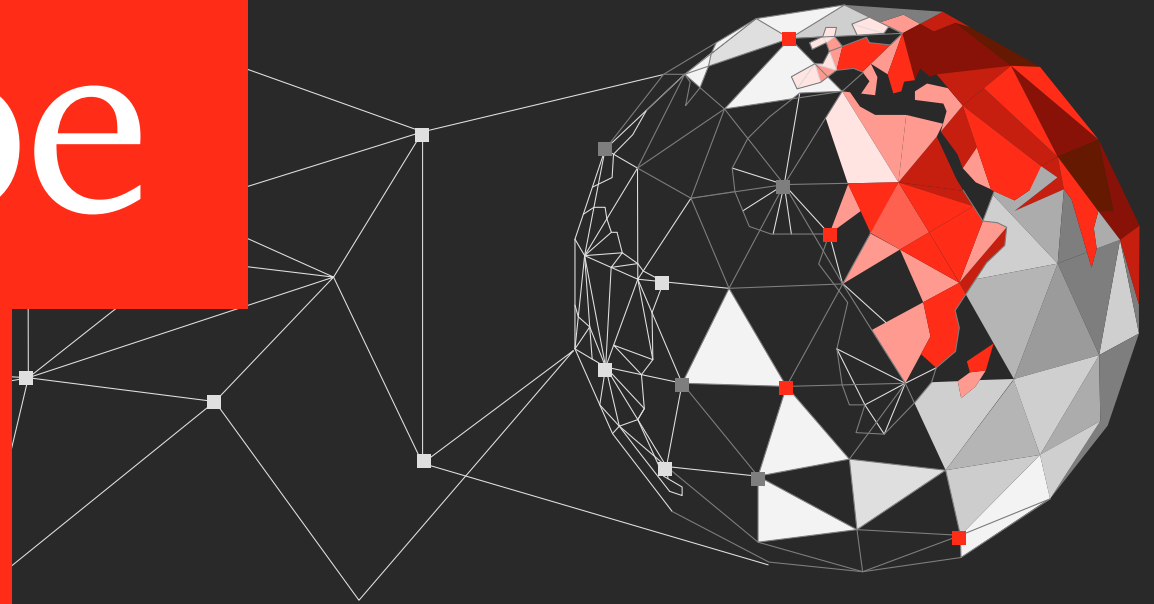


Europe monitor



The economics of epidemics:
Human behaviour takes central stage and
informs policy responses
Macroeconomic Update Europe
Country Update Turkey



June 2020

The economics of epidemics: Human behaviour takes central stage and informs policy responses

How big of a difference do our actions make to the spread of epidemics and the associated economic fallout? Should public efforts focus on diseases with a high cost of illness, or on diseases for which it takes a lot of effort for people to engage in preventive behaviour? Do people's responses make disease eradication more or less likely? Does our behaviour provide a rationale for government intervention, or do we fully internalize the societal cost of epidemics when we make decisions regarding social distancing and use of protective measures?

The inclusion of human behaviour in economic modelling of epidemics is a late 20th and beginning of 21st century phenomenon that has improved our understanding of epidemiological economics and has strong implications for public policy.

Modern models that include our reaction to infectious diseases predict less severe epidemics than older ones do

In the early 1990s, epidemiological economic models started to take into account individual rational choice. As a result, it was shown that spreads of epidemics have been less acute than predicted by older models that disregarded the human reaction to epidemics because the motivation of non-infected people to adjust their behaviour increases proportionally to the risk of the disease.¹ For example, a model that would disregard the incentives of people to reduce their social interactions as a result of the COVID-19 pandemic would overestimate its spread and impact.

The public policy implication is that disease testing can be counterproductive, as it would incentivize infected people to behave more irresponsibly and therefore to be more likely to infect others and accelerate the spread of the disease. Here the characteristics of the disease are important, as the argument does not hold for diseases for which one cannot acquire immunity.

The implication is that the cost of infectious diseases and the public programs that respond to it had been exaggerated in older models that did not take into account behavioural considerations.

This made the case for a smaller, while not laissez-faire, governmental role.

Governments should focus on diseases for which it is very costly for people to engage in preventive behaviour

Until the mid-1990s, welfare loss caused by a disease made use of cost-of-illness calculations.² In this way, only the prevalence and severity of a disease are considered, with the implication that the larger the mortality inflicted by a disease, the larger its welfare loss.

The new approach interprets the welfare loss induced by an epidemic as a "tax" on behaviour that results in exposure to the disease. This tax makes it costly for people to behave in a way that increases the likelihood of getting the disease, inducing them to forego exposure to the disease and engage in preventive behaviour. The conclusion is that for the cases when it takes a lot of effort to engage in prevention, the main welfare loss is that associated with the cost of prevention rather than the direct costs of illness.

This implies that public policies aimed at increasing welfare or minimizing welfare loss must put more effort in reducing the cost of prevention for diseases for which this is very high, rather than focus only on diseases with the greatest direct costs of illness.

¹ Philipson J, Tomas, and Richard A. Posner. Private choices and public health: The AIDS epidemic in an economic perspective. *Harvard University Press, 1993.*

² Philipson, Tomas. "The Welfare Loss of Disease and the Theory of Taxation." *Journal of Health Economics*, vol. 14, no. 3, 1995, pp. 387–387., doi:10.1016/0167-6296(95)90922-S.



People's responses make disease eradication less likely

In the late 1990s, research focused on how much the prevalence of a disease changes the demand for prevention against it.³ The findings were that the growth of infectious diseases is self-limiting because it induces preventive behaviour. It also means that since the decline of a disease discourages prevention, initially successful public health efforts actually make it progressively harder to eradicate infectious diseases.

³ Philipson, Tomas. *Economic Epidemiology and Infectious Diseases*. National Bureau of Economic Research, 1999.

⁴ Eichenbaum, Martin S, et al. *The Macroeconomics of Epidemics*. National Bureau of Economic Research, 2020. www.nber.org/papers/w26882.

The general result is the inability of private markets to eradicate infectious diseases when demand for prevention depends on the prevalence of the disease because as the disease disappears, so does the demand for prevention. This conclusion that the propensity to become infected may decrease when the prevalence of the disease increases - as a higher number of infections makes uninfected individuals raise their demand for prevention - went against the conventional thinking of the late 20th century.

The important implication for public policy is that price subsidies for vaccinations and mandatory vaccination programs are limited in their ability to achieve disease eradication, because higher vaccination rates lower disease prevalence and subsequently the incentive of other individuals to become vaccinated. This argument points to the ineffectiveness of subsidies that are aimed at solving the private sector's under provision of vaccines. In addition, if the public subsidy is not timely, the growth in prevalence is expected to have already induced protection and made the subsidy less relevant.

Behavioural considerations support government intervention, but not always

In 1927, the classic SIR (susceptible-infectious-recovered) model was introduced to study the equilibrium interaction between economic decisions and epidemic dynamics. In that model, human behaviour did not have an impact on the spread of an infectious disease. The year 2020 brought about a higher degree of sophistication in economic modelling of epidemics, whereby activities such as working and going out for shopping raise the probability that the infection spreads in the SIR model.⁴

The model allows for the epidemic to have both demand and supply effects. The supply effect reflects that people reduce their labour supply for fear of getting infected. The demand effect reflects that people reduce their consumption because it exposes them to the disease.

The study shows that the competitive equilibrium is not optimal, because people infected with the virus do not fully consider the effect of their consumption and work decisions on the spread of the disease. Nevertheless, when accounting for an overwhelmed healthcare system, people do take into account the higher mortality rates and cut back further on consumption and work.

The model points to externalities that are best countered by government-imposed, simple, large-scale containment policies that reduce consumption and hours worked, for example by means of lock-downs and working from home measures. With respect to the timing of containment policies, the model predicts that abandoning containment policies prematurely would lead to an initial economic recovery, but the rise in infection rates would cause a new, persistent recession.

