1. KEY FEATURES

1.1. THE MAIN ISSUES OF THE FORECAST

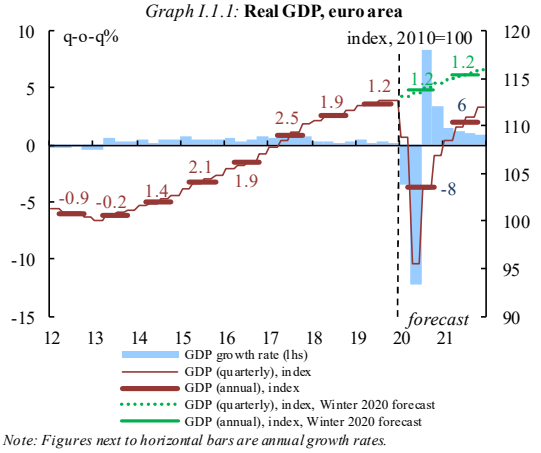
What began as a supply shock in China has morphed into something much more serious that is pushing the global and the European economy into its deepest recession since the 1930s. In mid-February when the Commission last updated its forecasts, the working assumption was that the novel coronavirus disease (COVID-19) would be a localised and transitory economic event, although significant associated downside risks were recognised. [1] By March, the situation had changed as the virus turned into a pandemic with infections in more than 100 countries, causing major disruptions and resulting in lockdowns in most Member States. Since then, the situation has deteriorated further. It is now very likely that global economic activity will shrink markedly this year and that the EU economy has entered the deepest recession in its history.

The question for the forecast in spring 2020 is how deep the recession will be and how long it will last. The answer depends on the spread of the virus and the length of the outbreak as well as on the effectiveness of the policy response. As large parts of the economy have deliberately been put into 'hibernation', major adjustment needs that usually accompany a 'normal' recession (e.g. correcting imbalances or deleveraging) are largely absent. This and the swiftness and scale of the policy response provide hope for a quick recovery after the pandemic is under control and containment measures have been relaxed. However, combined with the emerging evidence on the need for a cautious and phased approach to the lifting of containment measures, the pace and size of the downturn are set to cause damage that will prevent an immediate return to pre-pandemic output levels. This suggests that the recovery will not be rapid ('V-shaped') but rather more gradual ('U-shaped') and uneven across economies.

The pandemic pushes forecasters into uncharted territory. Forecasts usually begin with a good look in the rear-view mirror; they then assess the current environment and the road in sight, before moving towards a forecast of the unseen road ahead. However, the unprecedented suddenness of the downturn renders this standard approach useless. In such a situation, with unprecedented levels of uncertainty, model-based scenario analyses can provide some guidance to forecasters. Combining insights from model-based analyses with country-specific information (e.g. about policy measures) and expert knowledge offers a flexible approach for preparing '*a forecast like no other*'. The European Commission's spring 2020 forecast follows this route.

According to this forecast, GDP in the euro area will fall by about 8% in 2020 and rebound by about 6% in 2021. Despite this historically high growth rate, output in 2021 would be almost 2 pps. lower than the pre-pandemic level in 2019 and very significantly below the paths expected in autumn 2019 and winter 2020 (see Graph I.1.1). The incompleteness of the recovery is common to almost all Member States, though to different extents, i.e. the symmetric shock is projected to result in asymmetric outcomes. Some of the weakest outcomes in terms of output, employment and public finances are expected in some of the countries that are the hardest hit by the pandemic.

Graph I.1.1: **Real GDP, euro area**



Note: Figures next to horizontal bars are annual growth rates.

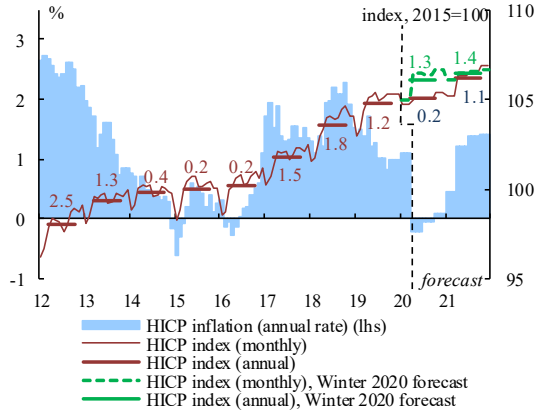
Due to the downturn and to the sharp fall in oil prices, inflation is set to slow this year before increasing moderately next year (Graph I.1.2).

