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	2016	2017	2018	2019	2020
MSCI AC World Index Net (%)	-3.8	15.7	15.4	3.2	-10.8

Source: MSCI, US Dollars.

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# THE ATLASES OF THE MODERN ECONOMY

#### BY JENNY DAVIS

In April 2020, half of the global population was living under lockdown, due to the coronavirus (Covid-19) pandemic. Few had even heard of the disease less than three months previously. Such a rapid change in circumstances is hard to compute. There is a kind of psychological seasickness evoked by the lurching suddenness of it, and it is natural to wonder what life will be like after all this. There will be grieving for loved ones lost, and for the pre-coronavirus world; as well as celebrating some newfound perspective on life. The 25 per cent rise in the MSCI world index since March lows suggests that the market is still in the 'denial' stage of grief, and that there is a lot more processing of events to come before we can truly find meaning in and accept them.

As the market makes sense of current events, it will go through a 'shake out', and in so doing it will differentiate the strong businesses from the struggling. Those businesses with the endurance and strength to shoulder the modern economy, akin to Atlas bearing aloft the sky, will grow stronger, whilst others will topple under the strain. What can we learn from history to help us navigate these turbulent times, and to successfully invest our clients' capital?

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## HISTORY DOESN'T REPEAT ITSELF, BUT IT OFTEN RHYMES

The first lesson, borrowing a phrase attributed to Mark Twain, is that history rarely repeats, but it often rhymes. However, society all too often wastes efforts preparing for history to repeat itself.

The Spanish flu pandemic occurred a century ago. By a strange quirk of its historical timing, it was particularly lethal for people aged 28. The flu was most deadly for 20- to 40-year-olds, but it was 28-year-olds in particular that saw a nasty spike in mortality. The best theory to explain this is that in 1890, the year in which those aged 28 in the Spanish flu outbreak were born, a strain of influenza dubbed Russian flu did the rounds. Rather than protecting the 28-year-olds from Spanish flu by giving their immunity a head-start, the reverse was true. These young adults were at a comparative disadvantage: their immune systems were wearing the wrong armour for the wrong battle, and mounted a defence against Russian flu rather than Spanish flu. Their immune systems fought so hard and so ineffectively as to trigger a cataclysmic immune response known as a cytokine storm.

In other words, the body responded to the last crisis it had experienced, rather than the current one: it expected history to repeat rather than rhyme. It is a human failing which can be seen writ large in much of the western world's planning for future pandemics. The UK Government's blueprint was modelled on a novel influenza outbreak, rather than a SARS-based disease; the US Government made the same mistake, and had even been cutting funding for the Centre for Disease Control and Prevention, perhaps because the last pandemic to significantly impact Americans was a distant memory. Much of the world has been wearing the wrong armour for the wrong battle.

This pattern is ingrained in human nature: we tend to 'shut the stable door after the horse has bolted', to coin a phrase. Richard Thaler, the behavioural economist, neatly summarises how this impacts the purchasing of insurance: "Whether people buy insurance for natural disasters is greatly affected by recent experience. In the aftermath of an earthquake, purchases of new earthquake insurance policies rise sharply - but purchases decline steadily from that point, as vivid memories recede." Recent events are top of one's mind: we are painfully aware of the fact that such things can happen, meaning we put a higher probability on them happening again.

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## PREPARE FOR THE FUTURE, NOT THE PAST

#### LESSONS FOR YOUR PORTFOLIO

Crises tend to do strange things to our perception of time: everything changes extremely quickly, meaning each day feels like it lasts forever, and the old normal was eons ago, a distant memory. It closes in our field of view, making us more reactive to immediate stimuli, and less able to do the nuanced and complicated, slow-thinking computations that go into long-term decision making. So how should investors overcome these cognitive biases? How do we prepare for something we can't predict?

We prepare by investing in companies with characteristics that make them antifragile, a term coined by Nassim Taleb to describe 'things that gain from disorder'. These businesses power the economy from behind the scenes.

