Investing in radical change

Investment landscape in a COVID-19 world

Triodos Investment Management

1 Introduction

2020 is by all means a historic year. A year of the deepest recession ever seen in peacetime, a year of sitting at home, all caused by the COVID-19 pandemic and the measures taken to fight it. Locking down entire countries to prevent the virus from spreading has led to economic damage at an unprecedented scale and at a speed never seen before. All over the world, public life, companies and sometimes entire sectors came to a virtual standstill in the spring and again in the autumn. Bankruptcies, loss of income and unemployment are the result. Meanwhile, health care systems in many countries were caught off guard as they lacked the capacity to deal with a pandemic of this scale.

The root causes of this crisis – or at least why our system derailed so quickly – are the built-in flaws of our economic system. The unilateral focus on growth may have turned our economies into highly efficient machines, but it has left them with hardly any buffers and therefore highly vulnerable to the kind of supply and demand disruptions we have seen since the COVID-outbreak. Also, the inbred inequality – in many societies, but also between countries – makes it far more difficult to overcome this crisis without aggravating the situation further. And finally, there is a direct link between the way we exploit nature and the emergence of pandemics and their quick spreading.[1]

It is still too early to draw any firm conclusions about what will change in our society after this so-called anthropause, a pause in human activity in an era where humans are the dominant force in the ecosystem. In our paper 'A radical agenda for economic transformation[2]', published just before the pandemic broke out, we present our agenda for a different, more sustainable world. In 'Reset the economy', published at the end of May 2020, we repeated this message, arguing that we must use this crisis to reset our economy on a sustainable course and presenting the policy agenda that is needed to do so. We must focus on the long-term recovery for which we have identified three building blocks:

- Redefine what matters most
- Revalue the way we live, cooperate and communicate
- Redesign our economy

After living for more than half a year in a partly locked-down world and getting used to social distancing and working from home, it is time to move away from the immediate emergency and start thinking about a sustainable recovery. We should not return to the situation before March 2020 but move towards a sustainable, resilient and inclusive economy.

In this white paper, we take a more granular look into different trends that determine the post-COVID investment landscape. What are the direct and immediate consequences of the crisis, what will be longer-term effects and what might the structural effects be? And most importantly, what impact will these trends have on the sustainable economy and on the coronavirus investment landscape?

This analysis helps to shape a picture of the post-COVID investment landscape. What is changed in the sustainable investment landscape, what does it imply for different instruments and what does it mean for different investment strategies?

We strongly believe you should never waste a crisis. We should use the time now not to fix our old economy but to improve it. Building back a better economy is an example of that. Returning to our earlier non-sustainable economic structure would be pure waste.

If it ain't broke, don't fix it.
If it's broke, don't just fix it, improve it.

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2020 is by all means a historic year. A year of the deepest recession ever seen in peacetime, a year of sitting at home, all caused by the COVID-19 pandemic and the measures taken to fight it. The root causes of this crisis – or at least why our system derailed so quickly – are built-in flaws of our economic system. The unilateral focus on growth may have turned our economies into highly efficient machines but has left them with hardly any buffers and therefore highly vulnerable to the kind of supply and demand disruptions we have seen since the COVID-outbreak. Also, the inbred inequality – in many societies, but also between countries – makes it far more difficult to overcome this crisis without aggravating the situation further. And finally, there is a direct link between the way we exploit nature and the emergence of pandemics and their quick spreading.

Moving away from the immediate emergency it is time to start considering the economic and financial consequences of the pandemic and how it will change our economy, and also what this means for the investment landscape. We cannot and should not return to the situation from before March 2020, but move towards a sustainable, resilient and inclusive economy.

Socio-economic impact of COVID-19
In essence a health crisis, COVID-19 is a huge shock to our socio-economic system with enormous temporary and likely structural effects on our economic and healthcare systems.

Three kinds of effects can be distinguished:
1. Direct effects result from the measures taken to contain the virus (social distancing and lockdowns): lower economic activity and, consequently, rising unemployment and loss of income.
2. Longer-term effects result from behavioural changes, and the economic scars of the pandemic. The lockdown forced people to suddenly adjust their behaviour and led to different needs, larger adoption and faster development of different forms of technology. How enduring this change in behaviour will be depends on a combination of technological innovation and private and societal benefits. They will also be determined by the scars of the crisis: higher debt levels, further expansion of central bank balance sheets, growing number of bankruptcies, rising unemployment and rapidly increasing poverty.
3. Structural behavioural and policy changes lead to structural changes in the economic system. They may result from policy, technology, and/or ecological pressures, or from changes in socio-economic behaviour. Governments have shown to be crucial in the response to the corona crisis. This has led to a rethinking of the general role of government policies. On business level (re)risk, resilience and sustainability come to the fore. The crisis has shown that certain risks were mispriced at best, both in business models and in value chains.

The social consequences of COVID-19 are also enormous. In developed countries these consequences are, first and foremost, higher public and private debt, more bankruptcies and rising unemployment. In emerging markets, additional consequences are rising poverty, and increased inequality in education and health outcomes. These should make people aware that our current system is untenable.

COVID investment landscape
The Great Lockdown has impacted the global economy dramatically, both in the short and in the longer term. The same can be said of the investment landscape. The investment environment changed, leading to changing opportunities for different instruments or asset classes and to changes in investment strategies. The investment trilemma, risk, return and impact has shifted on all three corners.

Given the fundamental uncertainty about the length of the pandemic, the loss of economic activity, and the need to repay and rebuild, it is very likely that economic growth will be lower in the coming years. Investors will have to adapt to a deteriorated economic outlook and, consequently, a lower, longer-term return perspective. In addition, the crisis has further increased the disconnect between the real economy and financial assets. Especially the massive interventions of central banks led to a rather quick recovery of equity markets and risk premia coming down. Although this market recovery helped to weather the first phase of the storm, it is not a reflection of what is happening in the real economy.

Re-risk and resilience emerge as new topics. Uncertainty directly related to COVID-19 will remain high the coming period. The longer-term challenge therefore is to make business more resilient, enabling companies to better withstand ‘new’ risks related to ESG-factors, such as climate change, loss of biodiversity, and rising inequality, rather than financial factors. The crisis has made companies more aware of

risks to their business and that building resilience will strengthen their long-term viability. Hence, risk and resilience will probably remain top of the agenda in the years to come.

From an investment perspective, this has a clear consequence: investors should pursue a defensive investment strategy with a long-term orientation.

Pivotal role of private capital
With public budgets stretched or exhausted as governments first had to deal with a health crisis and later with mitigating the effects of this crisis on the economy, private capital plays a crucial role in the upcoming rebuilding phase. Investing in both public markets and private markets can contribute to a rebuilding of the economy.

Public markets play an important role in 'building back better'. The right approach is to invest in listed companies that structurally do so: companies with a positive contribution to the transition of the world economy in a more sustainable direction. This can be measured for instance by the contribution companies have to the UN Sustainable Development Goals and excluding those companies with detrimental effects on sustainability.

New initiatives and innovation, on the other hand, often start with smaller companies with no or limited access to capital markets. For them, access to private equity is crucial. The structural shift towards private equity financing in recent years, especially in Europe[3], creates opportunities to address the post-crisis capital shortfall, and the required repair of corporate balance sheets.

Investing in transitions
The corona crisis has made clear that a transformation of the world economy is more needed than ever. This transformation is as multi-faceted as our economic system. Different themes, from energy to social inclusion, will drive the transition and therefore deserve more attention from investors going forward.

The notion of transition refers to a qualitative change in the state of a complex system. COVID-19 is changing the investment environment and makes some transitions even more urgent. Three aspects are important in transitions and the financing of transitions: construction, conversion and phasing out.

First, it is about the construction of the new economy: giving room to new initiatives – start-ups and scale-ups – with new technologies and new ideas that contribute to transitions. Second, the conversion of current unsustainable business models into more sustainable business is probably the major task of public markets. The winners of our current system are mostly stock-listed companies. Some of them might have the strategies, capital and purpose to become also the winners in a new system. Third, the phasing out of certain economic activities is an important part of transitions. Obvious candidates to be phased out are those companies that have products and services that are clearly unsustainable (e.g. fossil fuels), whose production processes harm people and environment (from environmental degradation to human dignity) and, above all, that do not have any intention or strategy to convert to a more sustainable business model.

Escaping the investment trilemma
As an impact investor, Triodos Investment Management always look at an optimal combination of return, risk and impact over the long run. Traditionally, this has been a compromise: lower risk means lower returns, while more impact also suggests lower risk adjusted returns. In recent years, it has become clear that impact doesn't necessarily come at the cost of risk-adjusted return: numerous academic papers paint a more nuanced picture. However, the impact-risk-return framework – the impact investing trilemma – helps to understand that risk, return and impact are three corners that have to be squared. In Covid-19 times, these corners have shifted. Expected returns are lower, risks are larger and impact more important.

Investing in transition might be the way to escape the trilemma: Impact first, and transition will probably give a different return than betting on the market average.


STAY
HOME
LEGEND

2 A systemic shock to the system

The severity and consequences of the coronavirus pandemic for our economic system are huge and are rooted in the workings of our economic system. And although there will be a recovery, a crisis of this magnitude will also change trends: some may accelerate, others will be slowed down. And, obviously, new developments that we would not have thought of a few months ago may emerge.

2.1 A crisis rooted in our system

In our vision paper 'Reset the economy', we present an extensive analysis of the root causes of this systemic coronavirus crisis. In this paper, we therefore limit ourselves to briefly listing the three main causes.

The pandemic has laid bare fundamental flaws about the way we have organised our economy in our unrelenting efforts to strive for economic growth. The speed and severity of the economic impact on (global) enterprises and value chains are significant. The supply side restrictions and the fallout of demand demonstrate the absence of buffers and a lack of resilience in big parts of our economy. We have encouraged gigantic, highly leveraged firms to operate on a delicate balance of high debt and ultra-efficient, just-in-time performance. They are simply not equipped to adapt to the current conditions. The same goes for significant parts of the workforce. Many self-employed and casual workers are now out of business and out of work. Without buffers, they are facing instant difficulties.

Secondly, striving for constant growth has broken our relationship with nature. Rampant deforestation, uncontrolled expansion of agriculture, intensive farming, mining and infrastructure development, as well as the exploitation of wild species have created a perfect storm for the spill over of diseases from wildlife to people, as COVID-19 proved all too well. If we continue on this footing, worse crises and new pandemics will probably emerge.[4]

And, finally, COVID-19 has exposed the societal inequality and the weaknesses of healthcare systems in many countries. Not everybody has access to affordable healthcare and not everybody can afford to stay at home for fear of losing their livelihood. There is also inequality between countries and the economic effects of the crisis are likely to be more severe for lower income countries.

The effects on the world economy are already widely documented (see our Q4 Outlook): a severe decline in global economic activity, followed by an expected recovery at different speeds in different countries depending on how the coronavirus crisis evolves.

This depends on the availability and effectiveness of a vaccine, on a possible further mutation of the virus and on improvements in track-and-trace systems. It is not likely that the direct effects of the pandemic will start to fade before the spring of 2021.

The coronavirus crisis will certainly lead to longer lasting effects such as an increase in poverty around the world, rising unemployment, exploded balance sheets for central banks and dramatically higher public debts. A return to 'normal' growth seems unlikely.

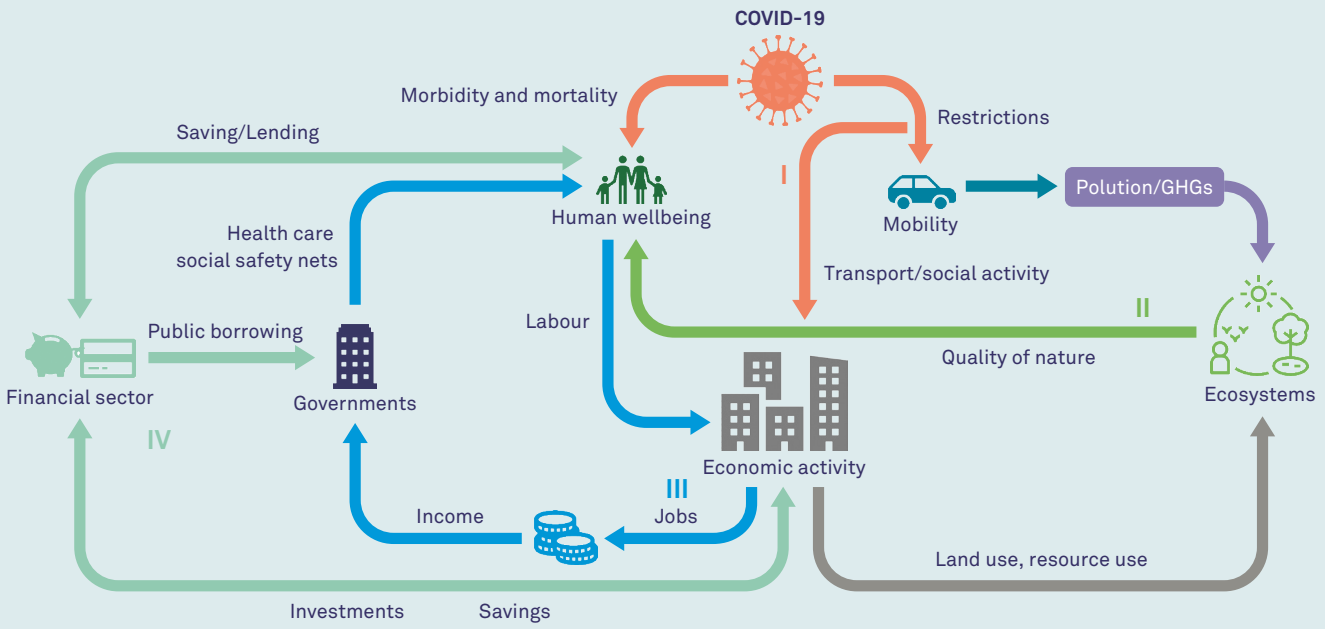
But even if the outlook looks grim, the economy is not a static, but a complex, interconnected system which is able to transform and adapt. This crisis will accelerate existing trends, while slowing down others. It will also lead to new trends and developments. This process of transforming and adapting will determine the investment landscape in the years to come.