These projections rest on a number of assumptions: that the major economic impact of COVID-19 will be observed in the second quarter of this year; that containment measures will be gradually lifted in the coming months; and that the

[1] European Commission (DG ECFIN) (2020). 'European Economic Forecast – winter 2020 (interim)'. *Institutional Paper* 121, February.

measures adopted to limit the negative economic effects prove effective. A very high level of uncertainty surrounds these forecasts, implying that point forecasts presented here should be understood as just one among several possible scenarios. Different assumptions about the length of the lockdowns, the containment measures and the effectiveness of the policy response would lead to very different projections.

Graph I.1.2: **HICP, euro area**



Note: Figures next to horizomtal bars are annual inflation rates.

1.2. RECENT DEVELOPMENTS

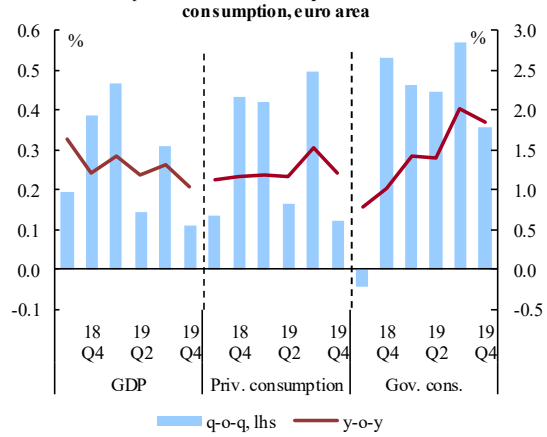
Following a period of moderate growth until the end of last year, the expected bottoming out and stabilisation initially expected for this year was upended by the pandemic. Due to the suddenness of the downturn, the impact of COVID-19 is so far visible mainly in high-frequency ('fast') data and only to a limited extent in survey data.

The euro area began the year with moderate growth...

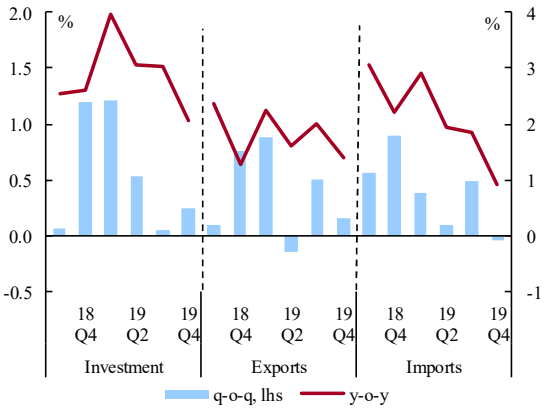
Economic growth in the euro area lost momentum last year and fell well below its average of recent years (Graph I.1.3). In the fourth quarter, GDP expanded by 0.1% q-o-q (0.2% in the EU), which was the slowest pace since the start of the expansion in the second quarter of 2013. The weakness was broad based; private consumption growth was very low; excluding Ireland, investment grew only slightly from the preceding quarter; exports of goods and services expanded at a moderate pace, and imports were more or less stagnant (Graph I.1.4).

The labour market continued to show resilience to the slowdown in economic growth (see Section I.2.4) with employment continuing to grow up to late 2019. In February 2020, the unemployment rate in the euro area stood at 7.3%, its lowest level since May 2008 (6.5% in the EU). Inflation has remained muted in early 2020 with headline inflation heavily influenced by energy prices.

Graph I.1.3: **Recent developments: GDP and consumption, euro area**



Graph I.1.4: **Recent developments: Investment and foreign trade, euro area (excl. Ireland)**



...with 'pre-existing conditions' weighing on the outlook...