Other research, however, contrasts these findings. Using an economy made up of several heterogeneous sectors that differ in their infection probabilities, the finding is that private consumption can shift across sectors of the economy rather than shrink. This means that the decrease in consumption in one sector is offset by an increase in consumption in another sector, thereby minimising the economic impact of the pandemic.⁵ This research however builds on strong assumptions - that very similar goods can be consumed at home rather than in the market place, and that very similar work may be performed remotely. This model points at the “Swedish solution” of letting the epidemic play out without government intervention as the one that leads to a substantial mitigation of the economic and human costs of a pandemic. The finding is that the individual rational re-allocation of economic activity is enough to reduce infections, so that the infection curve not just flattens, but it declines.

⁵ Krueger, Dirk, et al. Macroeconomic Dynamics and Reallocation in an Epidemic. National Bureau of Economic Research, 2020. www.nber.org/papers/w27047.

The modelling of human behaviour has provided us with new insights on the spread of epidemics, their economic impact, and the appropriate policy responses. This field is however new and much of the conclusions of existing research must still pass the trial of history. What is certain is the importance of further developing our understanding and modelling of human behaviour in order to define the best policy responses to epidemics.

Macroeconomic Update Europe

With the debate over the optimal response to COVID-19 continuing in the background, there is little doubt that the economic outlook is negatively impacted from the pandemic no matter what the policy response. The only questions remaining are related to the magnitude of this impact, its spread over time, and the distribution of these impacts across societal groups.

The grim global outlook – with 2020 expected to have the highest share of countries that plunge into recession since 1871⁶ – leaves little room to call one a pessimist even if they talk about doom and gloom. Yet, not all is bad. Optimism is creeping in and building on the premise of using the current reflective working-from-home time to envisage a more prosper, cleaner, and equitable future. As people are rethinking their future, the promises of a greener future, technologically-enabled growth, and skills development seem to gain stronger grounds.

As expected, the first quarter of 2020 has seen growth declining and even shrinking, unemployment rising, capital investments and private consumption falling, trade contracting, and government expenses increasing in an effort to counter the former effects. The determinants of the future economic trajectory towards a sustainable growth path will be the development of the pandemic, the behavioural responses of individuals to the pandemic, the effectiveness and economic impact of policy measures, and any long-lasting effects that the pandemic will engender.

With most European countries in lockdown for the better part of the second quarter of 2020 – more so than during the first three months of this year-, economic indicators for the period March-June are expected to worsen further compared to the previous three months. The easing of the measures that started around June and is expected to gradually continue – absent a second wave of infection – is however expected to produce an uptick in most economic indicators in the third quarter of 2020 and after that.

The contraction in growth is now uncontroversial. The lingering question is how the pandemic will in the longer term affect the path of the growth rate.

GDP growth

COVID-19 and its associated lockdown measures became more prominent in Europe only in March 2020 and started to loosen up mainly in June 2020. This timeline begs the question of how much worse the second quarter 2020 results will be compared to the decrease of 3.5% of GDP in the EU in the first three months of this year, compared to the previous quarter.

With international bodies continuously revising their forecasts downwards, the growth contraction forecasted in Europe seems to bring an end to almost seven years of expansion. In the first half of 2020, European growth was buffeted by a drop in trade, dwindling consumer demand, and lower capital investments.

Given the difficulty of projecting a growth path for the future in the face of so many uncertainties regarding COVID-19 developments, PwC has used recovery scenarios to better understand the future trajectory of growth. Based on new information as it becomes available, we have looked into the potential impact of the COVID-19 crisis on the Netherlands.

This analysis is based on an input-output model, a quantitative economic model that takes into account the interdependencies between different sectors of an economy and allows to model

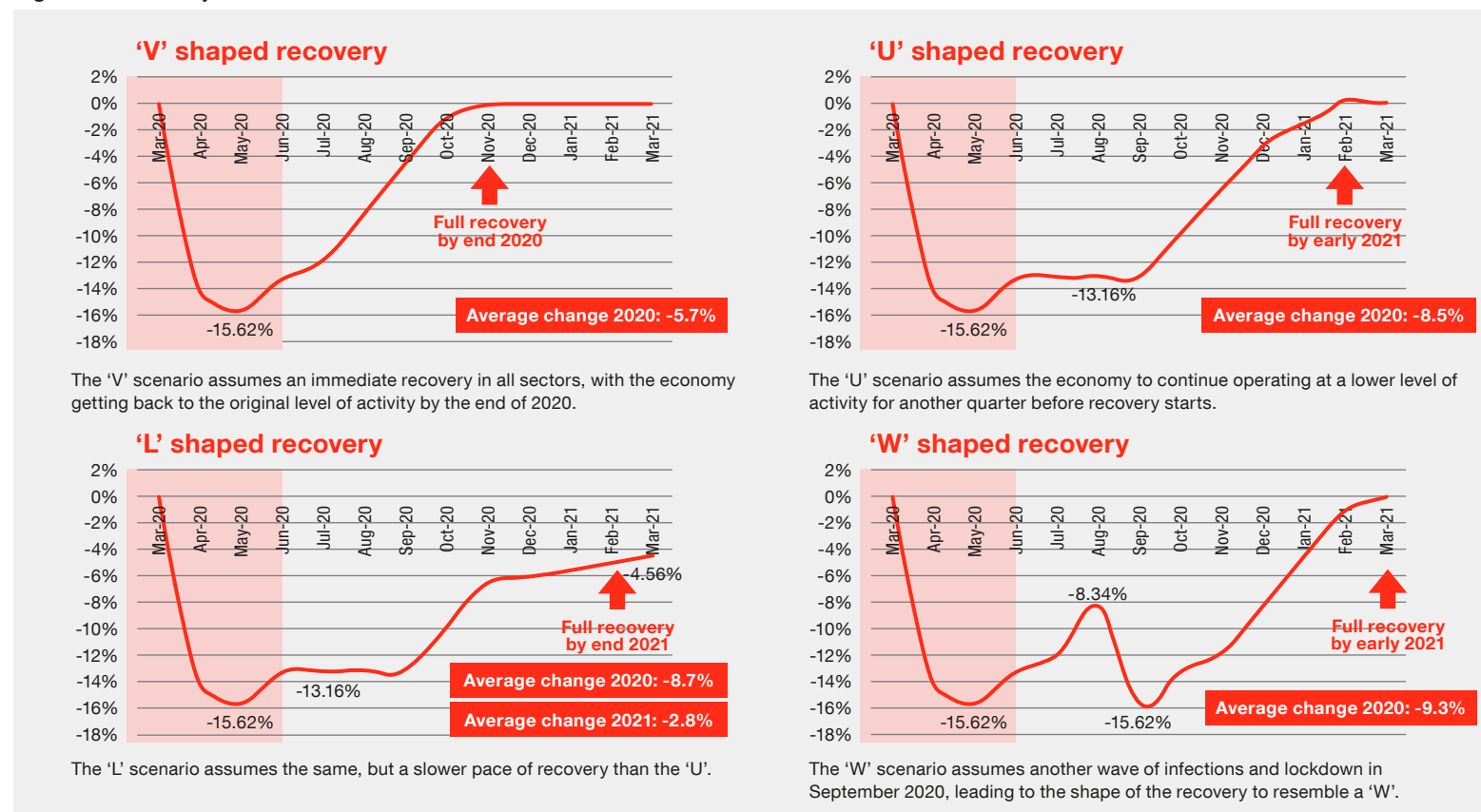
⁶ <https://www.worldbank.org/en/news/feature/2020/06/08/the-global-economic-outlook-during-the-covid-19-pandemic-a-changed-world>

'shocks' to assess the ripple effects on the overall economy. The analysis is based on four scenarios, determined in part by the occurrence of lack thereof of a second wave of COVID-19 infection, that have become familiar to the world in the recent past – the 'V', 'U', 'L' and 'W' shaped recoveries.