3 A changing post-coronavirus world

In this chapter, we assess the impact of the coronavirus on different trends and determine the likelihood of whether these adjustments to the trends are permanent or one-off in nature. We won't claim that 'everything is different' now, yet pandemics have led to large shifts in economics and politics several times in the past.[5] Changes in behaviour might be temporary and may reverse as soon as the COVID-19 measures are lifted. But some changes will likely be permanent: our health care systems, our use of technology, where we work and travel and where we produce our goods.

COVID-19 has had a huge impact on our societies and economies. Figure 1 presents a schematic overview of the impact of COVID-19 on the earth system and our economies and societies, where everything is joined together.[6] Due to the enormous complexity of our economic system, these effects are inherently

Figure 1 **COVID-19 socio-economic disruptions as a systems shock**



I • COVID-19 has 2 direct effects on society: health effects (morbity and mortality) and restrictions (social distancing measures)
• **Health effects** affect human wellbeing directly. Evidence up till now shows that mortality of COVID-19 is relatively low, but longer-term health effects might be severe. However, since both mortality and health effects mostly concentrate on elderly people that are not or to a lesser extend economically active, the direct economic effects are limited.
• **Restrictions** lead to less mobility and less economic activity.

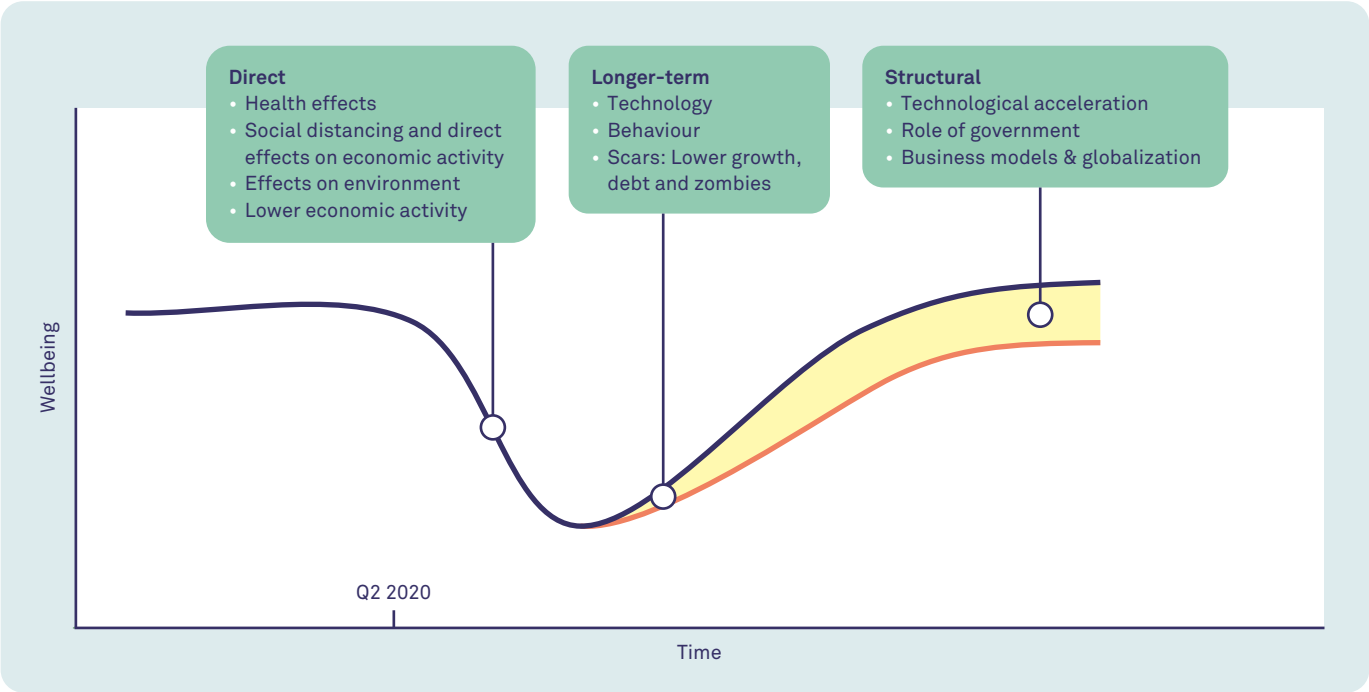
II • **Mobility** reductions, as a consequence of the restrictions lead to less carbon and less nitrogen emission. That has positive effects on ecosystems. Better quality of nature has in itself positive effects on human well-being (through health effects but also appreciation for nature).

III • The social distancing measures (and lockdowns) have led to adverse effects on economic activity. This has had negative effects for firms (loss of profits and sometimes bankruptcies) and as a consequence jobs were lost. This led to a loss of income of households and the government in most countries stepped in to support people and businesses. Also, governments stepped in to cover health expenses etc. In general, these COVID-19 effects had negative effects on human wellbeing.
• Also, less economic activity has positive effects on land and resource use and therefore on ecosystems.

IV • The financial sector lends to governments, businesses and households. Government debt surged globally, and therefore governments need to lend more on capital markets. The same goes for households and firms, where the effects differ from country to country (also depending on fiscal policy).
• Central banks worldwide lowered their interest rates and together with accommodative monetary policies they succeeded in letting finance (for the moment) not be the hurdle to take in a recovery. However, as a consequence of their actions, financial valuations of some instruments seem to be disconnected from the real economy.

Source: Triodos IM

Figure 2 Timing on effects of corona virus



uncertain and a full assessment is therefore difficult. In essence a health crisis, COVID-19 is a huge shock to our socio-economic system with enormous temporary and likely structural effects on our economic and healthcare systems.

Three kinds of effects can be distinguished:
1. Direct effects from the measures taken to contain the virus such as social distancing and lockdowns.
2. Longer-term effects resulting from behavioural changes, and economic and health consequences.
3. Structural behavioural and policy changes leading to structural changes in the economic system.

In figure 2, we assess whether these effects and trends - existing or new - are temporary or (more) structural. We also assess how they impact a transition to a sustainable economy: do they accelerate or decelerate this transition?

3.1 Direct effects: mortality, mobility, economic activity and wellbeing

Since its outbreak at the beginning of 2020, more than 1 million people worldwide have died from COVID-19. Although a lot in absolute numbers, it is only 0.01% of the world population, indicating that mortality is relatively low. In addition, from a purely economic perspective most of the deceased were over 70 and therefore not part of the productive population segment anymore. Previous pandemics had both a higher mortality rate and affected younger people more severely. This had a stronger negative effect on labour supply, which led to structural socio-economic changes, ranging from substituting labour with capital boosting innovation, to destructive developments such as the first seeds of a new war. The coronavirus pandemic is not likely to change demographic trends to the extent that it will impact the economy, as previous pandemics such as the plague or the Spanish flu did.[7]

A second effect of COVID-19 is on ecology following social and mobility restrictions. These restrictions quickly led to much less travelling and commuting, and to much lower economic activity (i.e. production

and manufacturing). A curse for the economy, a blessing for our environment; the environmental footprint significantly decreased. Only a few weeks after the first lockdown measures had been imposed, satellite images of industrial areas in China and later in northern Italy showed significantly lower levels of pollution. Earth Overshoot Day - marking the date when humanity's demand for ecological resources and services each year exceeds what the earth can regenerate in that year - fell later in 2020 than in 2019, but still by 22 August. There were also some signals that the reduced human activity even changed the way the earth moves[8] and was beneficial for wildlife. It has been labelled as an 'anthropause'[9]; a temporary pause for ecosystems in a planet dominated by humans. Carbon emissions were globally 8.8% lower in the first half of 2020 compared with 2019.[10]

This positive effect was only short-lived, however. Pollution increased when economic activity picked up again and factories resumed their production. It is estimated that the effect of this pause will be almost negligible, with a reduced temperature increase in 2030 of only 0.01°C compared to a baseline scenario.[11] If we do not change our economic processes, this is the only logical and unavoidable outcome. No matter how great the immediate effects were, for them to become structural we need to change our economic system in a more fundamental way. Although there is some evidence that we can achieve relative decoupling of at least greenhouse gas reductions from economic activity, there is no evidence that this can be achieved in line with the Paris Agreement.[12] Green growth, as the underlying sustainability agenda for the Sustainable Development Goals[13] to achieve the social agenda, seems to be an illusion.[14] For other environmental challenges such as biodiversity loss, there is no technical solution. The relation between biodiversity loss and economic activity is almost linear.[15]

The third channel of direct effects relates to economic activity and the effect on jobs, income and the financial sector. Some sectors, such as hospitality, tourism and travel are hit hard by the distancing measures, while other sectors, such as IT, logistics, food retail and health care saw an increase in economic activities. These effects led to dislocation of workers (some working from home, and some shortages in other sectors). In addition, the decline in economic activities resulted in massive job losses, resulting in steep increases in unemployment rates.[16]

These effects played out differently in different countries. In most Western countries, governments stepped in massively to reduce the immediate effects on wellbeing of most of society, resulting in higher public debts. These public debts will push public debt to levels close to 100 percent of GDP in 2020 globally, the highest level ever.[17] However, not all countries had the possibility to compensate workers for their loss of wages. Income and job losses because of lockdowns have led to adverse social effects, especially in emerging markets.

These economic and social effects are not likely to fade away once the economy starts up again. Employment lags behind economic activity and hence unemployment will be higher for longer in most countries. Income losses – both due to unemployment and bankruptcies can have long-term consequences for personal wellbeing and can lead to inequality and have negative effects on economic activity in the longer term. Because of the decrease in economic activity, non-financial enterprises needed more liquidity and governments issued more sovereign bonds on capital markets. These requests were met with higher lending from the financial sector, stepping up leverage in the economic system. Although unavoidable in the short term, long-run risks are amplified, especially if economic activity does not go back to normal.

Currently, we are still feeling these effects. Both the direct effects on health and on mobility are not gone as there is no vaccine for the virus, which continues to pop up repeatedly in different countries. The longer this situation lasts, the more likely it is that some of these direct effects turn into structural effects.

3.2 Longer term effects: Technology, behaviour and scars

Lockdown forced people to suddenly adjust their behaviour. Less physical contact privately, less travelling, and fewer physical meetings at work were the biggest direct effects. It also led to different needs, a larger adoption and faster development of different forms of technology. The main question is how enduring this change in behaviour will be. The answer to this question lies in a combination of technological innovation and private and societal benefits.
In addition, longer term effects will also be determined by the scars of the crisis: debt levels, expansion

of central bank balance sheets, bankruptcies, unemployment and poverty. These longer-term consequences can change the economic system in the longer term. This is known to happen in every recession, but this time might be different because the economic shock of COVID-19 was instantaneous and global. Economic activity was directly hit in several sectors instead of through income or trade channels.

Technology and innovation
Technology and innovation may receive a significant boost due to COVID-19 and change our lives. This holds true both for medical information and communication technology.

Massive investments are being put into health research to develop a vaccine for the coronavirus.[18] These investments in R&D to find a vaccine may well lead to other innovations in medicines and, although highly unpredictable, to new breakthroughs in pharma.
In addition, e-health – the large range of (health) services or systems that are a combination of medicine/healthcare and information technology – has been a rising trend and is likely to stay. The increased use of robotics and single-use scopes are trends that are here to stay too. E-consulting and other solutions that restrict physical interaction will also accelerate.

Information and communication technology played a major role in facilitating the change in behaviour. Less mobility resulted in more people working from home (WFH). It is estimated that WFH is possible for more than 18% of all employees worldwide.[19] All those workers need the hardware and software to be able to work from home. In addition, education made a huge shift online.