In early 2020, the European economy's 'pre-existing conditions' meant that it was vulnerable to new shocks. Factors behind these conditions were a number of long-term developments (e.g. a trend decline in productivity, population ageing, a shift in demand towards 'greener' cars, and the economic transformation of China), as well as a number of temporary factors (e.g. the oil supply constraints after the escalation of the US-Iran conflict in early January), cyclical features (e.g. the economic cycle in the US, Asian tech cycle), policy effects (e.g. fading fiscal stimulus in the US), and in particular elevated uncertainty (e.g. related to trade policy, post-Brexit negotiations on

trading relationship between the EU and the UK, and geopolitical issues).

The euro area's more externally oriented manufacturing sector had been contracting for some time, partly reflecting the problems the car industry had been struggling with since 2018. However, the area's more domestically oriented sectors had expanded further. This discrepancy had continued into 2020, as developments in gross value added and surveys confirmed.

...but the EU economy had been showing positive signs just before the pandemic...

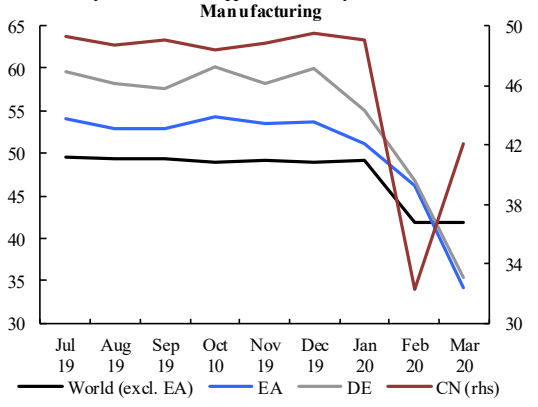
Before the pandemic became the main issue, data looked broadly consistent with the expectation of ongoing but subdued economic growth, with some leading indicators providing arguments for a bottoming out of global trade and manufacturing output. Sectoral hard data from the industry, construction, and retail sectors in the first two months of 2020 exceeded those in the fourth quarter of 2019 in both the euro area and the EU. Moreover, the signing of the 'Phase One' agreement between the US and China had been seen as a sign of somewhat fading trade tensions.

...and then COVID-19 became increasingly apparent in worsening economic and health data...

In the first weeks after the COVID-19 outbreak was declared in China, the economic effects for the EU economy were perceived as moderate, although the large downside risks were recognised. The disease belonged to the same type of viruses as SARS (initial outbreak in China in 2002-2003) and MERS (first identified in the Middle East in 2012) and these outbreaks had only limited economic effects in Europe. Over time, as efforts to prevent the disease from spreading within and beyond China failed, this assessment changed. While COVID-19 seemed to have a lower fatality rate than SARS, [2] it turned out to be considerably more contagious with the possibility of transmission through infected persons without symptoms. No vaccine or treatment drug became available and it remains unknown for how long people remain immune after recovering from the disease. [3]

In February this year, hints of the economic impact of the COVID-19 outbreak in China became visible in European PMI details. At first sight, the slightly increasing Composite PMI in the euro area and Manufacturing PMIs in many Member States could be taken as a signal of sufficient resilience to the disruptions triggered by the COVID-19, because surveys were conducted after the economic impact in China had become visible. However, a closer look at the drivers of the increase in the PMIs raised doubts as to whether increases really reflected an improvement. Already in February, some PMI components showed a significant impact from the virus outbreak, including a sharp decline in export orders and a lengthening of delivery times. While longer delivery times are usually the signal of strong demand and high capacity utilisation, they can also reflect disruptions in the production process. This is what the continued increase in suppliers' delivery times in manufacturing (i.e. the decline in the index) suggests for the euro area readings in February and March (Graph I.1.5); this interpretation is compatible with the sharp fall in the index this February in China, followed by its rebound in March when disruptions began to fade.