TSMC is a fantastic example of a company that is well-placed to benefit from new growth opportunities, even if we do not know exactly what those opportunities will be. TSMC is the world's largest semiconductor foundry, with 50 per cent market share. Their scale makes them such a vital supplier of chips that they are almost agnostic as to what the chips are for, be

that smartphones or autonomous vehicles or the internet of things. Whichever technological innovation takes off next, TSMC is almost certainly going to be supplying the chips.

In turn, TSMC would not be able to make the next generation of semiconductor chips without the extreme ultraviolet (EUV) lithography machines provided by ASML. These are the cutting-edge machines that enable foundries to etch circuits onto silicon chips. ASML too has a fortress of a competitive position, thanks to its with a near-monopoly on the supply of EUV machines. Without ASML's lithography, it would be near impossible to deliver increasing compute power on decreasing chip sizes at the pace required to meet ever expanding demand for connected devices. If anyone was left sitting on the fence about the importance of connected devices to today's economy, coronavirus will have changed that.

We invest in businesses which are antifragile due to their ability to capitalise upon whatever the future may throw at them. These are the Atlases of the modern economy; they hold it up, and if they shrugged a lot of other businesses would collapse. We invest in businesses which are antifragile due to their ability to capitalise upon whatever the future may throw at them. These are the Atlases of the modern economy; they hold it up, and if they shrugged a lot of other businesses would collapse.



SAP's software, for example, is the beating heart of many businesses: it manages every order, every unit of inventory, it connects employees, and analyses all this data in real time to facilitate strategic decision-making. 77 per cent of the world's transactions (by value) passed through a SAP system in 2018.

Today, it is facilitating the shift to the Cloud; an essential shift for all businesses trying to survive whilst employees work from home. SAP had not predicted that vast swathes of the economy would be forced to work from home when they made their series of Cloud-computing acquisitions beginning in 2012. However, they were well prepared for the event because management had invested not to expand the company's short-term margins or their personal profits, but to expand the long-term growth opportunity and deepen the company's competitive advantage.

It is not just within tech that we find these Atlases: for example, Shimano supplies 70 per cent of the world's bicycle brakes; every week, three quarters of the global population use a product containing a solution from Novozymes, be that the active ingredient that cleans your laundry or keeps your bread fresh; half of the world's cheese and yoghurt is produced using Chr Hansen's bacteria; Nidec dominates the market for motors that power 'anything that spins or moves', including hard-disc drives and the haptics in your smart watch; and so the list goes on. We even have the aptly-named Atlas Copco, a Swedish industrial business that has been a long-standing holding of Baillie Gifford. Atlas Copco dominates the global supply of air compressors, which are 'a silent partner to every industry imaginable', used in applications from dentistry to cement plants to production lines, and it has been doing this since 1873.

Few of these businesses will ever be top of your mind; yet without them where would we be? We would have no smartphones, smart watches or data servers; no cloud computing and no industry; we would be cheeseless and unbicycled: a sorry situation indeed. These are the unsung heroes of our global economy.





## The lesson for us as investors is that we can't predict the future, but we can prepare for it.

It is easy to call to mind those companies that we have come into frequent contact with during the coronavirus pandemic: Zoom, Facebook, Amazon, the list goes on. At Baillie Gifford, we invest in many such transformational growth stocks, to great effect. For example, telemedicine has existed in some form for a long time, but coronavirus has created a lightbulb moment for societal awareness. The Chinese online doctor consultation app, Good Doctor, saw its new user registrations increase 900 per cent in January from the previous month, and its scalable artificial intelligence meant it was able to cope with this surge in demand. These businesses are agents of creative destruction, facilitating a new and more efficient way of interacting and disrupting incumbent profit pools. Yet there is an 'availability heuristic' for those businesses that are top of mind, much as one is more likely to buy earthquake insurance after an earthquake. The Atlases, by contrast, will be upholding the modern economy whichever app, platform, or brand is currently in vogue.

The lesson for us as investors is that we can't predict the future, but we can prepare for it. We at Baillie Gifford do so day in, day out, regardless of stock market gyrations and whether we are working from the office or at our kitchen tables. We look for antifragile businesses: businesses that are bastions of stability through thick and thin, that disrupt incumbents and create new profit pools, that emerge stronger than their peers, that take advantage of a crisis to acquire or invest. These businesses have a natural immunity which makes them durable investments.