The technological solutions for working or studying from home have already been available for a long time. Overcoming the hurdle of societal acceptance and adoption allowed us to see that we simply left it too long to adapt our workplaces to this way of working. Many companies have announced that they are going to make WFH permanent.[20] Technology already offered many possibilities, but these were not used productively on a large scale. That has changed in recent months because we were forced to use the available technology on a large scale. This led to improved applicability by the technology that allows us to work together. If WFH were to become more permanent, it would lead to structurally lower GHG emissions and a reduced demand for offices. A disadvantage of WFH is that it can lead to more inequality, because lower-skilled factory workers do not have the possibility to work from home for example.[21]

All these accelerated technological changes will probably also have repercussions for job creation and destruction. In general, jobs that were lost during the pandemic are also the jobs that are hit most fundamentally by technological advancement.[22] These jobs are lower skilled and dominated by men. If this trend of job automation accelerates, this will at least lead to adjustment challenges: people that have to be retrained and/or find other sectors where their skills are worthwhile.

Changing behaviour
It's not only changes in technology that are needed, changing behaviour is also key for real change. Three elements play a role here: changing the default, new experiences and awareness.
First, changing the default is best demonstrated by WFH. If working from nine to five at the office is no longer possible for whole organisations, working in different ways becomes the new default. We do not know yet how this will play out exactly. People need regular, physical contact, but there is no need for that to be in the office the whole week.

This shift in working behaviour could also resonate with other choices we regularly have to make, for example: holidays closer to home, education and shopping more often online, business meetings more often via video conferencing, etc.

Second, behaviour is also driven by new experiences. The good news is that, according to Dutch research organisation TNO[23], people who work from home are ultimately happier and more productive. Although there are also many negative effects associated with working from home such as loneliness, mental illness[24], and in general feeling detached[25], many people seem to prefer this 'new lifestyle'.

It may even lead to a bigger structural change. Working from home could enable us to spend more of our time on other tasks - for instance, looking after our children or other people - during certain periods. We are not referring to the period when schools were closed and a lot of parents experienced more stress, but a normalised situation after social distancing. More

people could be involved in neighbourhood activities as they spend more time at home, strengthening the community fabric. Combining their regular, digital work with other concrete tasks could both mitigate the negative effects associated with WFH and increase overall wellbeing.

Other new experiences, such as not flying for recreational purposes, are less likely to endure. Some people might have seen a holiday discovering their own country as a real adventure, but so far there is no evidence that this will lead to a great shift in tourist behaviour if there are no extra policy changes or changes in awareness.[26]

Third, the scale and persistence of socioeconomic disruption represent an unprecedented modification of human interactions with the Earth System. But has the anthropause led to contemplation and awareness that our economy is completely unsustainable?

There may be reason for hope that there is more awareness about the link between nature and the economy. Policy makers seem to be more aware of climate change and biodiversity loss, given the European green deal,[27] China's pledge to become carbon neutral in 2060[28] and the fact that 74 countries (and counting) undersigned a pledge to reverse biodiversity loss[29] as well as 26 financial institutions that will try to help to reverse biodiversity loss.[30] It is questionable if this will be enough. Alarming reports about the state of ecosystems are coming in fast. And there is no question about it; the virus itself and its rapid spreading are a consequence of the fact that we see nature only as input to our economic system and our resulting behaviour of spending and spilling. If we do not change our economic system, we will quite likely be hit by new viruses.[31] Awareness of our disastrous relationship with nature is the starting point.

The social consequences of COVID-19 are enormous. In developed countries these consequences are, primarily, higher public and private debt, more bankruptcies and rising unemployment. In emerging markets, additional consequences are rising poverty, and increased inequality in education and health

A failing world strategy?

The Sustainable Development Goals (SDGs) were adopted in 2015 by all UN member states to make the world more sustainable. Recent research shows that it will be very hard to fulfil these goals. Most countries either exceed planetary boundaries or have very weak social foundations (see figure).[32]

The success of the SDGs depends on two big underlying assumptions: sustained economic growth and globalisation. Although you can question both in terms of their overall benefits, COVID-19 has torn these assumptions to shreds. The effect of COVID-19 will make attaining the SDGs more difficult for all countries. The health crisis and social distancing measures have led to a global economic crisis with massive job losses and major impacts especially on vulnerable groups. According to research, 119 out of 169 sub-goals are harder to realise because of COVID-19.[33]
This is a significant setback for the world's ambition to achieve the SDGs, in particular for poor countries and population groups. It is very likely that next year's SDG progress report will conclude that our chances to achieve the SDGs have further diminished. Other research already indicates that the realisation of the SDGs could be delayed by an extra 10 years.[34]

The conclusion is clear: the world is nowhere near reaching the Sustainable Development Goals. Topping the ranking are Western European countries. But even they are far from reaching the SDGs. They generally score badly on the more ecological SDGs such as 12, 13 and 14. Material wellbeing, social inclusion and health apparently come at the cost of environmental degradation. For poorer countries (with a generally lower score) it is the other way around. They score better for environmental SDGs and worse at the social ones.

This does not bode well for the longer term. Although there has been some improvement in the general SDG scores over the last few years - especially in Asia - progress is very slow. Any pick-up in speed can hardly be expected if we only restore our old economy, rather than transform it.

outcomes. These should make people aware that our current system is untenable.

There is a setback to the anthropause, however. It makes fulfilling of most of the SDGs by 2030 quite impossible (see box). This should be our wake-up call that we need to make different choices as society.

Scars

Longer-term effects to the economic system can result from 'scars' in the economic tissue: higher debt that has to be repaid, long-term unemployment and bankruptcies that destroy human and manufactured capital, increased uncertainty and resulting adverse effects on productivity and economic growth.

The nature of this pandemic-related economic crisis causes greater and more prolonged uncertainty and lack of confidence than is usual in other recessions. Loss of confidence of both consumers and producers may have short-term effects on consumption and investment. These are 'normal' business cycle effects, to which COVID-19 now adds a fundamental uncertainty. Uncertainty differs from confidence in the sense that uncertainty refers to a situation where future information cannot be known. This accounts now for the future development of the coronavirus crisis, but also for future policy reactions. Prolonged uncertainty could well lead to more permanent changes in spending patterns, i.e. weaker demand from both consumers and business.

The lockdown measures also included closing schools and universities. This may impact the long-term quality of workforce education, leading to a lasting erosion of human capital. Although the learning effects might be modest, curbing educational aspirations or the disengagement from the school system may have a long-term impact on students' outcomes[35].
Job losses due to lockdown measures have also been massive. In part, this is a consequence of our current economic system's preference for flexible labour markets. In the end, the longer people are unemployed, the more skills and expertise will be lost permanently. It is unlikely that all laid-off workers will find their way back to the work floor, leading to a permanent reduction of the workforce. In addition, a high number of bankruptcies, especially when concentrated in sectors that are hit hard by social distancing measures, might result in the loss of manufactured capital. This means that certain sectors – which in normal times see enough demand – need to be rebuilt, for instance hospitality and the cultural sector (including the music industry). These can be long lasting drags on economic performance.

In addition, debt and monetary stimulus can lead to longer-term negative effects. Debts must be repaid, which can only be done with income or profits that cannot be invested or spent, reducing the growth potential. Low interest rates make high debts bearable (reducing growth effects) but also keep structurally non-profitable firms in business. This might also reduce the overall recovery potential for the global economy.
Of course, there are other options to get rid of the debt overhang: debt restructuring or inflation. There is hardly any discussion about debt restructuring and inflationary pressures are almost absent. Experience over the last 10 years globally and in Japan over the last 30 years show that loose monetary policy is not a guarantee for an inflationary environment.

These developments amplify a trend that has presumedly existed long before the coronavirus emerged: secular stagnation[36], i.e. a chronic lack in demand. According to this theory, ageing populations and a lack of investment opportunities due to waning technological innovation result in too much savings and too little investment, creating structurally lower economic growth.

There is also growing evidence that recoveries after crises are usually anaemic,[37] with the causal relation not always being obvious. This can be attributed to scarring, as described above, but also to higher above potential and hence unsustainable growth before a crisis. We can only judge afterwards, but this might also have been the case just before the coronavirus pandemic hit the global economy.

3.3 Structural effects: Policy choices and systemic shifts

Structural changes to our system do not come easy. They may result from policy, technology, and/or ecological pressures, or from changes in socio-economic behaviour. This determines how we as Triodos Investment Management can contribute towards a transition. In our previous publications[38] we already set out what is wrong with the system and what direction the transition should go (see box).

First, we need to discuss a few general systemic shifts. Policy will play a crucial role the coming period, as well as risk, resilience and sustainability.

Policy
Governments have shown to play a vital role in their response to the coronavirus crisis. This has led to a rethinking of the general role of government policies.

In many countries the health care system lacked the capacity to deal with a severe pandemic crisis. Intensive care capacity proved inadequate, as was the testing capacity. It is very likely that many countries will structurally increase the capacity not just of intensive care units but also of testing equipment. Health care spend as percentage of total spend is likely to structurally increase[39], while the trend was already upward globally.[40] The expansion of the intensive care and testing capacities, including all costs associated with larger capacity in intensive care units, health

Three R's for systemic shift after coronavirus

In previous papers, we already defined a few building blocks for a systemic shift in the economy: redefine what matters most; revalue the way we live, cooperate and communicate; and redesign our economy.

Redefine
We have known for a long time that human progress cannot be reduced to annual GDP growth. Declining ecosystems are a threat to our wealth. And as we have seen in the past decades, economic growth without adequate levels of equality ends up excluding people from basic needs, human dignity and resilience.

People, planet and prosperity should therefore be the central values upon which government policy rests and business investment decisions are judged. Economic growth must make way for wellbeing.

An important precondition is adopting 'true' value or cost of production should be calculated and used as a metric for transactions. Governments can and should adopt this approach in tax policy (green taxation) and companies must look beyond shareholder value and become more embedded in society.

Revalue
Public policy and economic activities of companies should reflect the common shared values in each society. Standard neoclassical economics works from the premise that market prices, for instance for products and services, reflect our values. However, this is not how it works in practice and there is no guarantee that market forces deliver outcomes in line with what we want to achieve.

So, markets should be directed through cooperation, public investment, and more activist industrial policies. Such an approach helps to steer economies in the right, more sustainable direction and to create effective demand. Governments have an important role to play here through fairer taxes and anti-trust policies.

Redesign
The notions of wellbeing, a values-based economy and public institutions and investments are building blocks to redesign the economic framework. The coronavirus crisis is a clear indication that many (global) enterprises operate with business models that are neither resilient nor sustainable and that more should be done to improve the diversity of economic and finance activity. Our vision papers on Food & Agriculture, and Climate & Energy highlighted some of our proposed directions, which are shown below.

care personnel, and (testing) equipment, is not likely to be reversed, at least as long as there remains an awareness that this pandemic was not a one-off: other health crises will challenge our system.[41]

Second, there are clear (albeit contradictory) signs that there might be a new opening for purpose-driven government policies. The EU recovery plan[42] includes spending EUR 750 billion on (among other things) digital and ecological transformations, helping to create new markets. In addition, other European regulations, such as the taxonomy for sustainable activities[43], help to separate non-sustainable from sustainable finance. But not all signs are good. There are also countries like the US, Brazil or the UK that are rolling back sustainable legislation or putting sustainable investment on the backburner.[44] Although this would be bad, the general discussion on the role of government policies is markedly different from the one after the global financial crisis. Austerity policies, then the dominant agenda, seem to be replaced by government agendas that take a bigger role in public investments.

Risk, resilience and sustainability
Economics is about efficiency and hence about optimising risks and returns for businesses, international trade and finance. The crisis has shown that risks were mispriced both in business models and in value chains: only 'normal' risks were calculated, not the associated risks. It also showed that taking sustainability factors into account in a more systemic way helps both in assessing risks and in leading transitions.

Business model risks have a slightly different meaning in the post-coronavirus world. A lot of businesses were not able to cope with the crisis, while others flourished. A distinction can be made between so-called anti-fragile business models (who actually perform better during a crisis)[45], robust business models (that remain in the desired state of operations during the crisis), adaptive business models (that successfully changed their business model during the crisis), aided business models (that could only survive with help) and retired business models (unsuccessful in coping with the crisis).[46] Companies that prior to the crisis might have been considered inefficient, or at least have higher cost-to-income ratios, may also have been the companies that were able to better withstand the crisis, simply because they were more resilient. This adaptiveness or 'anti-fragility' could be due to less leveraged balance sheets, greater diversity in earnings models, or flexibility in work processes or earnings models. Since these businesses have weathered the crisis relatively well, what was thought of as extra costs before coronavirus, might now be perceived as risk mitigation. If businesses need to become more resilient, the most obvious way is to start with deleveraging balance sheets.
In addition, recent literature distinguishes several key principles that are pivotal in building social-ecological resilience and thereby increasing the ability of a system to recover. These principles, such as maintaining diversity, managing connectivity, controlling feedback loops and encouraging learning, can be translated into business models.[47] When applied to business models, there is reason to think that more resilient business models might also be more sustainable business models, since practices such as those embedded in the principles of circular economy, e.g. taking responsibility over products and resources in the up and downstream supply chain, can enhance resilience.[48]

Over the last few decades, production processes have been increasingly divided into different units all around the world for efficiency reasons. These global supply chains brought us cheaper products produced in an efficient just-in-time way, and employment for people in emerging economies. They also brought wage pressure to workers in developed countries increased pollution, and above all, more interconnectedness of the world economy. This interconnectedness also brings risks. On the supply side, firms face risks such as plant fires, natural disasters, financial risks, political instability, cyberattacks, quality issues with suppliers and delivery failures. On the demand side, risks include reputation of products, new competitors, policies restricting market access, macroeconomic crisis, and exchange rate volatility.[49] COVID-19 has shown that these risks can easily materialise both on the supply and demand side simultaneously, leading to a collapse in world trade.