Graph I.1.5: **PMI Suppliers' Delivery Times Index, Manufacturing**



Source: IHS Markit

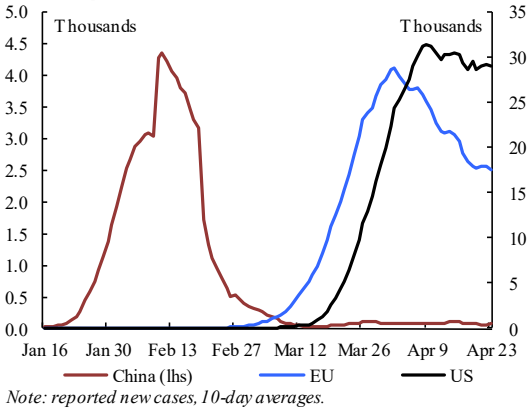
In early March, the disease had spread to other countries in Asia and beyond to other continents, leading the World Health Organization (WHO) to declare a health pandemic on 11 March. With

[2] See e.g. Atkeson, A. (2020). 'How deadly is COVID-19? Understanding the difficulties with estimation of its fatality rate'. *NBER Working Paper 26965*, April. Projections of the path of the pandemic suffered from data gaps, see J.H. Stock (2020). 'Data gaps and the policy response to the Novel Coronavirus'. *NBER Working Paper* 26902, March.

[3] The concept of 'herd immunity' rests on the assumption that immunity is acquired for a substantial period. The WHO noted that 'there is currently no evidence that people who have recovered from COVID-19 and have antibodies are protected from a second infection.'; WHO (2020). 'Coronavirus disease 2019'. *Situation Report* 96, April 25.

some delay, the numbers of reported new infections started to rise in the EU, and subsequently in the US (Graph I.1.6). According to data compiled by Johns Hopkins University, by 22 April, more than 2½ million people worldwide had been infected with the virus and more than 170,000 people had died.

Graph I.1.6: **COVID-19 infections, China, EU and US**



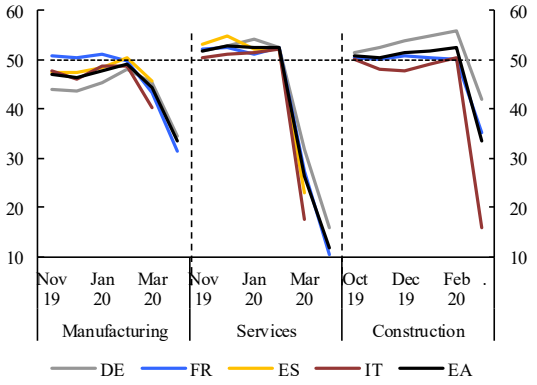
Note: reported new cases, 10-day averages.
Source: ECDC, 23 April 2020.

In response to the pandemic, authorities in most countries have implemented measures such as lockdowns, travel restrictions, border closures, and more stringent social distancing protocols, in an effort to contain the virus. Central banks have also taken action, cutting rates and/or extending asset purchase programmes, and reactivating currency swap lines (see Section I.2.2). Governments have pledged additional fiscal spending, liquidity support for firms, support to limit the labour market impact of the sudden drop in economic activity and other measures to combat the potential effects of the pandemic and related confinement measures. In late April, a few countries had already announced, or started to implement, a relaxation of some containment measures. However, various restrictive measures are likely to remain in place to keep a lid on the number of new infections until an effective treatment or vaccine are found.

...and the COVID-19 recession became visible.

While COVID-19 developments in the north of Italy made headlines in early March 2020, the spread of the virus in other parts of Europe has been mainly observable since mid-March. As a result, surveys conducted in March did not fully capture the deterioration in economic sentiment caused by the pandemic. Nevertheless, flash PMI readings on 23 March, the Commission's Business and Consumer Surveys, and the final PMI readings in early April were heavily affected by the spread of the virus. Sharp declines were observed in almost all countries and sectors. As expected, the declines were particularly strong in Italy and in the countries' service sectors (Graph I.1.7). On 23 April, Flash PMI readings pointed to a further deterioration, with the Composite and Services PMIs in the euro area, France and Germany falling to new series' lows.