Recovery scenarios

Various assumptions have been made for the analysis. The first phase of decline in the economy (March-May 2020) coincides with the lockdown period and is assumed to be the same across all four scenarios. As the country⁷ begins to open up, the recovery process begins. The below charts denote the decline in gross value added from the baseline in March 2020 (Figure 1).

Figure 1 Recovery scenarios for the Netherlands

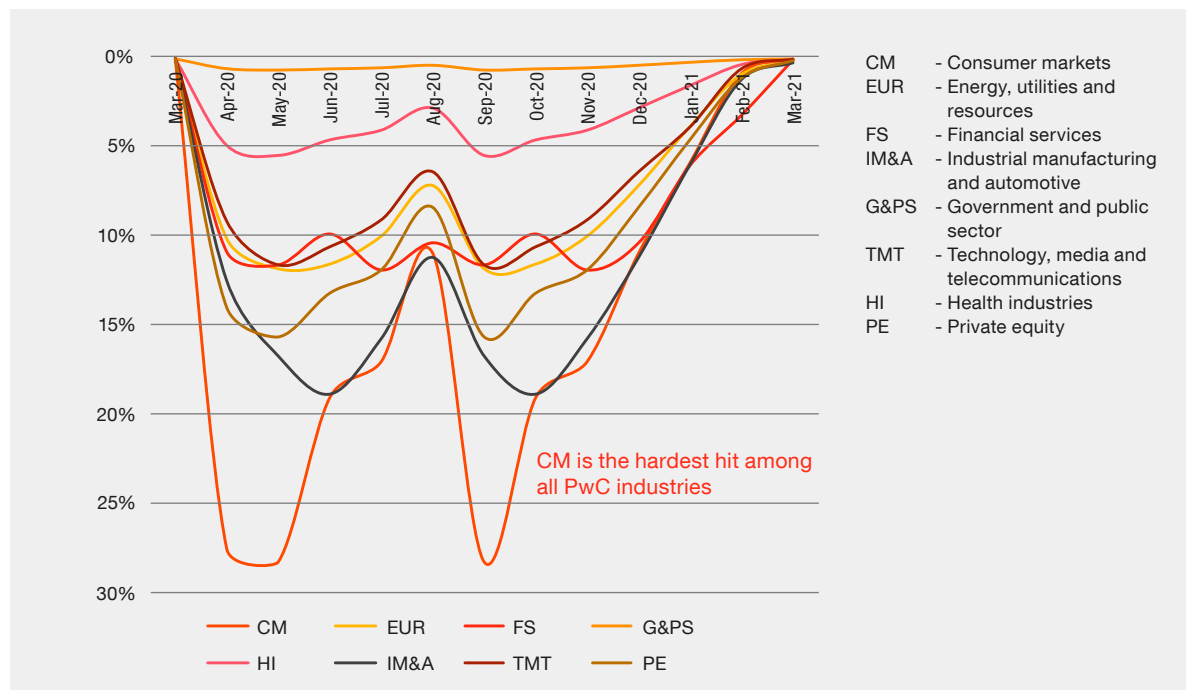


⁷ The scenario analysis is performed for the Netherlands. Nevertheless, we expect the scenarios to be applicable to a certain degree to all European countries.

The ‘V’ scenario reflects the quick recovery that historically is found after a pandemic, because the lockdown-lockup process is symmetrical and nothing fundamental has changed in the economy. The ‘U’ scenario indicates that if the lockdown lasts for relatively longer, parts of the economy such as the financial system or supply chains can suffer and slow down the recovery. The ‘L’ scenario shows a recovery that, due to the longer lockdown and associated negative impact on different parts of the economy, will not pick up entirely until new growth engines emerge. The ‘W’ scenario is similar to the ‘V’ scenario in assuming that the recovery is steep given that nothing structural has changed in the economy; however, it includes a second wave of infections.

8 Classified based on PwC industry definitions.

Figure 2 Total impact



An industry-level analysis

A characteristic of this pandemic is the diverse range of impact it has on different industries. Therefore, the scenario analysis also includes a per-industry impact analysis⁸. It is clear that consumer markets are most severely impacted by the crisis. This is largely driven by sub-industries that have been directly impacted by the lockdown – like entertainment services, accommodation and food services. Industrial manufacturing and automotive industry (IM&A) is also steeply affected, driven in part by production stops caused either by the decision to avoid a further spread of the virus or because of input shortages. With airlines virtually grounded, this sub-sector has also been severely affected by the pandemic lockdowns.

Government and public sector (G&PS) and health industries (HI) are among the least impacted industries, since they include largely ‘essential services’ that continued to operate and maintained their demand levels through the crisis. The chart below details the impact by industry for the ‘W’ scenario (Figure 2).

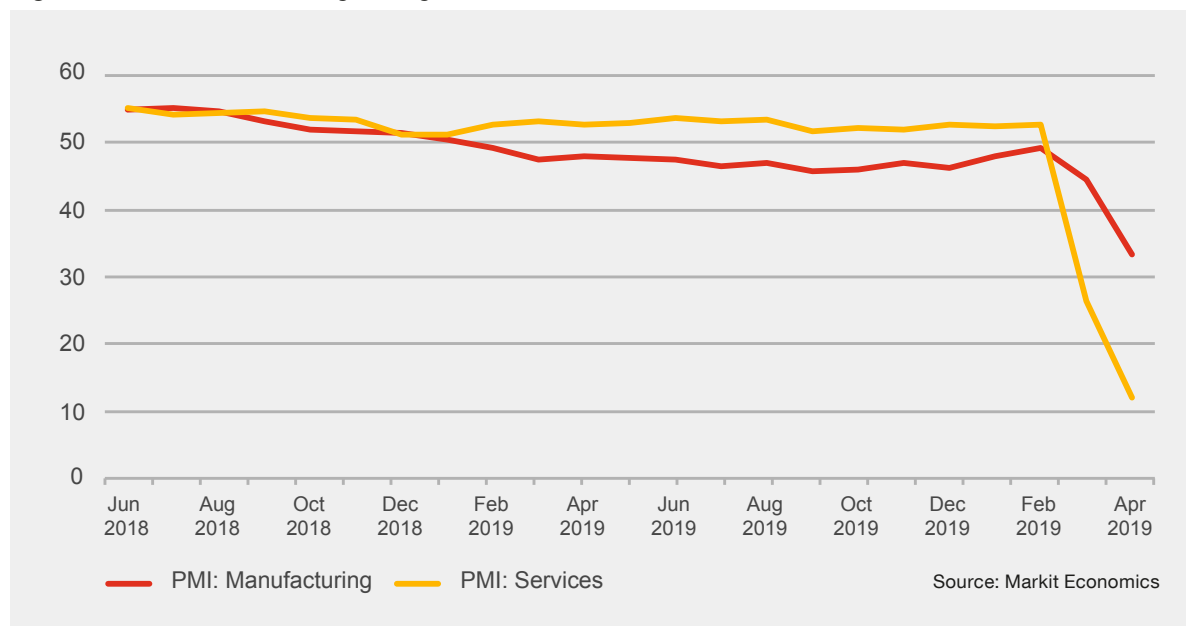
Services vs manufacturing

The spread of the pandemic and associated lockdown measures have resulted in a drop in the output of both services and manufacturing sectors across the EU. As expected, the drop in services has been larger than that in manufacturing. This has been a consequence of the direct measures undertaken by governments to shut down close-contact services. The lift of the containment measures may however also have a more immediate and positive effect on the services sector. This would mean that the manufacturing sector reacts with a lag; it will achieve its trough later but also recover later than the services sector. (Figure 3)

Long-term growth path

The latest projections foresee that it will be later than the end of 2021 before we can make up for the losses in 2020. However, an impending question is whether the GDP growth rate will continue to be the same after the pandemic. This depends on whether the pandemic has long term negative effects on productivity, labour,

Figure 3 Eurozone Purchasing Managers' Index



or capital. While there are already signs of a lack of capital investment – because of uncertainty and liquidity problems – and a slight decrease in labour force – because of fear of contracting the virus or reduced international mobility – there are still no indicators that these decreases can become structural and affect growth in the longer run.