It is not unlikely that this very efficient, just-in-time production in international trade will be replaced by a just-in-case manner of producing[50] if resilience would be priced and discounted for by enterprises and governments alike. For products that are considered essential (e.g. medical equipment) or political (ICT infrastructure), deglobalisation, or 'glocalisation' might be structural. Deglobalisation may also be a structural outcome for goods like food, where consumer

preferences might change. Deglobalisation influences global growth negatively and inflation positively.[51] These effects can be substantial.

A third structural factor is putting sustainability at the centre of every business and investment decision There are two perspectives on this. From a risk perspective, considering sustainability factors, such as environmental costs, in decision making seems to be more mainstream. At the beginning of this year, the global risk report from the World Economic Forum highlighted the importance of environmental risks for businesses (although pandemics were not in the list).[52] Increased awareness of environmental, social and governance (ESG) factors in investment decisions will become more mainstream.

From an impact and return perspective, sustainability has weathered the coronavirus storm quite well. Returns of ESG funds outperformed wider markets over longer periods of time during the coronavirus crisis,[53, 54] and showed large inflows.[55] In addition, non-financial reporting of most companies increases in quality in different countries, making it easier to show the impact of companies. The coronavirus crisis seems to be a catalyst for more responsibility of a lot of companies.


STOP
talking

4 Investing in a new landscape

Financial market turbulence reached record highs at the beginning of the coronavirus crisis. Equity markets plunged and risk premia increased, countered by extraordinary policy measures. Therefore, market volatility decreased, while equity valuations went up and at first sight everything seemed to go back to normal. However, this is certainly not the case.

The widespread lockdown has impacted the global economy dramatically, both in the short and longer term. The same can be said of the investment landscape. The investment environment changed, leading to changing opportunities for different instruments or asset classes and to changes in investment strategies.

Investment environment

From the previous three chapters it is clear that the investment environment has undergone some big changes for investors to adapt to:

1. A deteriorated economic outlook and, consequently, a lower, longer-term return perspective.
2. The (increased) disconnect between the real economy and financial assets.
3. Re-risk and resilience as a new theme.

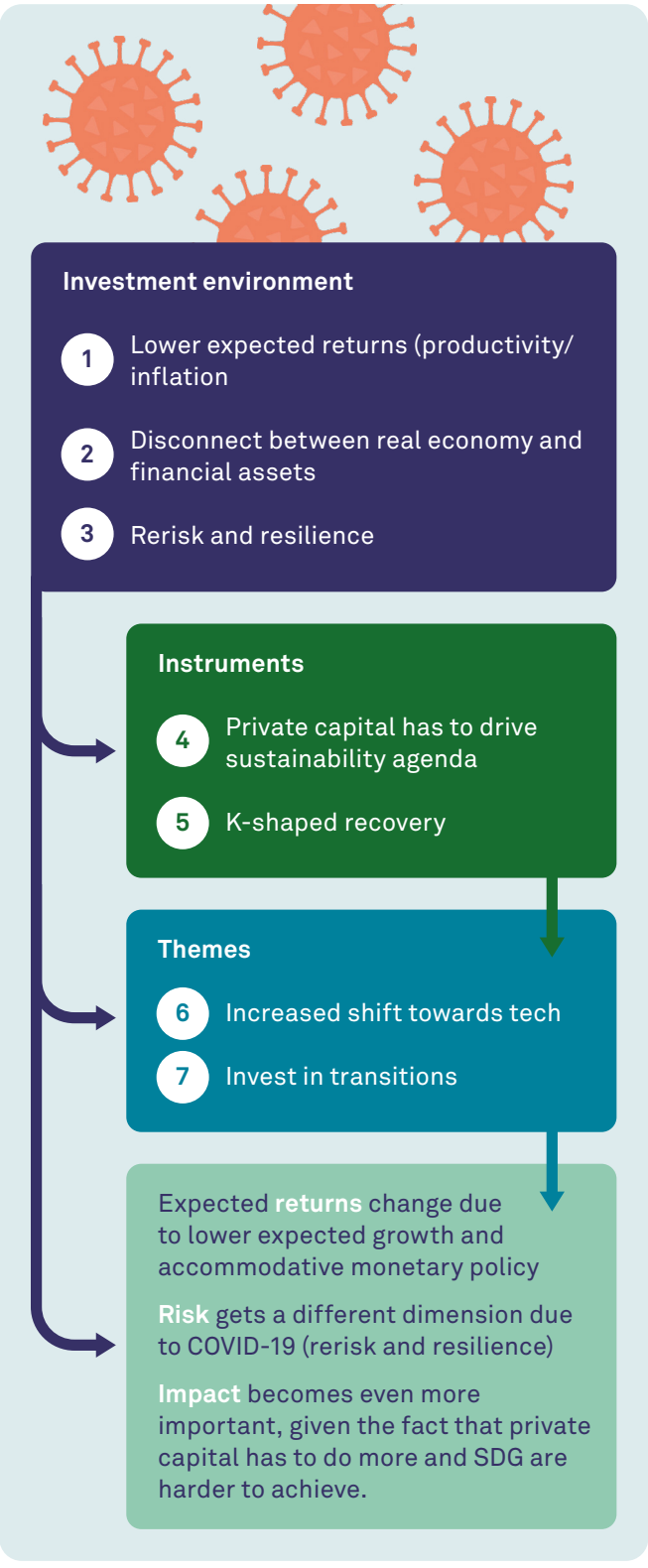
1 lower growth

In the long run, returns on investment equate to long-term nominal growth (real GDP growth plus inflation) and a risk premium. We will have to come to grips with the fact that in a post-COVID period both short and long-term return expectations have come down.

Figure 4 shows what COVID-19 did to growth projections. Economic growth is shown as the speed at which the assembly line runs. The line slows down due to several factors on the input side, productivity and demand.

First, there are several headwinds on the input side. Fundamental uncertainty (we do not know how the virus will evolve) will lead to less investment appetite, reducing productivity prospects in the longer run. Lockdown measures affect industries in very different ways. Some are hit very hard, while others sometimes benefit. On a macroeconomic level this leads to sectoral dislocation: entire sectors might go bankrupt (leisure and culture), which results in a loss of capital and relocation costs of people and infrastructure.

Figure 3 Investing in a corona landscape



Source: Triodos Investment Management

In the longer term, it will also lead to rebuilding costs for sectoral infrastructure. These sectoral dislocations affect capital inputs. And although low interest rates are usually a positive for capital investments, it is probably not enough to counter the other effects.

Planetary boundaries may not directly be affected by Covid-19, but they certainly are a restriction to growth - unless we find new ways to decouple resource use and pollution from growth.
Labour supply is affected by COVID-19 both in quantity and quality. Long-term unemployment may lead to discouraged workers who retreat from the labour market altogether. Poorer quality of (online) education and loss of motivation because of social distancing may eventually hurt the quality of human capital.

Second, productivity growth is hurt by the fact that investments are postponed or cancelled. In addition, low interest rates reduce market dynamics, as they result in an increase in the number of zombie firms. The low interest rates kill any incentive for companies to increase their productivity and raise their profitability, slowing down overall economic growth.

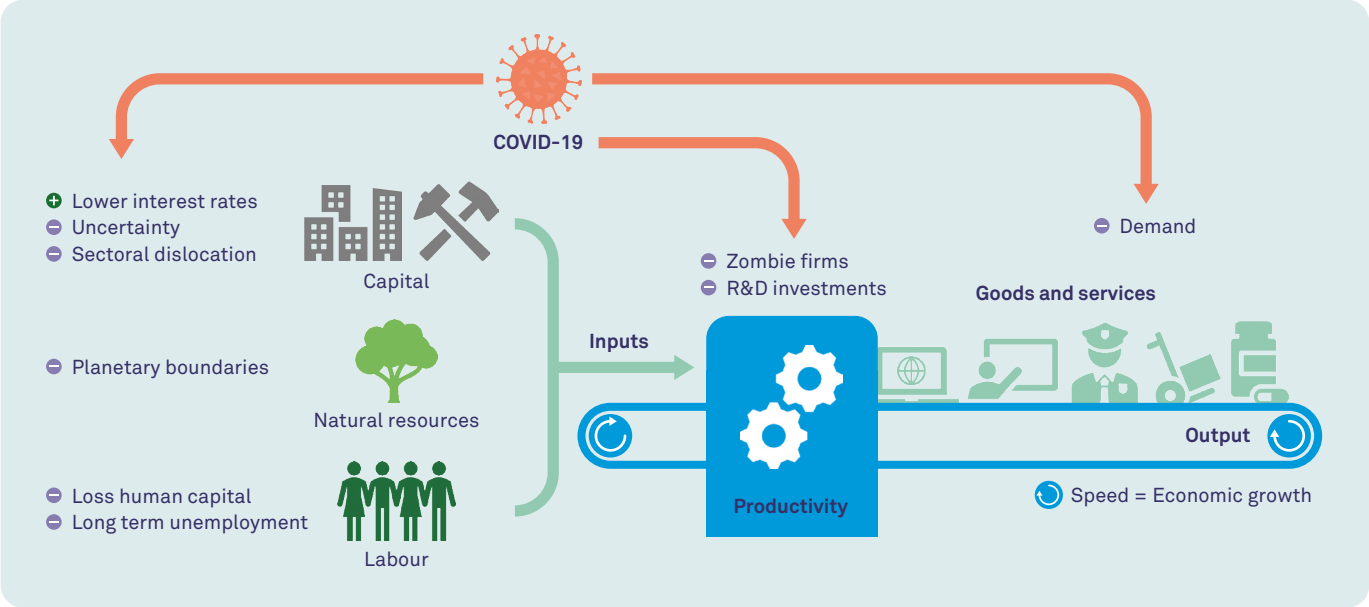
Third, demand will decline in the short term because of the fallout of the crisis and social distancing measures. In the longer term, debt repayments will limit effective demand from households and companies alike.

Given the fundamental uncertainty, the loss of economic activity, and the need to repay and rebuild, it is very likely that economic growth will be lower in the coming years.

Uncertain inflation outlook
The inflation outlook, on the other hand, is less certain. Major central banks (Federal Reserve, ECB, Bank of England and Bank of Japan) try, as is their objective since the early nineties, to maintain an inflation rate at around 2%. The consensus idea is that this is the optimal level to maintain a healthy economy. In practice, this has proved to be an almost impossible goal to achieve during the last decade in Europe and the US, and already for some decades in Japan. In the short term, we expect disinflationary or even deflationary pressure resulting from the slack in the economy. In the longer term, however, we run the risk of higher or even uncontrolled inflation.

The short-term inflation outlook is easy to explain from a macroeconomic perspective. Lower growth means less tension in the economy and hence this is expected to translate in low price pressure. A few COVID-19 related arguments, such as deglobalisation, might to

Figure 4 **Effects COVID-19 on growth expectations**



Source: Triodos Investment Management

some extent counter these disinflationary pressures, but overall it is not expected that inflation will rise soon.

From a monetary and financial markets perspective, however, there are reasons to worry about higher inflation in the longer run. First, accommodative monetary policy has led to a sharp increase in money supply. If this trickles down into the real economy (which is currently not the case) this might give (uncontrolled) inflationary pressure. Although this has not happened in Japan during the last few decades, the scale of the current monetary experiment goes much further. In Japan, the 'end' of the monetary experiment is nowhere near, so there is no way of knowing how this will end.