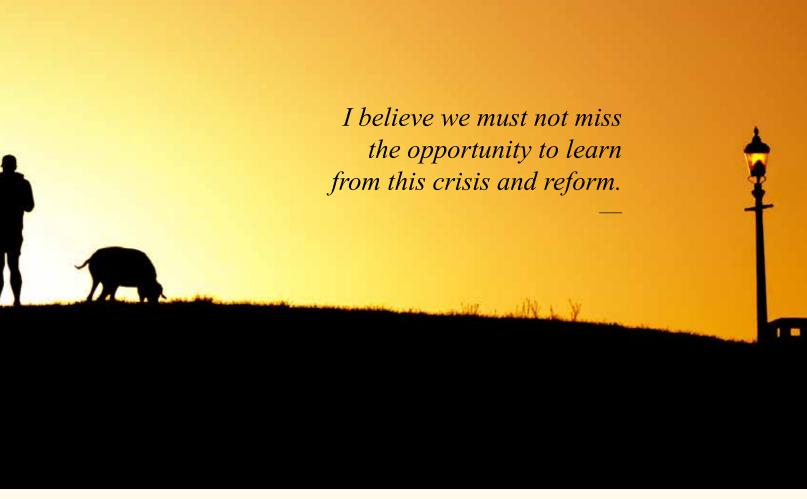


#### LESSONS FOR WIDER SOCIETY

At Baillie Gifford we are incurably optimistic; it comes from investing in growth equities where the opportunities are skewed to the upside. Putting that bias aside, however, I am nonetheless optimistic about the ability of society at large to emerge stronger from the coronavirus.

Global society learnt some incredibly important lessons from the world wars of the early 20th century. We have a far deeper understanding of human psychology and resilience today, in part thanks to the work done by doctors during the First World War. Doctors such as William Rivers, based for much of the war here in Edinburgh, did pioneering work with sufferers of 'shell shock'. That so many previously healthy men could be so deeply psychologically impacted by their wartime experiences upended the idea that mental ill-health was a sign of individual weakness.

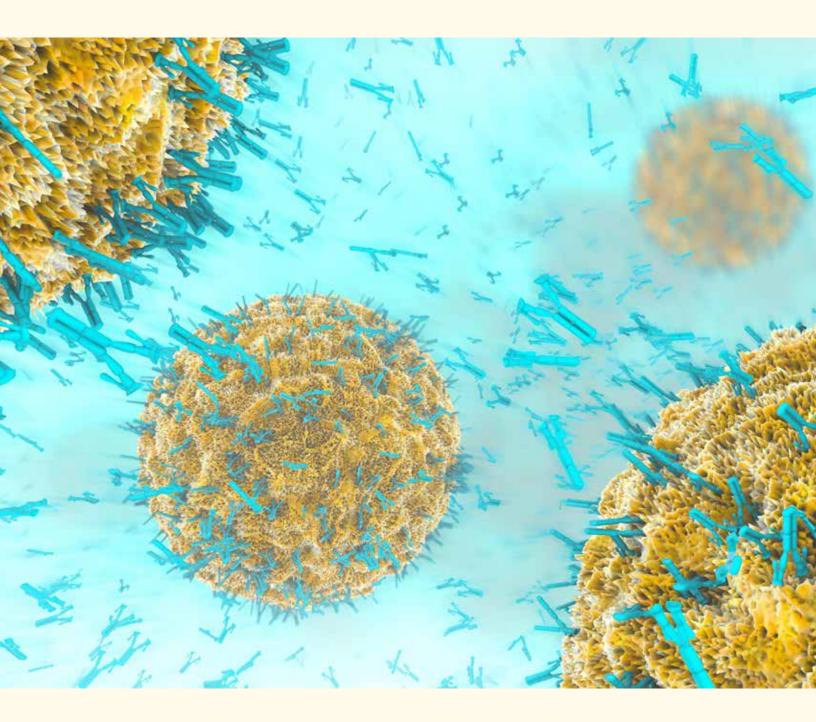
It was a turning point in making society realise that anyone can suffer mental ill-health under certain circumstances. Without that, would we be able to accept, expect, and openly discuss why lockdown is hard for each of us in different ways? Undoubtedly lockdown is hard: for a lot of people it means being passive in the face of uncertainty, confined to tight spaces, and coping with an ever-present yet invisible risk of infection from the very things that should be sources of joy and health: social interactions. Nonetheless, we are over a century further into the still young fields of psychology and psychiatry, with far greater social acceptance and provision of support as to make us more psychologically resilient than previous generations. The importance of this cannot be overstated: confident rational optimism is the essential lifeforce of economic growth.

