and working from home, it is the web-based business models, the most successful of which are now very well established, that will undoubtedly thrive the most. Investors will find differentiation in those companies that show flexibility, enable it in others – they're the ones whose business, and stocks, will survive and thrive in the future."

The financial crash – 2007-08

In hindsight, the phrase "safe as houses" has a hollow ring to it now. The 49% wiped off the stock markets, the collapse of Northern Rock, Lehman Brothers et al was precipitated by a combination of low interest rates and reckless lending that allowed millions of Americans to buy homes they ultimately couldn't afford.

The subsequent record number of defaults and foreclosures led to a rapid devaluation of mortgage-backed securities, the market buyers for these securities disappeared and their values suddenly plummeted, leaving many of the world's major financial institutions that had invested in them exposed like never before.

In August 2007, just nine months after the US sub-prime bubble peaked, French bank BNP Paribas lit the fuse for the explosive chaos to come by terminating withdrawals from three of its funds, citing “a complete evaporation of liquidity”. Within months Blackstone Group, which managed the world’s biggest buyout fund, announced a 90% profit drop; Citigroup launched a £1bn bailout of six of its hedge funds; the \$22bn Carlyle Capital Corp mortgage fund collapsed; Bear Stearns received an emergency bailout. AIG, which had championed itself as the world’s leading insurer of leverage debt, saw its stock market value collapse and was bailed out by the US Federal Reserve. In the UK the government rescued Britain’s largest lender, HBOS by engineering a take-over by Lloyds. And most infamously of all, Lehman Brothers, America’s fourth largest bank, which had spent the last five boomtime years becoming a world leader in securitising sub-prime debt, got no such reprieve and went to the wall.



As central governments rushed to bail out the banks, credit controls tightened and investor confidence plummeted, sending stock markets crashing around the world. On Monday, October 6, 2008, £90billion was wiped off the value of Britain’s companies in the worst day of trading since Black Monday.

“In four days of frantic trading the UK stock market shed around 10 per cent of its value,” recalls Laith Khalaf, a senior analyst at Hargreaves Lansdown. “By Christmas it had lost almost a quarter of its value and almost six months later £10,000 invested in the FTSE All Share just before Lehman’s collapse was worth just £6,581. This was one of the most dramatic stock market falls in history.”

But again, there were winners. During the 2008 crash, shares in toy company Hasbro, makers of among other things My Little Pony, rose 16%. Car part retailer Autozone realised 18%, Walmart gained 17.4% and biotech firm Amgen rose 12%.

And although they are in apparently disparate sectors, they are linked, according to Hunter Anderson, analyst at US investment researchers New Constructs. “They all generated high ROICs going into the crisis,” he says. “Since the start of 2008 they all outperformed the S&P500. We get hung up on accounting earnings, but it’s worth investors doing research to base their judgement on a company’s ability to generate profit per dollar of capital spent by its management on its operations.”

According to New Constructs the current ROIC king is Mastercard, which returns a staggering 88 cents’ profit for every dollar invested. Next best are the techies – Apple, Facebook, Microsoft, all of which make around 30 cents’ for every dollar of capital. Indeed the tech sector as a whole is – unsurprisingly – leading the way, with 14.2%ROIC, followed by consumer goods, industrials and healthcare.

“This is not to say this is sustainable,” says Anderson. “But for investors in these strange and uncertain times, you need to look at the crucial elements that drive equity returns – don’t get distracted, focus on that.”

If anyone can ride out the current crisis, it’s Mark Spitznagel, founder of Miami hedge fund management firm Universa Investments. His (very successful) investment strategy is based almost exclusively around navigating the most severe market shocks.

“What the 2008 crash taught us is that monetary intervention is a Faustian bargain – short term gains but longer term pains,” he claims. “We really enjoy having a market that’s sandbagging us, so we feel for a long time like we’re smart, we’ve got an edge. And then, once we’ve upped our bets, the market shows us its real properties.”

And when it does, Universa is ready for them. Spitznagel, a former trading partner of Black Swan theorist Nassim Taleb, launched the fund in 2007 with the deliberate remit of performing capably enough during times of calm but vastly outperforming the markets in a crash. It worked – in 2008 it returned 100%. During a so-called market “flash crash” in August 2015 he made \$1billion in a week.

“We are insurance against systematic stock market crashes and crises in general,” he says. “It’s trying to make high returns through risk mitigation, like gold or bonds – except we deliver extreme crash bang for the buck.”

Spitznagel has variously described his risk mitigation strategy as “like gold on steroids” and “a volatility tax” but, while not divulging his specific secrets, suggests he spreads the mitigation as far as possible. “We take out insurance to prevent bad contingencies from happening. Our position is to lose very, very small amounts in times of calm, and cash in when the crashes come. There’s a (American football) cliché that offence wins games and defence wins championships – it’s very true in the realm of investing. The rate of compounds is all we care about, and it’s not the small losses that crush the rate of compounding, it’s the severe ones. So the first principle is always to secure your base.

“Modern portfolio theory sold us a bill of goods that if you lower your volatility through diversification, you’ll lower your arithmetic return. If you get that ratio going up then all is well, you can get some leverage and you’ll raise your long-run return. But we focus on the downside, mitigating that volatility tax. There’s a range of places you can do that in the derivatives markets. But you can’t just isolate one contingency, you need to be able to cover many of them. We can’t predict the future – so I never take a single entity counterparty risk. That’d be like buying Titanic insurance from someone who’s on the Titanic – not a great idea.”