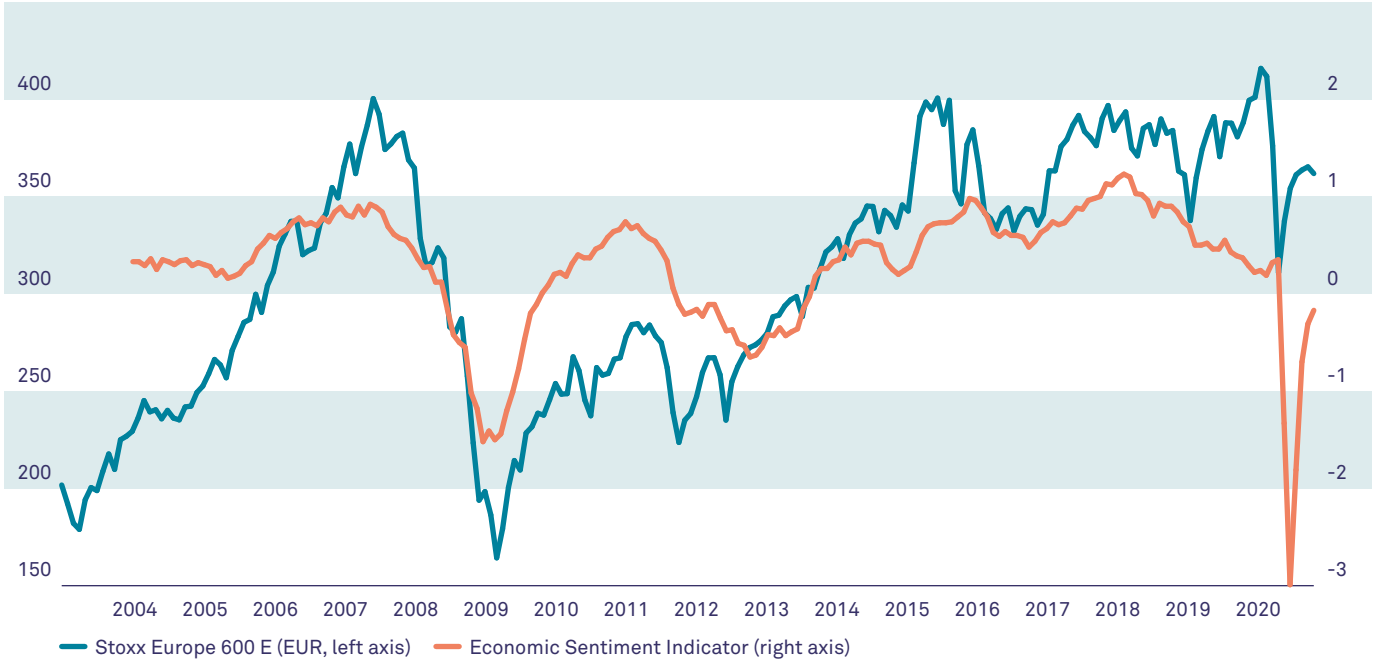
Another source of higher inflation could be changes in our economic system, ranging from deglobalisation pressures to changes in taxes. Deglobalisation, i.e. shortening of supply chains, could increase production costs and hence increase inflation, as these costs usually are passed on to consumers.[56] Second, a lot of the policy discussions about greening the economy are related to shifting taxes from labour to resources and capital. This might also give inflationary pressures in the years to come, especially combined with higher taxation needed to repay public debts.

In addition, the debt overhang looms large as a risk factor for trust in the financial sector and monetary system. If, at some point, countries or large companies default on their debt repayments, this could trigger a crisis of confidence in the system and hence (hyper) inflation. This is not likely to happen anytime soon. But in the longer term, both risks are real.

2 A greater disconnect from the financial sector to the real economy

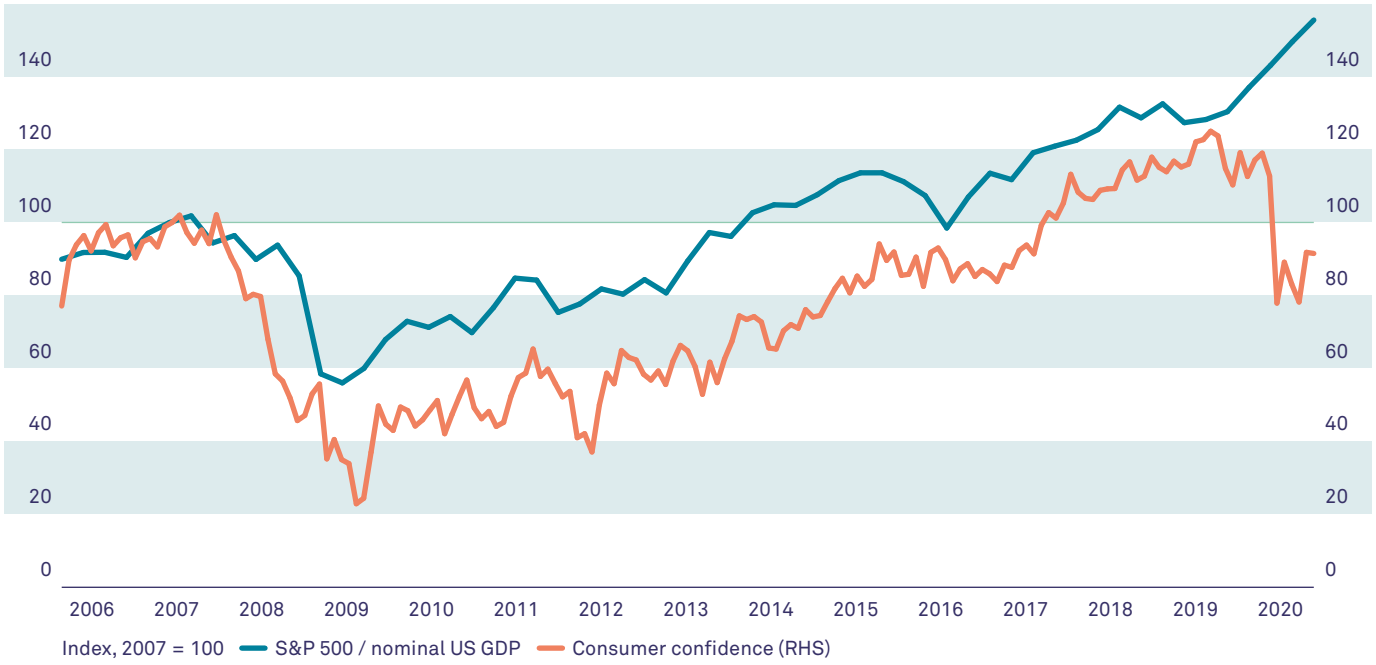
In the first phase after the outbreak of the pandemic, public and monetary policy makers did whatever it took: unprecedented monetary easing and public spending. The massive interventions of central banks led to a rather quick recovery of equity markets and risk premia coming down. Although this market recovery helped to weather the first phase of the storm, it is not a reflection of what is happening in the real economy. Unprecedented downturns in economic growth and huge layoffs must in one way or another be reflected in company valuations. Although some sectors did not recover, the equity markets still seem to be disconnected from the real economy because of the immense liquidity injections. The TINA (There Is No Alternative) attitude in market behaviour makes the future behaviour of markets very uncertain. Other asset classes hardly offer any yield, so investors turn

Figure 5 **Euro area Economic Sentiment Indicator and Stoxx Europe 600 E**



Source: Refinitiv Datastream, Triodos Investment Management

Figure 6 US equities and consumer confidence



Source: Refinitiv Datastream, Triodos Investment Management

to stocks. Rising stock prices are primarily the result of this increase in demand, rather than improving fundamentals.

3 Re-risk, resilience and ESG as risk mitigation

Uncertainty directly related to COVID-19 will remain high the coming period. The fundamental uncertainty has several origins. First, there is uncertainty about the development of the pandemic itself: it may flare up repeatedly, leading to renewed lockdowns, as long as we do not have a vaccine. These are real 'known-unknowns' that investors will have to reckon with. Second, the (geo) political consequences of the crisis are not yet fully known. What can be observed in numerous countries is that in the first phase a large majority of people approved of government policies to contain the virus. In the current phase, this support is waning. The economic consequences are kicking in, leading to a growing number of people calling for normalisation and relaxation of the measures. In the coming months, this pressure may mount as unemployment and poverty increase and governments scale back their support.

While uncertainty is the short-term challenge, the longer-term challenge is to make businesses more resilient, enabling them to better withstand new risks coming from ESG factors, such as climate change, loss of biodiversity, and rising inequality, rather than financial factors.

The crisis has made companies more aware of risks to their business and that building resilience will strengthen their long-term viability. Hence, risk and resilience will probably remain top of the agenda in the years to come. How that evolves in the future is hard to say. But the simple fact that a known risk (a pandemic) has largely been ignored by almost all businesses and governments will have implications going forward. Environmental, social and governance risks will henceforward be taken more seriously by businesses; they will be priced. Serious concerns about the effects of natural disasters, diseases and the fact that more resilient business models work better, makes ESG integration in investment portfolios more rewarding.

Apart from risk mitigation, ESG factors are also very useful in finding real purpose for investing: the positive impact of every investment. In the end, we believe that realising impact in a coronavirus world is the best hedge against ESG risks, not only to mitigate them in a financial sense, but also to use capital to build a more resilient and sustainable economy.

Rethinking their business model, their sourcing, and their customer base will also be a theme for many companies in different sectors in the coming years. The outcomes and thus the consequences will be different. In some cases, resilience thinking might lead to differentiation in supply chains and (geographical) customer base. In other cases, it can lead to thinking about virtualising products and services. And that might be a tricky thing. Resilience going forward must not be judged on the effects of a pandemic but on resilience against different possible ESG shocks. In this process, companies should consider all aspects of the business model, including the balance sheet.

From an investment perspective, all have the same consequence: investors should pursue a relatively defensive investment strategy with a long-term orientation.

Instruments

Finance drives change. As public capital becomes more scarce, private capital must drive the agenda. The changing environment, moreover, also leads to a K-shaped recovery, rewarding more riskier instruments.

4 From public to private capital

The economic effects of COVID-19 play out in three clear phases, with a parallel effect on the financial markets. First, there is the immediate need to save lives. Countries must manage the health crisis by expanding public health services and keeping the spread of the virus in check to avoid overburdening of the hospital capacity. They do this through stringent measures, including lockdowns and social distancing. In the first few months of the crisis, governments globally announced USD 11.7 trillion in new fiscal measures to mitigate the impact of the lockdowns and this figure will surely increase as new stimulation packages get tabled.[57] In addition, this government spending was accompanied by large-scale interventions of central banks, lowering policy rates and asset buying on secondary markets. These interventions led to calmer markets and lower risk premia and enabled most sovereigns to issue extra debt. This first phase has already exhausted a lot of public budgets and is not over yet.

The second phase is characterised by mitigation of the socio-economic impact of the crisis and the multiple global economic shocks of falling commodity prices, declining trade, tourism, remittances, and, in some cases, capital flight, along with major losses in jobs and wages. This is the phase to discuss more structural financial solutions. International solidarity and debt relief, the role of the World Bank, the IMF and other multilateral financial institutions and the European Commission are high on the agenda.

The third phase is driven by a "building it back better" agenda of resetting growth along a path of sustainability, inclusion, and resilience. Many businesses and self-employed, however, are not in any position to contribute to a transition. Debt relief mostly consisted of putting debt repayments and or interest payments on hold, which only leads to higher debt to be repaid. In addition, government support, although abundant, was generally hardly enough to help a lot of new businesses to continue.

Private capital to step in

Here is where private capital must step in, even more so than before COVID-19.[58] Private capital can be largely split up into two instruments: listed (public) equity and debt and different forms of private equity and debt.

At this point in time, there will in general be much more need for private debt to drive sustainability. Extra debt financing, with debt levels high already, will probably add little to a transition. However, private debt can in some cases help. For instance, in combination with public or private equity or as a way (for already listed firms) to attract more funds for labeled green or social projects (green bonds).

For listed equity and debt, the approach should be to invest in companies that structurally 'build back better': companies with positive contributions towards a transition of the world economy in a more sustainable direction. This can be measured for instance by the contribution companies make to the UN Sustainable Development Goals and thereby also exclude those companies with detrimental effects on sustainability. Public markets play their role in a transition to build back better. But new initiatives will normally come from smaller firms that do not have access to capital markets. For them, access to private equity is crucial.

Crucial role private equity

Private equity firms currently have about USD 5.7 trillion in assets under management (AUM).[59] More than 95% of this capital is concentrated in 20 sectors

and subsectors. Six sectors (real estate, energy and utilities, business and professional services, software, industrial equipment and machinery, and healthcare) account for more than half of total AUM. Some sectors, such as fintech, healthcare, and pharma and biotech, appear less affected. Others, such as real estate, travel and hospitality, and some parts of logistics, may need to rethink their business models.

The structural shift towards private equity financing in recent years in Europe[60] creates opportunities to address the post-crisis capital shortfall, and the required repair of corporate balance sheets. In 2019 alone, European private equity investment was directed to about 7,900 companies, 84% of which were SMEs. Globally, the industry is estimated to have USD 2.5 trillion available in so-called 'dry powder' of uncalled capital (and USD 830 billion for buyouts alone).

At the same time, the business model of this industry will to a great extent limit potential investment to companies with clear growth prospects. This is because private equity funds target companies with established records of growth and profitability, where investor engagement rapidly yields efficiencies, and where modest valuation allows a profitable exit within about five years. Financing the building back better agenda, e.g. a more sustainable, inclusive, and less polluting economy, and trying to regain the ground lost in the last months to achieve the SDGs requires more than private equity.

To increase the leverage of private party financing, however, European policy makers must take several measures.
First, the free float of private equity capital across the EU must be made easier by establishing EU rules and regulation. Funding is still overwhelmingly national, with capital from other EU countries accounting for roughly only one fifth on average. This will allow the smaller EU countries to expand their often still underdeveloped private equity markets.
A second objective is to establish European transparency and disclosure standards that will ultimately allow a greater range of investors to access private equity investment and other alternative assets. As fund managers act as agents for professional investors, standards of disclosure vary and scrutiny is lower than those for banks, for example. Unlike the US, where defined contribution pension plans can now invest in private equity, distribution of such funds to retail investors and pension plans in the EU is heavily restricted. Transparency and disclosure of ESG performance need to be strengthened to attract such investors.
Third, as governments expand the equity investments by their national promotional banks and local funds, private fund managers could be involved to lend expertise, for instance in fund-of-funds structures.