Graph I.1.7: **Manufacturing, Services, and Construction PMIs, euro area and Member States**



Source: IHS Markit (Flash PMIs for April 2020)

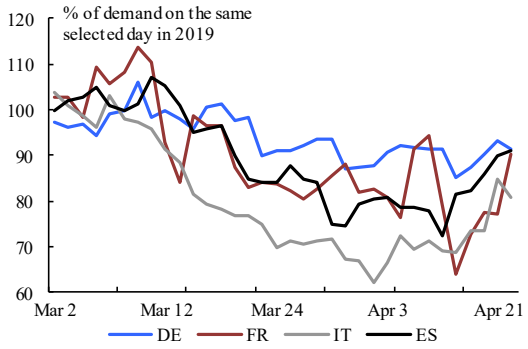
Similar declines became visible in the Commission's sentiment indicators (see Section I.2.3), which in March recorded some of the largest falls in the history of the series, even though in many countries the vast majority of survey responses were collected before strict containment measures were enacted. National survey results sent similar signals, including in France the INSEE's household and business confidence indicators, and in Germany the Ifo Business Climate (falling to the lowest level since July 2009).

In addition to the rapid deterioration in survey readings in Europe, the situation in the EU's external environment also continued to worsen. The economic downturn set in so quickly that, at the time of writing (mid-April), the amount of 'hard' data capturing the impact of the spread of the virus was still limited. Thus, attention shifted from 'slow' to 'fast' data, such as daily electricity demand (Graph I.1.8) and air traffic. [4] Such data from Member States clearly show the exceptional magnitude of the downturn and the impact of

[4] This shift has also led to the construction of new short-term indicators; see e.g. the Weekly Economic Index (WEI) presented in D. Lewis, K. Mertens and J.H. Stock (2020). 'US economic activity during the early weeks of the SARS-Cov-2 outbreak'. *Covid Economics, Vetted and Real-Time Papers* 6 (CEPR), April 17, pp. 1-21.

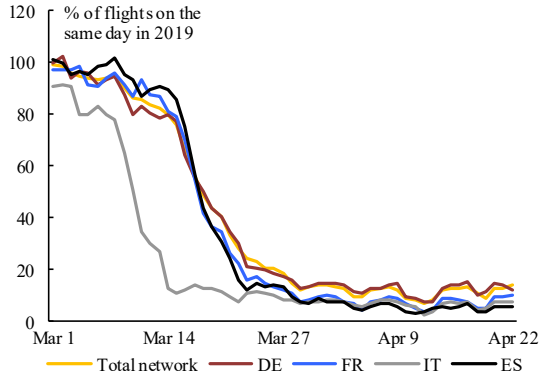
containment measures. For instance, in terms of airline traffic (Graph I.1.9) the decline started in Italy much earlier than in other large Member States.

Graph I.1.8: **Electricity demand in March and April 2020, largest Member States**



Source: McWilliams, B. and G. Zachmann (2020). 'Covid-19 crisis: electricity demand as a real-time indicator'. Blog (Bruegel), April 23.

Graph I.1.9: **Air traffic, March and April 2020, Eurocontrol network and largest Member States**



Source: Eurocontrol (total flights, Instrumental Flight Rules)

The limited availability of area-wide 'fast data' also raised attention on ('faster') national data, such as developments in registrations for short-time work schemes.

1.3. KEY FACTORS BEHIND THE FORECAST

The key issue behind the spring forecast is the COVID-19 pandemic and its impact on uncertainty, on the EU's external environment, and the EU economy itself. This includes the transmission channels and the shocks that matter for the EU economy, with related questions about the profile of the downturn and the subsequent rebound as well as the outlook for inflation.

The first strike of COVID-19 came from China...

In January and February 2020, the spread of the virus in China with shutdowns in some regions caused a first round of relatively mild COVID-19 effects, affecting the EU economy via a number of channels. [5] The first channel was the impact on supply of key manufacturing inputs sourced from China and other manufacturing hubs affected by the virus (acting as a supply shock to the EU economy). The most vulnerable companies were those which relied heavily or solely on factories in China for parts and materials. High pressure to reduce production costs had motivated companies to pursue strategies such as lean manufacturing, offshoring, and outsourcing. Such cost-cutting measures, however, mean that supply-chain disruptions can bring production rapidly to a halt due to missing parts.