The main candidate for a less efficient future for now is a retreat in global trade. This year seems to have dealt a blow to the 30-year era of globalisation. A permanent and indiscriminate move away from global supply chains would however decelerate growth. It would result in higher prices in economies that outsourced many of their jobs to lower cost countries, loss of export markets, reduced diversification, and increasing cost to consumers that would indirectly subsidise (potentially more costly) domestic production.

⁹ Labour hoarding in this context means the keeping on payroll of employees that are currently not necessary. These employees would be fired if it would not be for the governmental labour market schemes.

Employment

Governments across Europe have been proactive in supporting businesses and providing wage subsidies, resulting in unemployment levels that so far are much lower than during the 2008 global financial crisis. EU unemployment stood at 6.6% in April 2020 and is set to increase further during the remainder of the year before it subsides. This is because any easing of lockdown measures is expected to be very gradual.

Given the nature of this pandemic, unemployment is not distributed equally across industries and countries. Contact-intensive industries and tourism-reliant countries are expected to be most affected. Unemployment differences across European countries also reflect the intensity of government-imposed measures and the proportion of flex and short-term contract workers.

Considering the longer-term impact of these trends on unemployment, labour hoarding⁹ that is being facilitated (or mandated) by European government schemes could make economic recovery easier after the pandemic. The reason is the cost and inefficiency associated with re-hiring to fill vacancies post-pandemic. However, the recent jump in employment in US that followed the initial boom in unemployment claims offers another perspective; the transition to a growth path could also be facilitated if it is less costly for employers to make hiring decisions.

A welcome relief has been the ability of some businesses to adjust their business models. Many businesses have started providing more services that are delivered either online or in a less contact-intensive way, such as food delivery.

The concern during this pandemic mostly concerns labour demand and unemployment. However, the decline in labour supply has the potential to become a deterrent to economic growth in the longer term. The current decrease in the net immigration of students and workers in Western Europe due to COVID-19 could be problematic if it extends far into the future.

Private consumption

Despite labour market policies that have limited the loss in disposable incomes, private consumption is expected to have declined in the first quarter of 2020 and is expected to decline further in the second. The biggest decline has been on spending in restaurants, automotive, and holidays.

The reasons for the decline in private consumption are twofold: precautionary savings because of an uncertain economic outlook, and an inability to spend because of the shutdown of many non-essential activities.

Given that private consumption reflects the imposition of lockdown measures very closely, at the lack of a second wave of infection rates in the coming autumn and winter, it is expected to rebound in the coming months. This improvement would partially reflect the pre-pandemic behaviour and would partially be a compensation for the repressed demand during lockdown.

The European Central Bank has reported a remarkable increase in household savings in 2020, noticeable as a jump in deposits in most countries, and as an increase in cash in circulation in countries such as Germany that prefer to hold cash in times of crisis. A PwC UK survey conducted in May looked at the distribution of these savings across households. It found that while most households' cash balances have remained similar to pre-pandemic levels, 38% of those in the lowest income bracket have seen a decrease in savings. For the 21% of the consumers surveyed who have seen an increase in their cash balance, their savings had been a result of the reduced ability to spend on social activities and reduced commuting costs.¹⁰

A main issue going forward is how risk averse households will be, and for how much longer will they defer spending. This phenomenon of increased savings is however a recurring theme of the past years and has only been exacerbated by the current pandemic.

Capital investments

Capital investments are long term decisions and as such are heavily impacted not only by a current reduction in demand but more importantly by longer-term uncertainty. The pandemic-inflicted decline in profits and consequent liquidity problems result in a strong preference for cash and a move away from illiquid capital investments. What makes matters worse is that many corporates have to resort to additional borrowing to counter these liquidity problems, increasing their indebtedness and making additional borrowing in the future with the aim of making capital investments less likely.

In the Eurozone, gross fixed capital formation has contracted by 4.3% in the first quarter of 2020 compared to the previous quarter, while borrowing for investments has dropped. In the absence of a second wave of infections and subsequent reduced uncertainty related to COVID-19, a rebound of capital investments is expected in the last two quarters of 2020. The speed of the rebound is expected to reflect the initial shock to capital investments and the financial strength of corporates in each country.

Capital investment is crucial to the longer-term growth potential. In particular, the need for companies to adapt to the new social distancing measures, rethink their supply chains, and move to a greener and more technology-enabled future necessitates capital investments.

Housing investment is also expected to be hit by COVID-19, though not immediately. Weaker consumer confidence, higher unemployment, and decreasing wages are expected to lower the demand for housing. However, there are exceptions. De Hypotheker, the largest mortgage broker in the Netherlands, reported that in the Netherlands the number of homebuyers under the age of 35 rose by 40% from March to May compared to the same period a year earlier. The explanations provided for this trend were an increased housing supply in the past six months and low interest rates.¹¹

¹⁰ <https://www.pwc.co.uk/services/economics/insights/uk-economic-update-covid-19.html>

¹¹ <https://www.nu.nl/economie/6057084/coronacrisis-remt-starters-niet-af-aantal-huizenkopers-stijgt-met-40-procent.html>

Net exports

The decline in trade and weak foreign demand that resulted from the COVID-19 pandemic have reduced both imports and exports at the EU level. Exports have however contracted more than imports in the first three months of 2020, resulting in a negative contribution to GDP. This trend is expected to continue in the second quarter of this year, with exports of travel and transport services and the automotive industry being the most affected.

The pandemic has prompted many companies to rethink their supply chains and governments to reconsider protectionist measures. This brings uncertainties to the development of exports and imports.

Government expenditure

The decisive fiscal spending measures that governments across Europe took to counter the economic shortfall from COVID-19, and the reduced tax revenue associated with lower corporate profits are expected to increase the Eurozone government deficit to GDP ratio

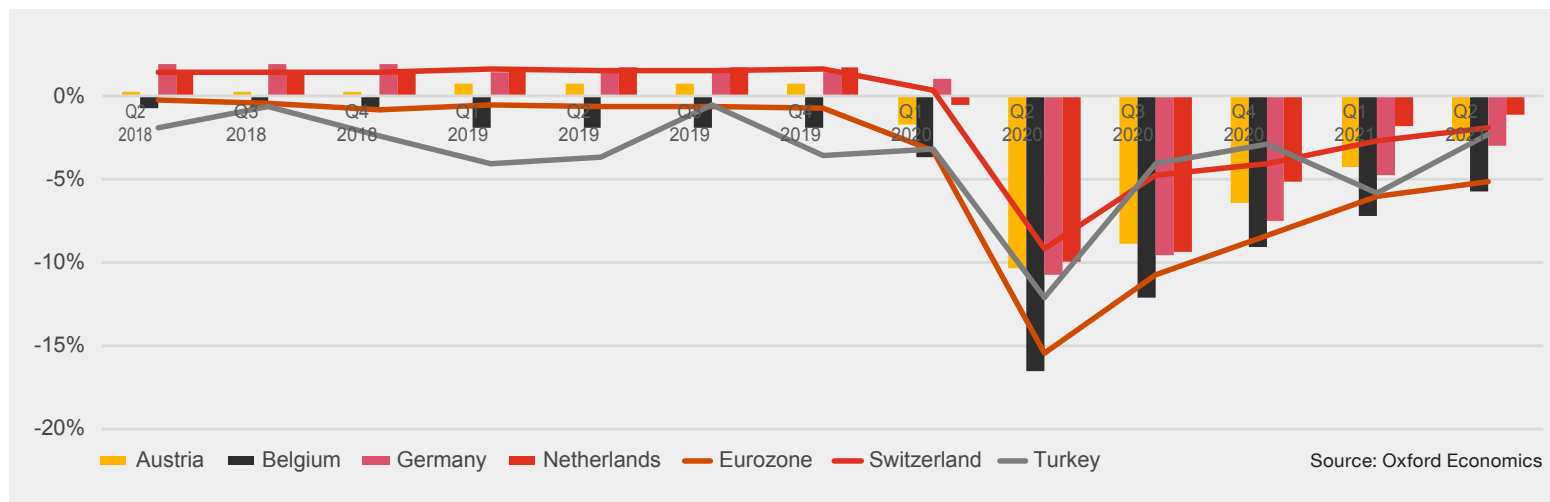
from 0.7% in 2019 to 8.4% in the end of 2020. While this breaches the Maastricht limit of 3%, under special circumstances Member States are allowed to exceed this limit. We expect government spending to remain accommodative for the rest of 2020, especially in case of a second wave of infections (Figure 4).