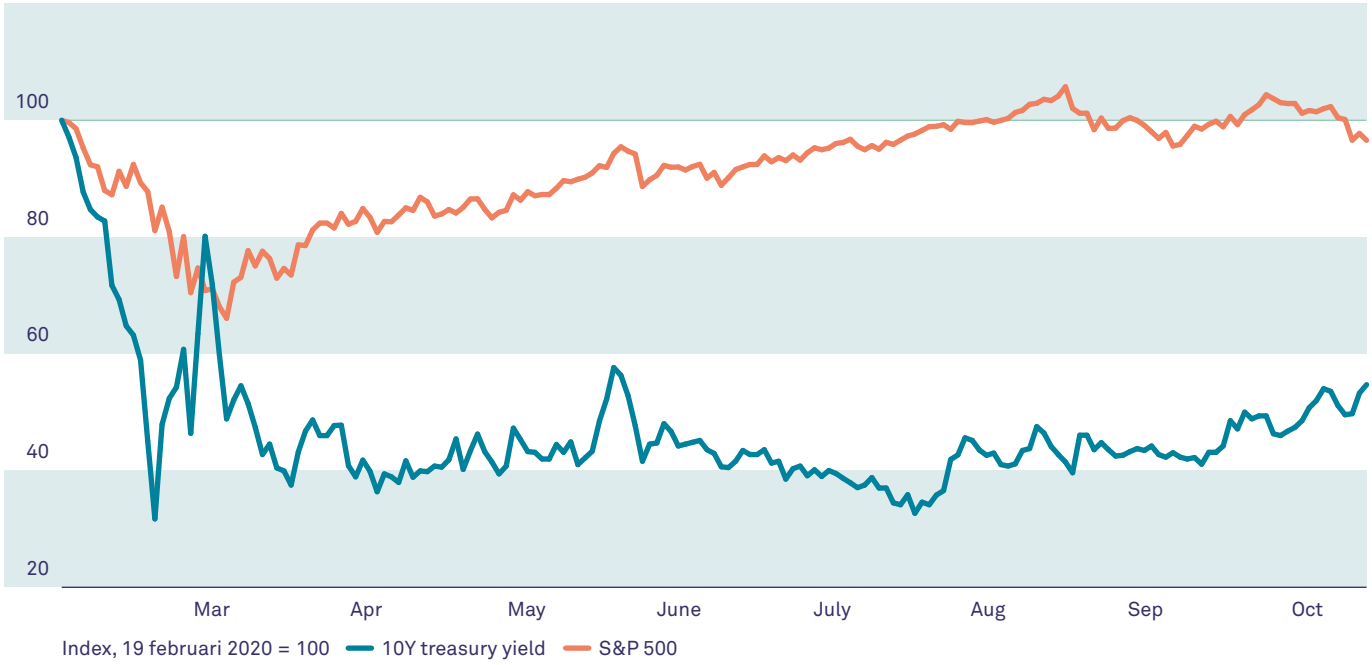
5 K-shaped recovery and ongoing search for yield
The latest buzzword in the financial markets is K-shaped recovery.[61, 62] This refers to both the fact that some parts of the financial sector are completely detached from underlying real economic activities (as described earlier in this paper) and to the fact that some instruments perform better than others. Figure 7 on the next page shows the performance of the 10Y treasury yield and the S&P 500 since the start of the COVID-19 crisis. The graph shows two things: risk-free yields reflect the deteriorating longer-term outlook, and equity prices reflect the search for yield. This search for yield is, of course, fuelled by monetary policy and government interventions.

The K-shape also refers to differences in performance on the equity markets, as market breadth decreased dramatically during the upturn. Only a few stocks - mostly big-tech -drove the stock performance.

The K-shape is the ultimate reflection of the search for yield. The over-liquidity in the markets has detached them from underlying fundamentals and helps the 'haves' to get more, while leaving the 'have-nots' behind. People who fully depend on labour income and become unemployed have a hard time, while asset owners see their wealth grow further.

In the longer run, however, the K-shape is bound to disappear. In the end markets will return to their 'real' valuations because equity market valuations are nothing else but expected discounted profit flows. Ultimately, they can only be based on real economic activities. It is impossible to say how long this will last. Bubbles may burst but they can also deflate slowly.

Figure 7 K-recovery: equities vs treasuries



Source: Refinitiv Datastream, Triodos Investment Management

Investment themes

From the previous chapters and earlier papers, it should be evident that we need a transformation of the world economy more than ever. This transformation is as multi-faceted as our economic system. Different themes, from energy to social inclusion, will drive the transition and therefore deserve more attention from investors going forward.

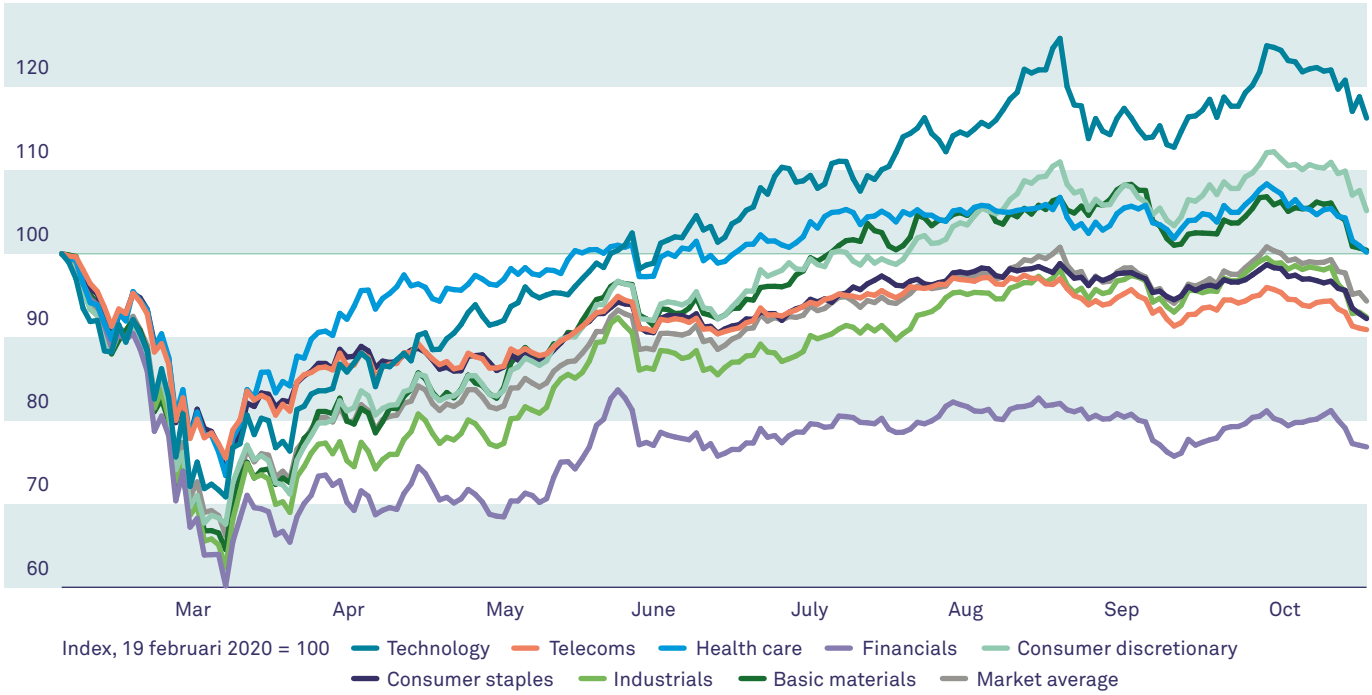
6 Broader shift towards technology

Technology, or rather the application of (new) technology, is the biggest beneficiary of the COVID-19 era until now and its gains are not likely to be reversed after the crisis. A few trends contribute to this. First, big tech companies capitalised both on their strong balance sheet and the surging client demand. Working from home, online education, internet shopping, home entertainment - everything worked to their advantage during the lockdowns. There is, of course, no certainty that demand will remain high. However, changes in behaviour may lead to structurally different working, buying and education habits, which in turn might work in their favour. In addition, we expect a shift in world trade, where the technologically driven virtual trade of services will continue growing, while the growth pace of physical trade will probably slow down. In some value chains trade might even decrease. It is a matter of speculation if the future profits of the companies concerned are in line with their current valuations. We fear that expectations are too high.

In the meantime, structural problems with big tech, ranging from privacy issues to the misuse of market power, remain. Investors often seem to forget that abuse of market power is not the economic moat popularised by Warren Buffet. The idea of the moat is that a company can have a durable competitive advantage that gives it market power and hence protection from attack by competitors. The moat is what makes a company predictable, allowing us to put a value on its business. If its market power gets too high, however, it will turn against the company – in the case of big tech most likely through legislation – and will erode long-term perspectives.

Second, health care also seems to have changed permanently. The recent digitalisation and virtual controls and check-ups are not likely to be reversed and return to pre-coronavirus levels. Hence, e-health will stay healthy.

Figure 8 **Global equities, by sector**



Source: Refinitiv Datastream, Triodos Investment Management

However, from an investor perspective this does not imply that both sectors will also provide the best investments. Tech and health care have led the global recovery of the equity markets, bringing valuations to fantasy levels. In other words, the above-mentioned expectations have already been priced in.

We would focus on less obvious future winners: the companies that are more in line with the challenges of the world. These are the companies that offer the solutions to achieve the common goals as articulated in the SDGs.

7 How to invest in transitions

Transitions require systemic change in society. Systemic change is the result of an interplay between a variety of changes at different levels and in different domains in society that interact and reinforce each other to produce a fundamental qualitative change in a societal system. The notion of transition thus refers to a qualitative change in the state of a complex system.[63]

COVID-19 changes the investment environment and makes some transitions even more urgent. Moreover, with public funds being used to combat the virus and support the economy, it makes the role of private capital even more important. Figure 9 shows different strategies to finance transitions.[64] Three aspects are important in transitions and financing transitions: construction, conversion and phasing out.

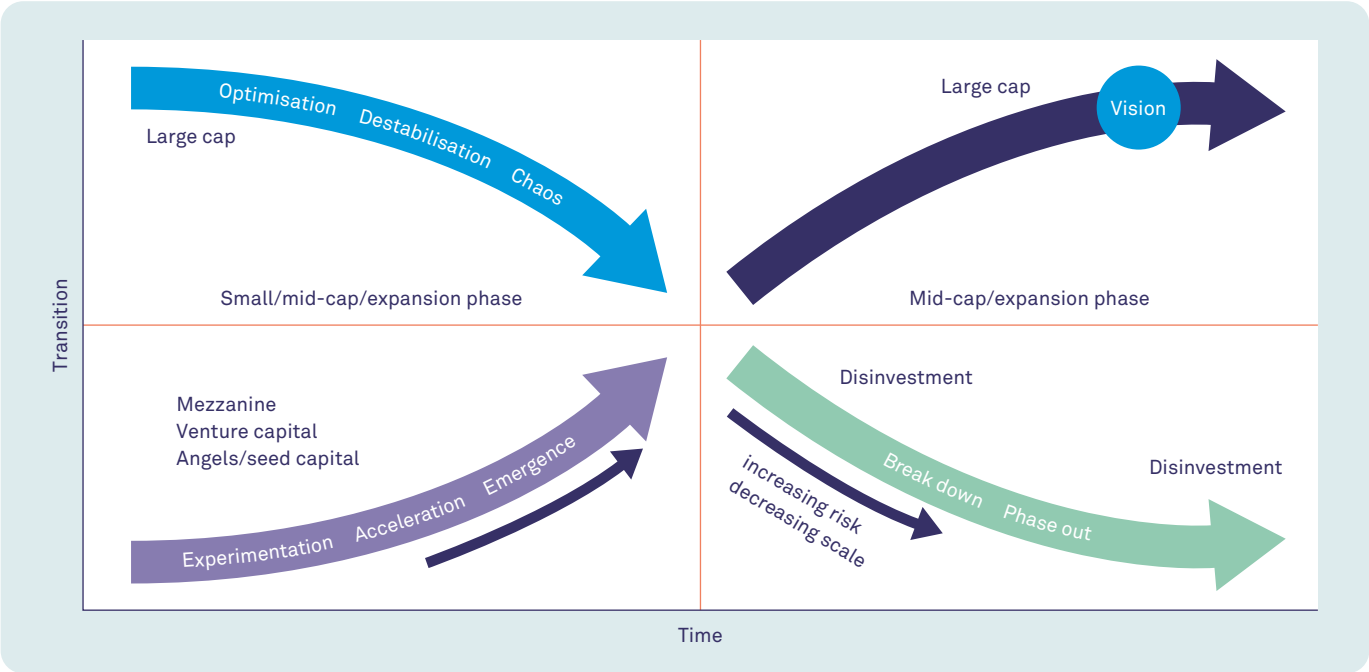
Construction

First, it is about the construction of the new economy: giving room for new initiatives – start-ups and scale-ups – with new technologies and new ideas that contribute to transitions. Investments in experimentation, grass-root movements and new initiatives normally require angel investors and seed capital. In a next phase, mezzanine finance comes in. Normally, governments step in to help start-ups and scale-ups. In many countries, however, public budgets are already slowly becoming exhausted. Hence, financing new transition initiatives must come from the private sector.