The second channel was the impact on consumer and investment demand in China (acting as a demand shock to the EU economy) and the businesses and commodities reliant on it.

A third channel was the impact on private consumption (e.g. via transport and tourism) and investment demand outside China. As Chinese authorities did not manage to contain the virus inside the country, COVID-19 rapidly spread to neighbouring countries (e.g. Korea), which then faced problems similar to those in China with implications for the EU economy.

...but the main strike followed when the virus spread in Europe...

The COVID-19 pandemic has triggered shocks to the demand and the supply-side of the economy. These shocks are compounded by a number of additional shocks, such as a liquidity shock (e.g. via interrupted cash flows), an uncertainty shock (e.g. via the impact of increased fear on consumer and investor/business sentiment) and/or a shock to the financial sector (e.g. via repricing of more risky asset classes). [6] A key difference from more

[5] Spillovers from developments in China to the EU economy have been subject of various empirical studies; see e.g. European Commission (DG ECFIN). 'Spill-overs from the slowdown in China on the EU economy – channels of contagion'. European Economic Forecast – Autumn 2015, *Institutional Paper* 11, pp. 53-6 (Box I.2).

[6] The COVID-19 crisis has already been subject of a large number of economic analysis; e.g. OECD (2020). 'Coronavirus: The world economy at risk'. *OECD Interim Economic Assessment*, March 2; ECB (2020). 'Impacts on the euro area economy from an intensification of the COVID-19 pandemic, both globally and within the euro

typical shocks is that these are to some extent self-imposed as a necessary response to the health crisis, which takes precedence. Another is that these are occurring globally. Unlike a financial crisis, COVID-19 causes a real shock that reduces production and incomes. However, disentangling these shocks is a challenging if not impossible task, which suggests an approach of looking at the main impacts in their order of appearance.

- *Increased uncertainty.* The pandemic and the large number of 'unknowns' creates substantial uncertainty among consumers and firms, which has an impact on spending and saving decisions (e.g. precautionary savings), as well as recruitment and investment decisions.

- *Labour supply reductions.* Labour supply is disrupted primarily by containment measures, such as the closure of non-essential workplaces where remote working is not possible.[7] In addition, the workforce is affected by sickness and by the absence of workers who need to take care of relatives, friends or children where schools and kindergartens are closed.

- *Sectoral disruptions.* The first sectors that were hit by containment measures were travel and tourism. Lockdowns extended disruptions to many non-essential economic activities. Since mid-March the number of regions and sectors blocked increased; several countries inside and outside the EU interrupted intra-country and cross border movements. Disruptions also led to production halts in sectors that were not obliged to do so but were cut off from inputs from other sectors and/or countries, such as in some car factories. In the case of a pandemic, solving such production chain problems is especially difficult due to the global nature of the disruptions.

- *Whole-economy disruptions.* In order to contain the virus, more broad-based measures have been taken, such as the closure of schools and universities, the cancellation of mass events, the requirement of more physical distancing, and lockdowns. All these measures weigh heavily on economic activity with estimates depending on their stringency and duration.

- *Income losses, forced savings and lack of demand.* The disruptions have hurt the earnings of many households. Even with some labour institutions and short-time work schemes in place, many employees will suffer from income losses, which lower their purchasing power. A demand effect also comes from households aiming at high precautionary saving balances. In addition, even those not suffering from income losses have restricted opportunities to go out and spend, for instance on non-essential retail goods and services (forced savings).

- *Liquidity shocks and financial market implications.* The immediate response to the spread of the virus was a sudden repricing of financial and real assets, together with a heavy withdrawal of liquid reserves by firms. Distortions to manufacturing, services and retail have far-reaching implications for the financial health and the profit outlook of companies (e.g. liquidity shocks due the impact on cash flows). This has led to a sharp drop in equity prices and a fall in the yields of (safe haven) sovereign bonds. Moreover, the shocks could put a severe strain on the financial system, if companies' liquidity problems turn into solvency problems. Some of these effects are heterogeneous (i.e. country-specific), often depending on the public finances and the ability of the state to support corporate entities that have fundamentally sound balance sheets but face a drop in demand and value of equity. Moreover, the banking sector situation of the countries affected and/or their specific economic structure (e.g. size of the tourism sector) might add to the risk of structural divergences that may weaken and fragment the EU Single Market.[8] Accordingly, doubts about the impact on the real economy and fiscal sustainability could re-occur as suggested by the recent widening of spreads vis-à-vis benchmark yields.