The fiscal measures undertaken, especially those providing insurance payments to affected workers, are considered by recent research to be one of the most effective forms of managing the downfall from a pandemic.¹²

The 2020 increases in public spending will add to the already high public debt to GDP ratios of many European economies, which were already above the Maastricht limit of 60% at the end of 2019. Public debt to GDP for the Eurozone has increased from 84.1% of GDP in 2019 to 85.6% in the first three months of this year and is expected to further increase in the second quarter of 2020.

12 Guerrieri, Veronica, et al. "Macroeconomic Implications of Covid-19: Can Negative Supply Shocks Cause Demand Shortages?" Ssrn Electronic Journal, (2020), 2020, doi:10.2139/ssrn.3570096.

Figure 4 Government balance to GDP



The current spending measures are however temporary, indicating a tightening of the policy stance beyond 2020. For countries with less fiscal capacity and further need to increase spending, a diversion of funds from other productive investments or a rethink of their taxation strategies could be on the table. Longer term policies to strengthen the health sector and support sustainable growth will also need to be funded in a sustainable way.

Inflation

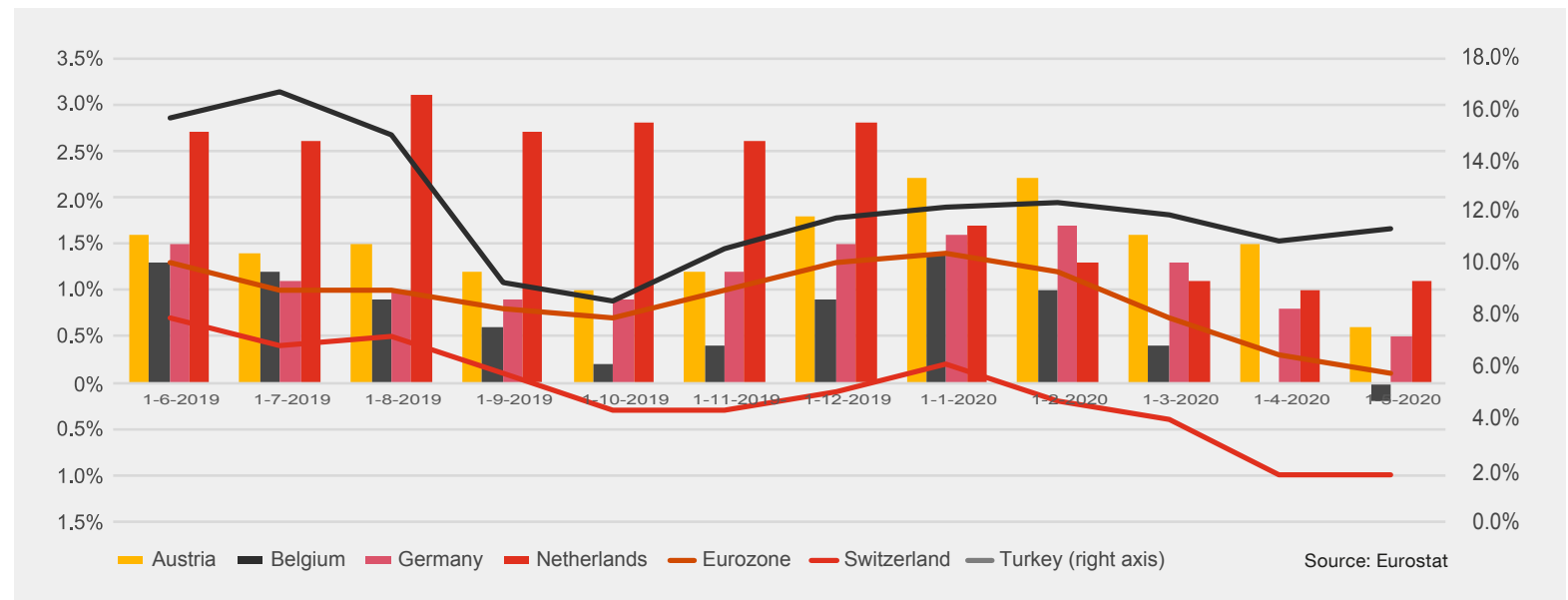
The COVID-19 pandemic has resulted in an increase in economic slack, i.e. gap between supply and demand, which has put further downward pressure on an already undershooting pre-pandemic inflation. The rise in the prices of food and certain medical goods has been overshadowed by the decrease in oil prices that has followed the drop in global demand for oil. (Figure 5)

Weak consumer demand is expected to dominate any supply side disruptions for the rest of 2020. These dynamics contribute to HICP inflation projections of 0.3%, or 0.8% if we exclude food and energy, for the Eurozone in 2020.

All this is despite expansionary government policies intended to prop up demand and expansionary central bank policies, such as ECB's €750 billion Pandemic Emergency Purchase Program, that will run at least until the end of 2020.

Recent research shows that “zombie credit”, i.e. credit with very low interest rates provided to distressed firms that would otherwise default, creates overcapacity in the economy and puts downward pressure on inflation. A side effect of this pandemic could be a decline in ‘easy’ credit, because banks are less inclined to provide

Figure 5 HICP Inflation



loans in the face of increasing downside risks. However, the provision of government support to corporates, which maintains or even creates overcapacity, could put further downward pressure on inflation.

The effect of the pandemic on the natural rate of interest is also problematic. New research documents a decrease in the natural rate of interest as a result of a pandemic, whereby it takes 40 years for the rate to increase to its pre-pandemic levels.¹³ Given the current record low levels of policy interest rates, a further decrease in the real rate of interest because of the pandemic would leave almost no room for central bankers to lower their policy interest rates further in order to prop up inflation. This points to the continuation of unconventional monetary policy as the only way forward.

Other indicators impacted by COVID-19

Foreign direct investment flows in Europe

The number of greenfield foreign investment projects, excluding portfolio investment and M&A activity, in western Europe halved in the first three months of 2020. The number of projects recorded was the lowest in a decade and is estimated to have cost 200,000 jobs that would have otherwise been created.¹⁴

UN's trade body UNCTAD projects that downward pressure on global foreign direct investment (FDI) flows could range from -30% to -40% during 2020-2021.¹⁵ The hardest-hit sectors are expected to be the energy and basic materials industries, airlines, and the automotive industry.