Conversion

Second, the conversion of current unsustainable business models into more sustainable businesses is probably the major task of public markets. The winners of our current system are mostly stock-listed companies. Some of them might have the strategies, capital and purpose to also become the winners in a

Figure 9 **Global equities, by sector**



Source: Based on Loorbach et al. (2017), Triodos IM

new system. Of course, these are the companies that Triodos Investment Management invest in, engage with and try to help accelerating their transition.

Phasing out

Third, phasing out of certain economic activities is an important part of transitions. Obvious candidates to be phased out are those companies that have products and services that are clearly unsustainable (from fossil fuels, weapons to unsustainable consumption), whose production processes harm people and environment (from environmental degradation to human dignity) and, above all, that do not have any intention or strategy to convert to a more sustainable business model. At Triodos IM we do not invest in such companies.

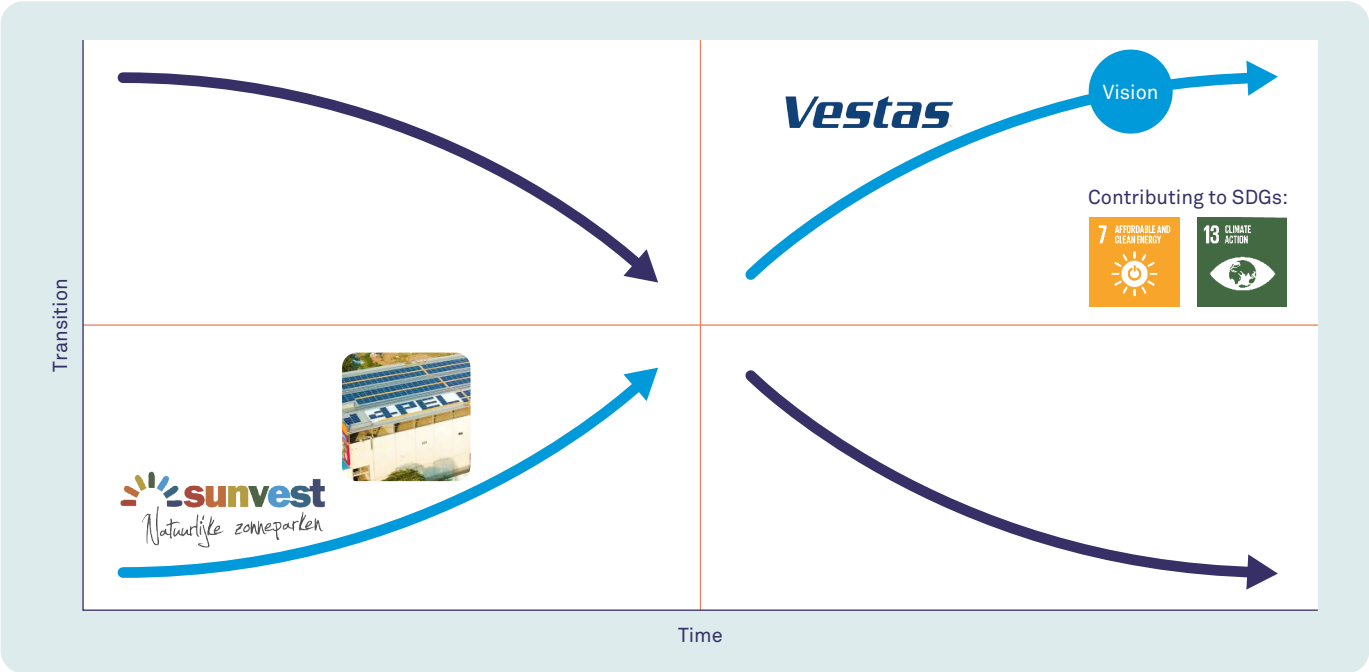
Triodos Investment Management invests in multiple transitions through three main strategies, via listed and non-listed investments: energy and climate, social inclusion, and food and agriculture. In the search for yield, financing transitions may exactly be the kind of investments that pay off in the long run. There is demand from a society with a clear positive impact, trying to recreate our economy and hence create value.

Energy and climate

In many ways, climate change is the overarching challenge the world faces today. The warmer climate already affects natural and human systems around the world, resulting in desertification, land degradation, scarcity of clean water, loss of biodiversity, acidification of oceans, declining food security and more inequality. Globally, energy is the largest polluting sector with over 70% of all global greenhouse gas emissions.[65] Therefore, energy is an important key to tackle climate change. Access to energy is also an important precondition for social and economic development. By focusing on the transition towards renewable energy and on increasing energy access and efficiency, Triodos IM actively contributes to mitigating the effects of climate change, and to fulfilling many of the SDGs.

In March, the rapid spread of COVID-19 and the oil price war between Saudi Arabia and Russia led to an oil price crash. This resulted in a sharp decrease in market valuations of fossil fuel companies and severely reduced the revenues of oil-producing countries. Oil prices have recovered since then, but the ongoing uncertainty and lacklustre economic growth will likely mean a prolonged period of subdued demand.

Figure 10 investing in energy transition



Source: Based on Loorbach et al. (2017), Triodos IM

Even if the COVID-induced lockdowns resulted in substantial, albeit temporary reductions in greenhouse gas emissions, the pandemic certainly does not diminish the need for urgent climate action. The crisis should therefore be used as a catalyst for the energy transition, with substantial investments directed towards renewable energy and improving energy efficiency.

Investing in the energy transition
Through our investments we support the transition towards a more sustainable energy system. We do not invest in fossil fuel producers and nuclear energy. We invest in companies and projects that enhance energy efficiency, produce renewable energy and provide affordable energy solutions.

Vestas (listed) – wind energy
Vestas Wind Systems is a Danish pioneer in the field of wind power systems. Vestas is a market leader and sets a good example by being environmentally conscious and acting to reduce its carbon footprint as well as material and energy consumption in its factories and within its supply chain.

4PEL (non-listed) – affordable energy solutions
In India, Fourth Partner Energy (4PEL) provides affordable, clean and sustainable energy solutions to commercial and industrial clients through the construction of small and medium-scale solar systems. By installing its solar panels mostly on the roofs of enterprises, the company contributes to businesses reducing their energy costs and becoming more power independent. It also fosters the country's transition from a heavily centralised and fossil fuel dependent power production to a clean, sustainable and distributed power generation.

Sunvest (non-listed) – natural solar parks
Sunvest is a Dutch-funded project developer specialised in the development and operation of solar energy systems. It develops and operates many solar energy projects throughout the Netherlands, and it distinguishes itself by developing natural solar parks. Natural solar parks are parks with a great deal of attention to landscape and social integration.

Social inclusion
COVID-19 has abruptly interrupted many of the means to achieve social inclusion and has exposed the most vulnerable. Priorities are being reset, which threatens to reverse the achievements of the Sustainable Development Goals in many countries. Emerging countries with the least resilient societies before the pandemic will be the hardest hit in terms of wellbeing and empowerment. But the pandemic has left no country unscarred. As well as an increase in poverty, the long-term costs in human capital have already risen to an unprecedented level. COVID-19 has led to the largest disruption of the education sector in history.

Investing in social inclusion
Through our investments, we support social inclusion by empowering citizens, facilitating financial inclusion and creating economic opportunities.

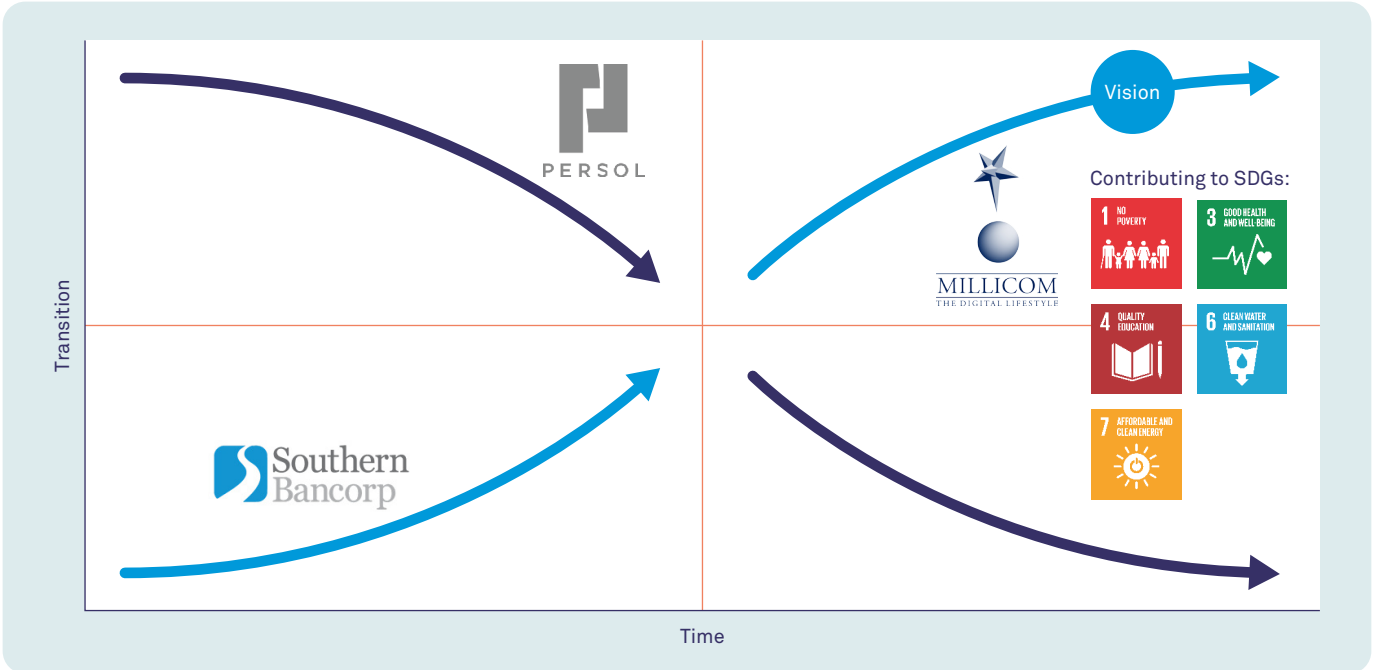
Shiksha (non-listed) - education
Education is crucial in our social inclusion theme as it creates equal opportunities and strengthens empowerment.

A good example is our private equity investment in Shiksha Finance. The Indian company provides loans to affordable private schools for primary and secondary education to improve their infrastructure or expand their capacity. Shiksha aims to improve the access to and quality of primary and secondary education for the 3-17 age group.

Persol (listed) - empowerment
In the field of empowerment, there are several projects that focus on improving the basic rights of minorities and facilitating access to the workforce. A good example is Persol, a Japanese HR service provider that helps individuals to find work that matches their needs at various points in their life and helps people to take the initiative in making life choices. Persol achieves greater diversity in working styles by placing the right people in the right jobs. Persol's aim is to solve social problems through personal development, supporting working people and creating a bright future.

Southern Bancorp (non-listed) - digital and financial inclusion
Southern Bancorp is active in the rural communities in north-eastern and southern Arkansas and western Mississippi. The company revitalizes communities as one of the few banks active in this region. In many areas, it is the only bank available. Its mission is to create economic opportunities for people in

Figure 11 **Investing in social inclusion**



Source: Based on Loorbach et al. (2017), Triodos IM

underserved communities. The bank helps families and communities to grow financially stronger. They contribute to an inclusive society by empowering people to participate in the economy.

Millicom (listed)
Another example of this is Millicom, a Swedish international telecommunications and media company. Millicom provides basic telecom and internet services that are fundamental to the socio-economic progress of the countries where they operate. The company also works towards greater inclusion in its markets by tightening the gender gap in digital technology. It has launched a mobile internet skills training toolkit (MISTT) to train women on how to use smart phones, create mobile money wallets and other social media services.

Food and agriculture
COVID-19 has hit the economy hard, including the food and agriculture industry. Although food demand is relatively inelastic, i.e. rather insensitive to adverse developments in society and economy, the lockdowns that followed COVID-19 had a significant impact.