Covid vs Other Pandemics

No-one yet knows how long Covid 19 will last – or how it will change us as a society, both of which factors will impact both the real economy and the stock markets.

However, the market can take hope from the course and legacy of previous pandemics. In the cases of Sars, sine flu, Ebola and Zika, a sharp initial stock market fall was very swiftly followed by a recovery.

For instance, according to figures by JP Morgan, when severe acute respiratory syndrome (SARS) pervaded Asia in 2003, the MSCI China plunged 8% but a month after the virus peaking was up 15%. Swine flu’s initial outbreak wiped 4% off values in its epicentre of Mexico but the market rose 16% four weeks after the crisis peak. Ebola made virtually no difference at all to African listings, and Zika’s adverse impact was negligible on the MSCI Brazil, which slipped 2% and three months later was up 35%.

Similar patterns are found in the last three pandemics to specifically hit Britain, says Reynolds. “Pandemics have historically hit economic activity hard, but for a very short period,” he says. “In the Spanish flu outbreak in 1918, UK shares overall rose 16.13%. Over the course of 1957, the year of Asian flu, UK shares dropped 6.82% and in 1968, the year of the last major UK influenza outbreak, UK shares rose 43.60%, but then fell 15.18% in 1969.”

Covid is different, of course. Unlike any previous virus, it’s having pretty much the same impact on the health and wealth of the entire world simultaneously – and, adds Reynolds, fear and uncertainty is also spread by today’s generation having little personal previous experience of pandemics. “Investors are simply not not accustomed to real, life threatening crises. The 1918 Spanish Flu came at the end of the First World War. In 1957, people would still have remembered the Second World War, and in 1968/69 they would have remembered the Asian Flu. No one under the age of 65 in this country is likely to remember much about any previous war or pandemic, and that makes us much more vulnerable to fear.

In a way, you could argue that investors simply don't have the "financial antibodies" to deal with a crisis of this nature."

Forest believes the current crisis is already teaching investors which are the businesses most likely to survive – and therefore worthy targets for their portfolios. "I think those businesses that have been flexible and have taken precautionary measures in the past and know how to adapt their business models will survive this liquidity crisis as well.

"We shouldn't underestimate the solvency risk. Investors will have to review the various business models, from banks to energy companies, financial services, retailers – Amazon is the obvious big winner – how they diversify, how they access their clients. That will have profound and dramatic impact on which stocks do well in the months to come."

But, says Forest, the longer the pandemic lasts, the more another question comes into play. "All the measures that have been taken have been taken in order to mitigate the liquidity and insolvency risk immediately. There is an economy growth impact that is immediate, so it's a big regime shift that's happening, and going back to normality will take time.

"So the test will be how much economy cost are we ready to accept, over a social cost. What is the social price versus the economy price? That will be the main challenge for politicians in the coming months or even in the coming weeks."

And in the meantime, he says, investors should keep an eye on the long-term view – but look at active diversification to cope with the legacy of Covid – which may leave us changed forever. And above all, not panic.

"In a crisis in the markets you need to become even calmer than normal," he says. "If you're an investor or a saver your time horizon is unlikely to be one or two months. You don't want to be a tactical trader. We've been used to contraction of volatility because since the great financial crisis we've had the help from some central banks to compress volatility. But that can't keep happening.

"So in this environment it means you may have to lengthen your time horizon. You may have to change your investment habits and implement a risk management strategy. Buying and holding may not be sufficient. Active management has been under fire for the past few years but that is likely to change."

Spitznagel believes the Covid crisis, while a singularly unique situation in its global societal impact, will not be the last crash we see – indeed, he predicts they'll get more common and more extreme. "I think we're going to continue to see deeper and deeper crashes," he says. "The degree of intervention gets incrementally higher with every shock. In some ways we're even still recovering from the dotcom crash."

There are already signs the markets are bouncing back. From March 23-26 the FTSE rose 16.4%, the S&P500 17.5% and the Dow 21.3% – sharp rises, but all three have been stable in the days since. And naturally in the current situation there are obvious go-to investment sectors– healthcare, technology and consumer staples – but the utter uncertainty around how long the virus will last is pointing managers, far more than in previous crashes, towards a much longer-term strategy. Says Keen: "Over the next couple of months we're going to see a huge amount of bad economic data and poor corporate news – an awful lot of negative news, so I don't think we should be chasing a rally. It's best to take the long view and change portfolios based on knowledge rather than hope."

Reynolds is optimistic about the future. "This is an incredible buying opportunity," he says. "It's not much fun seeing your asset values drop, but it's something that happens periodically in equity markets and as long as you don't need to dip into your investments, then you should be able to sit it out. There should be much better times ahead."

David Coombs, fund manager at Rathbone Investment Management, believes the first stop should be companies that are certain to make it through. "It's the big ones – Microsoft, Coca-Cola, Visa, the mega-cap businesses that won't be down as much," he says. "At this moment it's not about trying to be clever, but cautious."

But we warns against heading into the FTSE too soon: "It's too reliant on banks, energy companies and minors."

The fact no-one can control when the virus crisis will end also makes him sceptical of the usual safe port in a storm, bonds. "The virus could peak soon, the oil price could rise and suddenly the market rallies. Bond and gold markets sell off and you lose your money. So sit tight, only invest, say, a quarter of your cash and then stay focused, unemotional. Set thresholds for when you'll invest again – a figure that the FTSE has to fall to – and don't deviate from that. And above all, look to the long-term. The very long term."