Traffic movements

One of the biggest impacts of COVID-19 has been the reduction in passenger transport demand. This has been due to government-imposed lockdowns, travel restrictions and personal choice in avoiding public transport in order not to contract the virus. Global road transport activity at the end of March 2020 was around 50% below the

2019 average. Commercial flight activity in mid-April 2020 was around 75% below the 2019 average.¹⁶ Public transport activity, as shown by Citymapper, a public transport planning smartphone app, was down by over 90% since the crisis began in many major cities across the world.¹⁷ Requests for directions in Apple maps show double digit decreases peaking in March and April, in line with COVID-19 developments in selected countries.¹⁸ There is however a noticeable jump in May and June, signalling a move to pre-pandemic behaviour.

Electricity demand

With passenger transport responsible for around 40% of final oil demand, a structural decline in the use of transport will significantly impact energy demand.¹⁹

Lockdown measures have significantly reduced electricity demand, with increases in residential demand being far outweighed by reductions in commercial and industrial demand. Every month of full lockdown reduced electricity demand by 20% on average, or over 1.5% on an annual basis.²⁰ These changes in demand have also been reflected in changes to the energy mix. While demand for electricity generated by coal, gas, and nuclear power fell, renewables are making up a larger share of the electricity supply because their output is largely unaffected by demand.

Nevertheless, a slow economic recovery, overindebted governments and corporations, lockdown and social distancing measures, and supply chain disruptions are expected to delay investments in renewables. The IEA forecasts that net renewable electricity capacity additions in 2020 will be 13% lower than in 2019.²¹

Digital financial transactions

It is still not clear whether COVID-19 will speed up the shift towards digital payments. The existence of this possibility has however been strong enough to encourage a publication by the Bank of International Settlements on COVID-19, the future of payments, and the possibility of a divide in access to payment instruments, which would hurt unbanked and older customers.²²

13 Jorda, Oscar, et al. Longer-Run Economic Consequences of Pandemics. National Bureau of Economic Research, 2020. www.nber.org/papers/w26934.
 14 <https://www.ft.com/content/4c279e4c-05af-4c59-be90-48bf3228c92f>
 15 <https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2313>
 16 https://www.iea.org/articles/changes-in-transport-behaviour-during-the-covid-19-crisis?utm_campaign=IEA%20newsletters&utm_source=SendGrid&utm_medium=Email
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 19 https://www.iea.org/articles/changes-in-transport-behaviour-during-the-covid-19-crisis?utm_campaign=IEA%20newsletters&utm_source=SendGrid&utm_medium=Email
 20 <https://www.iea.org/reports/the-covid-19-crisis-and-clean-energy-progress/power#abstract>
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 22 <https://www.bis.org/publ/bisbull03.pdf>

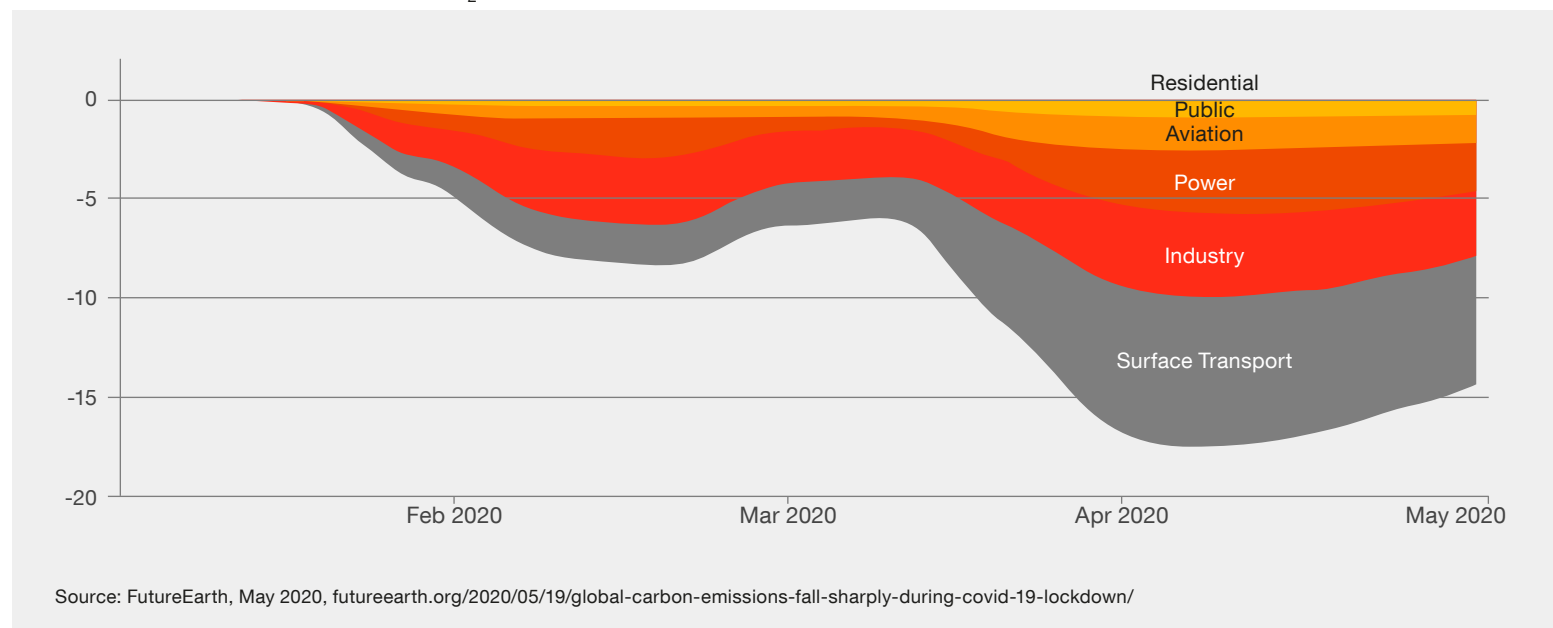
CO₂ emissions

Daily global CO₂ emissions decreased by 17% by early April 2020 compared with the mean 2019 levels, with almost half resulting from changes in surface transport. The impact on 2020 annual emissions depends on the duration of the confinement. Estimates range from -4% if pre-pandemic conditions return by mid-June to -7% if some restrictions remain at a global level until the end of 2020.²³

While this pandemic has put countries closer to achieving their CO₂ emission goals, a long-term change in global emissions can only result from the imposition of public policies and permanent changes in the behaviour of individuals.

12 <https://www.icos-cp.eu/gcp-covid19>

Figure 6 Change in global daily fossil CO₂ emissions, %



| | GDP growth (% change) | Industrial production (% change) | Consumer spending (% change) | Capital investment (% change) | Unemployment rate (%) | Consumer prices (% change) |
|----------------|--------------------------|--|------------------------------------|-------------------------------------|--------------------------|-------------------------------|
| Eurozone | -3.1 | -27.9 | -3.9 | 1.5 | 7.4 | 0.1 |
| Austria | -3.0 | -11.7** | 2.0 | -2.5 | 4.4 | 0.6 |
| Belgium | -2.5 | -23.5 | -1.2 | -2.6 | 5.9 | -0.2 |
| France | -5.0 | -34.2 | -4.2 | -8.1 | 8.1 | 0.4 |
| Germany | -2.3 | -30.1 | 1.6 | -1.0 | 3.4 | 0.5 |
| Italy | -5.4 | -42.5 | -7.5 | -8.8 | 9.2 | -0.3 |
| Luxembourg | 3.1* | -44.2 | 6.7* | 8.3* | 2.9 | -1.6 |
| Netherlands | -0.6 | -8.0 | 0.9 | 0.8 | 13.9 | 1.1 |
| Spain | -4.1 | -33.6 | 3.3 | -6.7 | 4.8 | -0.9 |
| Switzerland | -1.5 | 0.8*** | -2.6 | -0.7 | 4.5 | -1.0 |
| Turkey | 4.2 | 4.5 | 4.6 | -1.4 | 13 | 11.4 |
| United Kingdom | -1.6 | -24.4 | -0.6 | -2.3 | 4.4 | 0.8**** |

Note: GDP growth, industrial production, consumer spending, and capital investment are quarterly, year-on-year, seasonally adjusted figures from the first quarter of 2020 (unless specified differently). Unemployment data is quarterly data from the first quarter of 2020. Industrial production and consumer prices are monthly year-on-year figures from the month of April and May respectively. Consumer prices are reported according to the HICP methodology, except for Turkey.