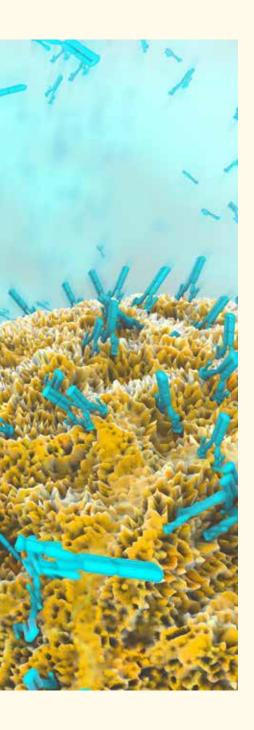


UK on lockdown due to coronavirus pandemic
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The Second World War also taught us a lesson that stands us in good stead today. Most of our international bodies today were formed following the Second World War, and they still stand to serve as a safety net and to reduce or prevent conflicts arising. The World Bank, the International Monetary Fund, the United Nations and the Universal Declaration of Human Rights were all founded in the 1940s. We must not forget the importance of these international institutions: the global economy cannot be siloed without a negative impact on each and every one of its constituent parts; we are connected, diseases do not observe national borders, and this requires a whole population response.

The virus has held an unflattering mirror up to many aspects of society, such as the higher death rates of minorities, the poor protection for the elderly in care homes, the extra demands holding back working women, the simple fact that capitalism does a bad job of running a health service by putting a price on life. There may be an overwhelming desire to just snap-back to the way things were before this, but I believe we must not miss the opportunity to learn from this crisis and reform. Let us hope that this time history rhymes, rather than repeats; that we grasp the nettle of social inequality and global warming, and that coronavirus acts as the spur.





### **CONCLUSION**

We invest in two blood plasma companies, CSL and Grifols, both of which produce immunoglobulin. Each unit of immunoglobulin contains a polyvalent soup of the antibodies of over a thousand different donors. The recipient of immunoglobulin receives a dose of the learnt immune responses of those donors with their different ages and different exposures to different pathogens.

Immunoglobulin is a fantastic analogy for how we can come through this coronacrisis. Its healing power is in its teamwork, in learning from each other's experiences, across ages and places. At Baillie Gifford we talk of our 'institutional memory' as a key competitive advantage. When we say that our business has survived world wars, cold wars, pandemics, financial crises, we do not simply mean that the name Baillie Gifford has traded throughout, we mean that those working in the business have handed down their accumulated wisdom from person to person by working in close teams across multi-decade careers, training our own graduates as we go. Our institutional memory is our immunoglobulin, and it makes us better prepared than a single individual could be for whatever the next exogenous shock might be; it protects us from being those poor 28-year-olds in the Spanish flu pandemic.

For investors, the start of 2020 brought historical market falls. In the three months since January, the UK market saw its biggest three-month drop since the South Sea Bubble of 1720. This has been just as quickly counterbalanced with a snap-back which seems somewhat out of step with the global economy. These whipsaw gyrations tell us more about the current psychological state of market participants than they do about the true value of businesses.

Looking out longer term, you do not need to know what the future will look like exactly if you invest alongside those who create it, invest for it, survive through it. Which businesses are facilitating the digitalisation of society? Who do they depend upon to do so? Who keeps the wheels turning on our industrial sectors, our food chains, our healthcare? The way we prepare for whatever the future may bring is to invest in the Atlases of the modern economy, the businesses upon whose shoulders society's progress rests.

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