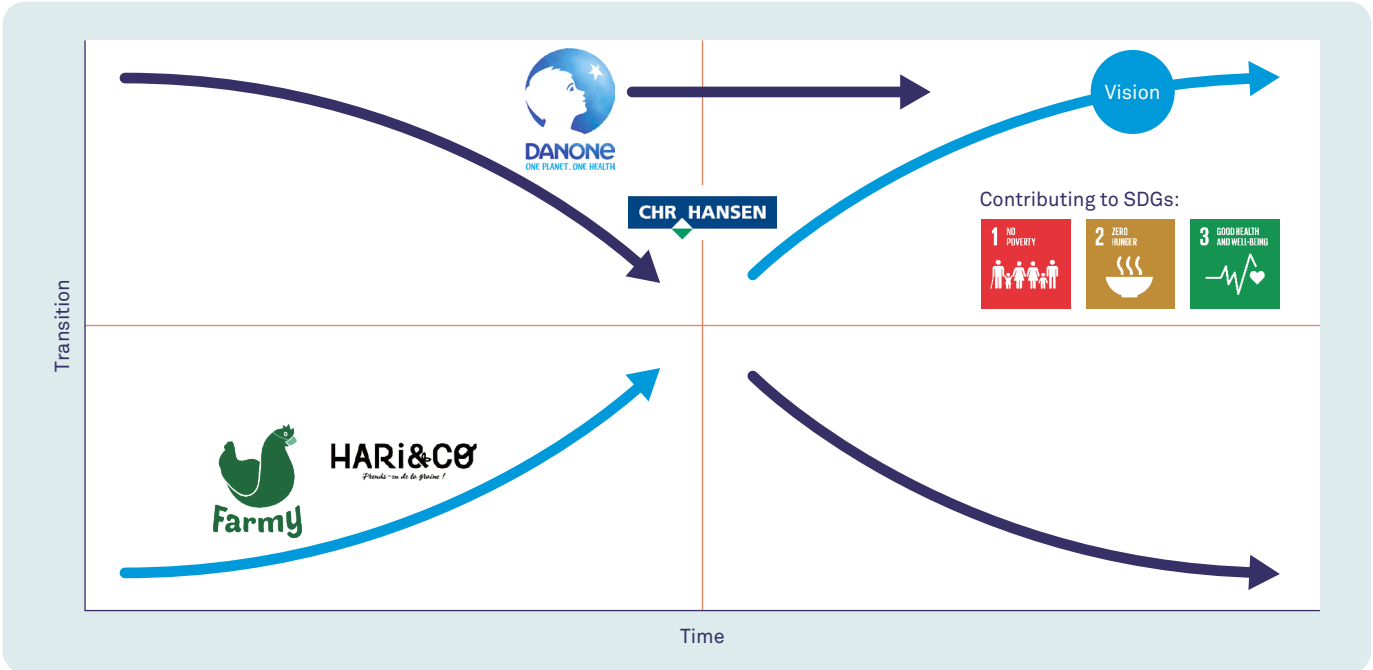
Increased demand for flour, canned food and toilet paper at the beginning of the lockdowns, led to shortages. Many countries closed their borders which hampered logistics, transport and migration of labour in the food industry. This effect was augmented by the working restrictions for people with coronavirus symptoms, at least in Western countries. Stricter controls and higher hygiene standards slowed down the market even further. For the hotel, restaurant and tourism industry, lockdown led to an enormous decline in demand.

The weak spot of a highly globalised food industry became immediately visible with the poorest countries, where a lot of basic production takes place, affected the most.

In emerging economies, 500 million farmers producing crops on less than two hectares supply 70% of the world's food. They represent the poorest people in the world. By providing raw materials for western markets, some countries are unable to provide for their own population, making them dependent on food imports from the countries they supply. Where local food production is underdeveloped, further shortages will likely occur.

There is a direct relation between an individual's health and COVID-19. For example, obese people are more vulnerable to the effects of the virus. Undernourished

Figure 12 **Investing in food and Agriculture transition**



Source: Based on Loorbach et al. (2017), Triodos IM

people also have greater difficulty withstanding the virus, as they do almost all diseases.

The most effective way to protect oneself from viruses is to be in good health. Where governments failed to promote healthy diets and lifestyles to combat COVID-19, the market has taken action and the pandemic seems to be accelerating a healthy food trend. The consumption of animal protein is declining due to lack of trust and fear of contagion from animals. Food delivery is increasing as people avoid supermarkets. A substantial increase in demand for local, healthy and fresh food products is visible, reconnecting consumers with producers.

Investing in the food transition
We invest in the food and agriculture sector both in listed and non-listed companies. Our strict minimum standards ensure that we will only invest in companies that have proper policies regarding the environmental damage of their production. We also look very closely at animal welfare, use of pesticides and genetic engineering. This implies that large food processing companies are hard to find in our investment universe.

The companies we choose to invest in have a clear positive impact on the food transition, either through their production methods or the products they produce.

Farmy (non-listed) - Local food production and distribution
COVID-19 and the subsequent lockdown in many countries brought about a slowdown in global supply chains. This can be an opportunity to rethink the way we source and distribute our food, and many companies and initiatives are already moving in this direction. Swiss company Farmy is an online market for transparent and sustainable weekly shopping directly from the producer. Farmy offers over 12,500 hand-picked and mostly organic products from more than 1,000 authentic producers, and it delivers the orders to the whole country thanks to a fleet of electric vehicles. In the first half of 2020, Farmy increased its sales by 160% compared to the previous year, strengthening its position as the third largest online food shop in Switzerland.

HARI&Co (non-listed) - Sustainable and nutritious diets
Food and agriculture systems should deliver healthy nutrition for all, without damaging the natural systems they depend on, and deliver inclusive prosperity for those active in the food and agriculture chain. In France, HARi&CO has a mission to produce healthy, highly nutritive, plant-based products from locally sourced ingredients. Its products are protein alternatives to meat that are organic, free of genetically modified organisms (GMO), preservative-free and additive-free and require little processing and water in the production. HARi&CO sells more than 50% of its products to school canteens, where it teaches school children about healthy diets. It also builds long-term relationship with the farmers by offering three-year contracts on volume, thereby providing farmers with a stable income.

Chr. Hansen (listed) - Less waste
A truly sustainable food supply system makes sure that waste is minimised. This can be done by applying circularity solutions to production scraps and by extending the shelf life of products. Chr. Hansen is a stock-listed Danish company that develops and produces microbial cultures, among other things. These cultures are natural solutions for food protection, preventing quick spoilage of ingredients. They increase food safety and reduce the need for antibiotics and GMOs.

Danone (listed) – Sustainability throughout value chain
Large, listed food companies play a key role in steering people's consumption habits, as well as predominant production methods. It is therefore important to stimulate their efforts to become more sustainable. Danone, the French multinational best known for its dairy products has a mission "to bring health through food to as many people as possible". Importantly, it is doing so by actively meeting the growing demand for natural, nutritious and more environmentally-friendly products. The company is expanding its product range to include plant-based alternatives to dairy products and is increasingly devoted to stimulating sustainability in its whole value chain, from reducing GMOs in cows' feed, to improving animal welfare and lowering its greenhouse gas emissions.

5 Escaping the impact investment trilemma in Covid-19 times

As an impact investor, Triodos Investment Management always looks at an optimal combination of return, risk and impact over the long run. Traditionally, this has been a compromise: less risk means lower returns, while more impact also suggests lower risk-adjusted returns. It has become clear in recent years that you don't have to sacrifice risk-adjusted return for impact. You can find more nuanced explanations in many academic papers.[66] Also, the trade-offs differ between asset classes and sometimes also between specific investments: investing in solar wind is not necessarily more risky than other investments. But, all these nuances aside, uniform investment opportunities will generally differ with respect to risk, expected returns and impact. Otherwise, creating impact would never be an issue.

So, the general framework helps to understand what we do: an impact investor tries to optimise long run risk-adjusted impact and financial return (figure 13). This can be called the impact investing trilemma. And although this is not a zero-sum game, the framework helps to analyse how COVID-19 affects impact investing.

We are still in the middle of the Covid-19 pandemic. All developments in the global economy and financial markets are 'unprecedented', so it can be hard to separate some severe but temporary effects of the crisis from more long term and structural effects on the investment landscape. In this paper, we attempt to show those different effects. However, the longer the direct effects of the coronavirus last (i.e. the social distancing measures) the more likely it is that temporary effects will lead to more longer-term effects and that behaviour will be structurally affected. How this will evolve, we simply don't know yet.

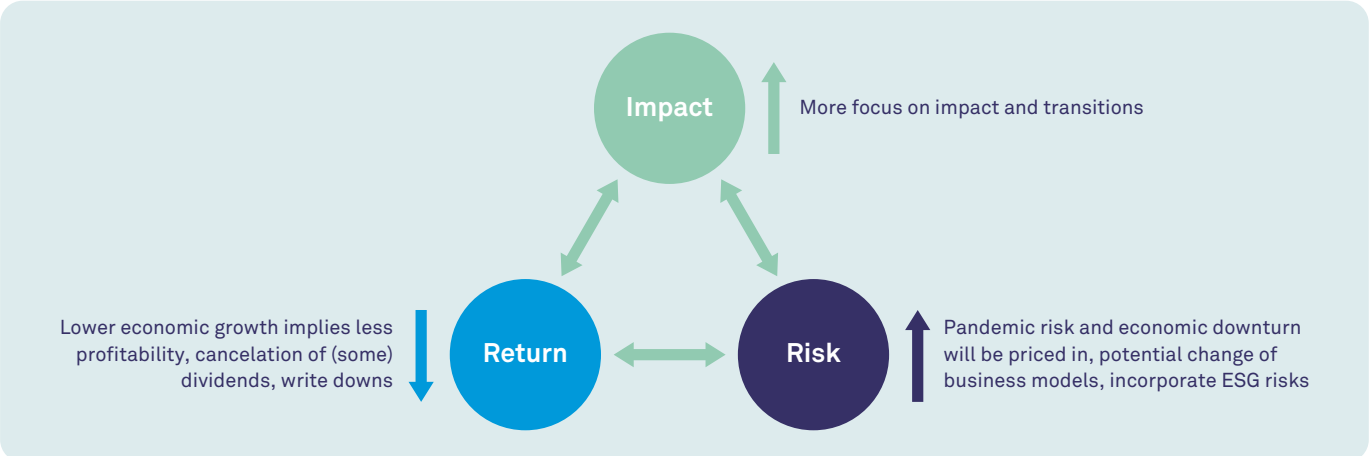
What is clear is that Covid-19 has shifted all three parts of this investment trilemma. These changes differ per instrument and within instruments and even within different investment themes. But it is possible to draw some general conclusions.

First, longer term financial returns expectations are affected by the crisis. Lower economic growth due to the scarring effects to the growth potential of the world economy will translate into lower turnover and profit expectations for companies. In addition, many investment opportunities are disconnected from real economic developments. Therefore, a correction in some markets can be expected in the longer term.

As the 'return-angle' shifts, we will continue to invest with a long-term horizon strategy that is connected to the real economy. We believe that this will be less damaging for performance than the market average.

Second, there is a new dimension to investment risk. In addition to the current underlying uncertainty about the development of the coronavirus crisis in the coming months, risks stemming from ESG (Environmental, Social and Governance) factors will also become more prominent in the longer term. Pandemics are not unknown risks. The likelihood of a global pandemic has long been known, but it was not priced into markets.

Figure 13 **Impact investing trilemma: Changes in impact, risk and return in COVID-19 investment landscape**



The coronavirus crisis has made companies more aware of the risks and they see that building resilience can help the long-term viability of their business. A resilient business model, either through less leveraged balance sheets or through changing supply chains, from efficiency to security of supply, will certainly decrease risk. But this could be at the expense of returns.

At Triodos Investment Management, we believe the best response to this changing trilemma is to continue to invest as sustainably as possible, taking ESG factors into account from a risk perspective. However, there is more to consider from a risk perspective. There is an increasingly pressing need for faster transitions – to a carbon neutral economy, to a more social inclusive economy and to a food system that works in harmony with nature instead of causing damage. This means that the risk identified with unsustainable investments becomes larger.

This need for transition also relates to impact. We don't want to look at sustainability purely from a risk perspective. It is crucial that we consider it from an impact perspective. Covid-19 is a major setback for the global sustainability agenda as articulated in the SDGs. Private investors are needed more than ever to help to realise those goals. There is a greater need for equity investment, mostly private equity to help new initiatives to contribute to transitions and for existing companies to rebuild themselves to deliver sustainable impact. Hence, impact is all the more important, and impact investors are more necessary than ever. So, we see a lot of good investment opportunities in different transitions, such as in climate and energy, food transition or a transition towards a more inclusive society.

Our approach is to invest in transitions, helping to realise a transition towards a more sustainable world by aligning our investments with changes that are needed.

This is also our approach to escape the investment trilemma: we believe that the right vision on transitions combined with impact investing decisions can lead to a higher risk-adjusted, long-term return than the market average. Of course, new risks (such as innovation risks and transition risks) will pop up during transitions. We expect, however, that incumbent, non-transition companies will face the same risks. Especially in COVID-19 times, this position clearly makes the difference: more impact is important, long-term risks have shifted and average return expectations are lower.

We don't know how long we will have to wait for a vaccine and the end of the Covid-19 era. But we don't have to wait for it to be over, we must make the best of our reality. If it's broken, don't just fix it, improve it.

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About Triodos Investment Management
With over 25 years of experience as a globally active impact investor, and as a wholly-owned subsidiary of Triodos Bank, Triodos Investment Management has developed deep sector-specific insights across Energy & Climate, Inclusive Finance, Sustainable Food & Agriculture, and Impact Equities and Bonds. Offering impact solutions through private equity, debt, and listed equities and bonds, our assets under management amounted to EUR 4.9 billion as per 30 June 2020.

Investing in positive change
For more information about Triodos Impact Equities and Bonds, and other impact investment opportunities, please contact our Investor Relations team at:

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