* Last quarter of 2019 ** March *** February **** April

Source: Thomson Reuters, Eurostat, Federal Statistical Office Switzerland, Turkish Statistical Institute.

Country Update: Turkey

Although lockdown measures have been easing all around the world as a result of lesser confirmed cases mostly in Europe, the emergence of new hotspots (such as Brazil, Russia, Peru) and second wave signals led global COVID-19 cases to exceed 10 million. Turkey ranks 13th in the world in terms of COVID-19 reported cases as of the beginning of June (down from the 9th in May) with a relatively low fatality rate (below 3%) compared to the average ratio of 9% in Europe and 6% in the World.

Leading indicators showed that the global economic downturn for 2020 will be more severe than initially anticipated, with worries about a second peak after the gradual reopening. This is the reason policymakers still have additional measures to mitigate downside risks on the table. The negative impact of the epidemic is being observed in the Turkish economy and is being dealt with through measures such as monetary, fiscal, and social distancing policies.

Q1 GDP performed its best, but what about the rest?

The Turkish economy exhibited year-on-year growth of 4.2% in the first quarter of 2020 (in adjusted terms) as a result of strong economic activity in the first two months of the year. However, the seasonally adjusted series shows a weaker quarter-on-quarter performance of 0.6%, compared to the 1.9% in the last three months of 2019, due to a slowdown in March when the first Covid-19 case was confirmed in Turkey. The pandemic decelerated growth particularly in the services industry which suffered a material quarterly contraction of 3.2%. Although Turkey's first quarter performance was the best among OECD countries due to policies intended to bolster the economy, mostly via higher loan growth pre-COVID-19, the outlook for the second quarter is not rosy. Despite a deceleration in the pace of contraction in May, a freefall in leading indicators such as the Purchasing Managers' Index (PMI), confidence indices, capacity utilisation, and exports put a significant downside pressure on GDP growth in the second quarter of 2020.

High gross external financing needs highlight the importance of capital inflows

The sharp fall in the global oil prices and weaker demand that lowers import appetite can be counted as positive implications of the global outbreak on Turkey's balance of payments. However, an eye-catching drop in exports, ongoing capital outflows from emerging markets (EMs), lesser tourism income, decline in FX reserves, and volatility in the Turkish Lira raised downside risks for the external balance even though Turkish banks and corporates did not have any difficulty in rolling over debt so far.

Figure 1 Turkey Real GDP Index (Quarter before First GDP Contraction (T-1): 100)

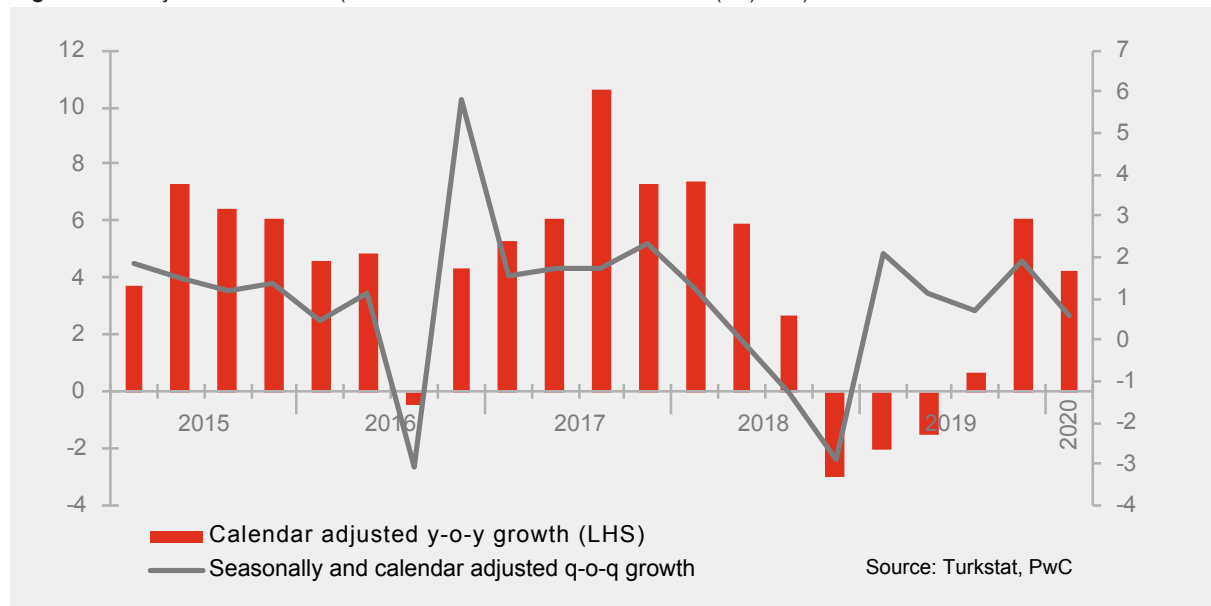
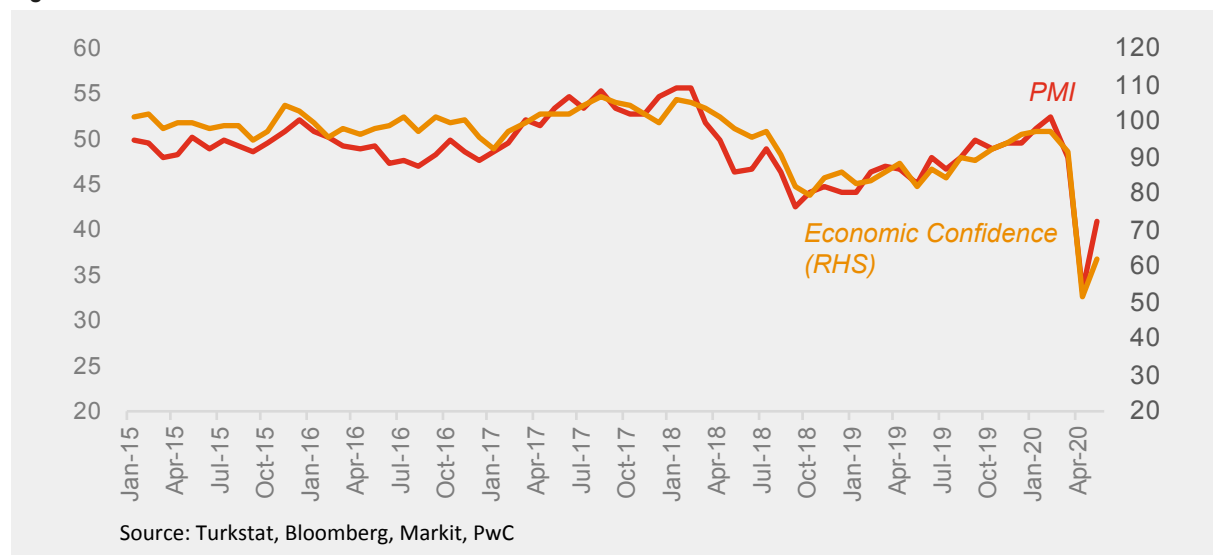


Figure 2 PMI & Economic Confidence



The current account balance posted a deficit of USD 13 billion in the first four months of 2020, with more than two-thirds of it resulting from the deficit in April and March due to higher foreign trade deficit and lesser services revenue. While the external balance is not alarming, the following factors raise some concerns:

- Institute of International Finance figures still indicate a capital outflow for China-excluded EMs
- The CBRT is the third central bank who lowered the policy rate the most in 2020 within EMs
- Turkey experienced the sharpest year-to-date drop in FX reserves compared to peer countries

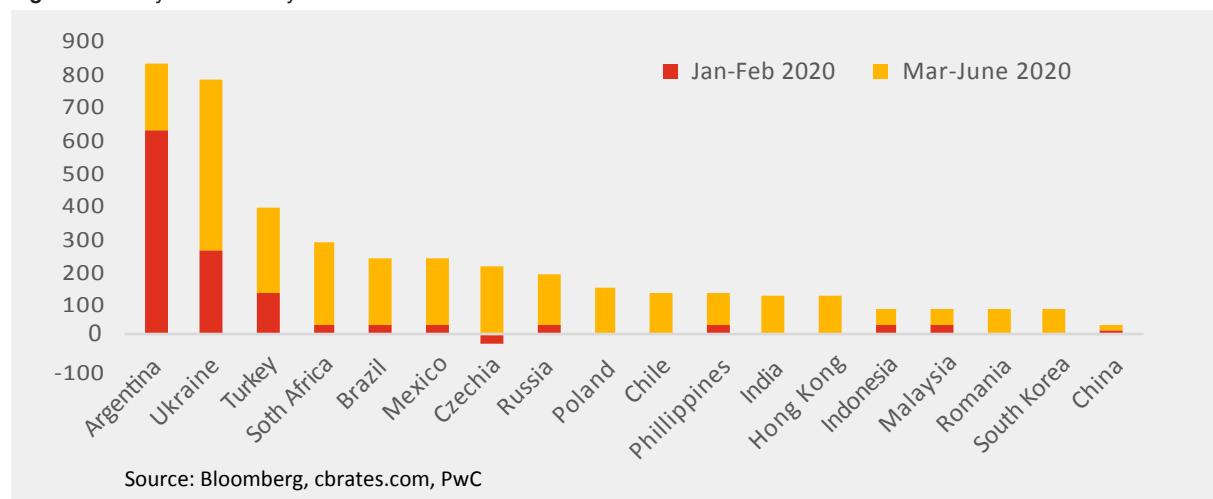
In which direction did COVID-19 shift the price level in Turkey?

Besides weaker demand, a major standstill in the services industry and lower oil prices as a result of the pandemic seem to put a downward pressure on inflation. However, May figures showed that currency depreciation - the culprit for the double-digit inflation in the last couple of years - dominated the deflationary pressures. Turkish Lira depreciated by 12% against the US dollar in the first five months of 2020 and was the 6th worst performing EM currency. Although the relative appreciation of the Turkish Lira since the beginning of May limits inflationary pressures, other factors such as the reopening of economies, policies to raise loan growth in Turkey, volatility in the core inflation and ongoing increase in the Producer Price Index entail upside risks. As for other macroeconomic indicators, post-normalisation developments will also be crucial for inflation.

The pandemic poses a risk to the government budget

Turkey's level of central government budget deficit to GDP ratio, which has been below the Maastricht limit for nine years of the last decade, is a positive factor for the country's credit rating. Inevitably, and alike other countries, COVID-19 raised downside risks on the central government budget because of expansionary policy responses such as tax incentives to mitigate economic risks. As of May 2020, the 12-month trailing budget deficit to GDP ratio exceeded 3%; ambiguities make the timeframe and net effect of the pandemic on fiscal indicators unpredictable. The normalization would consist in

Figure 3 Policy Rate Cuts by EM Central Banks in 2020



raising tax revenues in June. However, the risks regarding the second wave of Covid-19 may not only widen budget deficit but also raise concerns about the twin deficit.

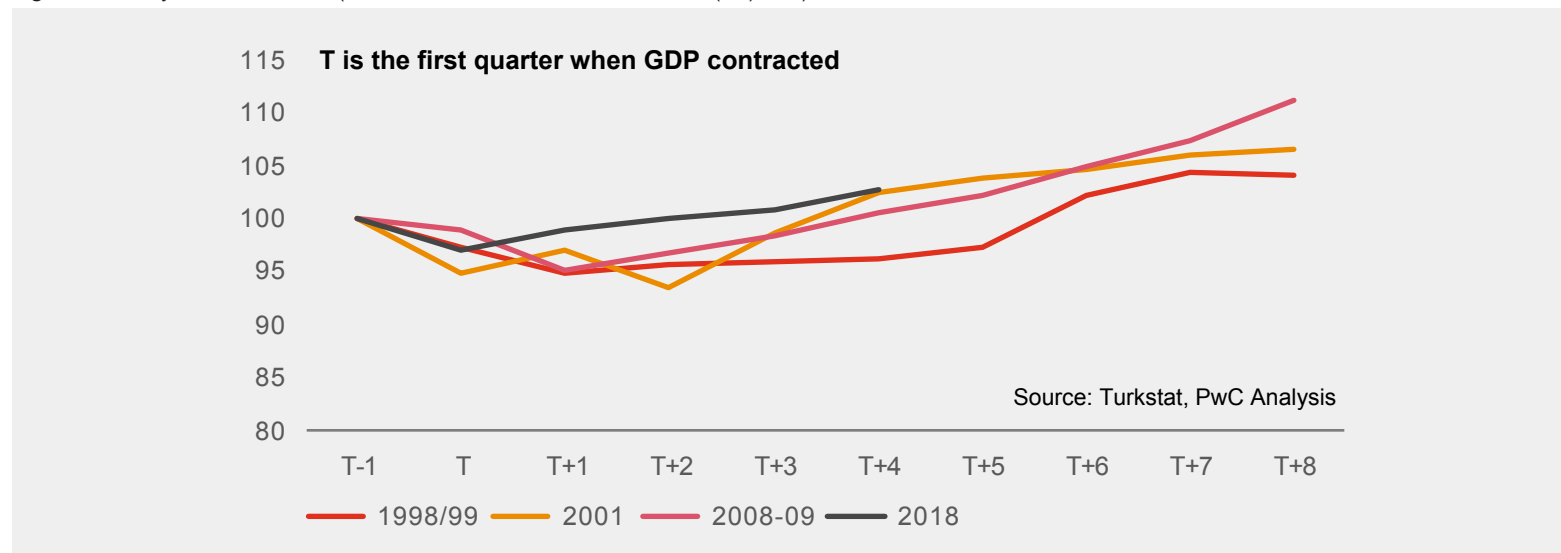
Turkey can reach its pre-crisis output levels quickly

The overall 2020 performance of the Turkish economy depends on the developments after the reopening of the economy that started in June. If the normalization process does not induce a second peak in COVID-19 cases, policy measures and a restart of economic activity will limit the economic contraction for the rest of 2020. Historical series imply that it takes only five quarters on average for Turkey to reach its pre-crisis growth rates, compared to ten quarters that it takes for the average advanced economy to do that. For instance, it took the US, EU and the UK 15 to 20 quarters to return to pre-crisis levels after the global financial crisis of 2008-2009, while it

took Turkey five quarters, partly with the help of capital inflows to EMs. Given the context of this pandemic, a lack of capital flows and tourism revenues may slow down the recovery process for Turkey. However, recovery to pre-crisis levels is still expected to be quicker than that of developed countries.

As outlined in the first part of this report, COVID-19 has highlighted the prominence of behavioural economics, i.e. the changing the behaviour of all economic agents. In Turkey, initial indicators demonstrated that individuals have a higher propensity to resort to digital channels for their needs and use less cash in their payments. Hence, higher financial inclusion and more appetite for digital entrepreneurship will be the natural positive externalities of the pandemic.

Figure 4 Turkey Real GDP Index (Quarter before First GDP Contraction (T-1): 100)





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