A broad range of policy measures has been taken to limit the impact of the pandemic.

area'. *ECB Staff Macroeconomic Projections*, March 12, pp. 13-4; IMF (2020). 'The great lockdown'. *World Economic Outlook*, April 14.

(7) According to estimates for the US economy, only about 34% of jobs can be performed at home (equivalent to 44% of overall wages); see Dingel, J. and B. Neiman (2020). 'How many jobs can be done at home?'. *Covid Economics, Vetted and Real-Time Papers* 1 (CEPR), April 3, pp. 16-24.

(8) In 2018, tourism made up 11.8% of GDP (13.5% of employment) in Spain, 8.0% (9.8%) in Portugal, 7.4% (7.5%) in France and 6.8% (10.0%) in Greece (source: OECD (2020). *Tourism trends and policies*.).

The first goal is to *lower the number of infections, to avoid an overloading of the acute health system and to limit the number of casualties.* To this end, governments have taken drastic measures to contain the spread of the virus (e.g. lockdown and school closures) and to support those that are infected (e.g. investment in hospital capacity, medical equipment and protective gear).

The second goal is to *cushion the economic impact* on revenues, incomes and liquidity in order to avoid a cascade of downward movements. To this end, central banks, governments and international institutions have pledged support and implemented or announced an unprecedented 'cocktail' of measures. The fiscal policy measures announced by Member States consist of discretionary polices with a direct impact on the budget, as well as liquidity-oriented measures. Examples include targeted tax relief policies, short-time work schemes and partial or total government guarantees on bank loans. These measures are essential to cushion employment losses, prevent a reversal of investment plans, as well as limit widespread bankruptcies and avoid permanent damage.

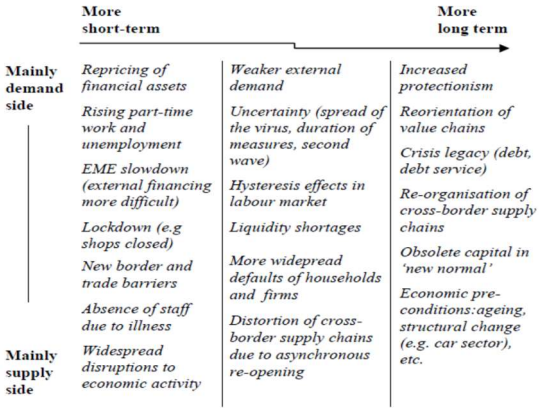
A third goal is *providing support to the rebound and recovery* once the pandemic is under control. The ability to respond depends on each country's initial conditions, financial strength and policy space. COVID-19 has affected most seriously some of the countries with the least availability of fiscal space to respond. Differences in national responses could, in the absence of a sufficient degree of EU level intervention result in asymmetric downturns and recoveries. Due to the strong interdependencies among Member States, this would spill over, weaken the overall recovery of the EU, and result in entrenched economic divergence in the future.

While the focus of the spring forecast is on the EU economy, it has to be stressed that COVID-19 is a global shock, hitting the external environment almost in parallel, with repercussions between various regions. This means that individual regions, including Europe, will not be able benefit from sustained economic growth in other more or less unaffected regions of the world, as was the case during the Global Financial Crisis. [9] This has implications for the severity of shocks hitting the EU economy (e.g. due to possibly missing inputs from abroad, or via less demand for EU exports) and introduces further country-specific features, as the exposure to the external environment differs across countries.

...creating a complex matrix of economic effects on the EU economy.

Overall, the COVID-19 pandemic's economic impact is likely to be highly complex and widely varied. [10] However the economic effects differ with respect to their relevance for demand and supply and with respect to the time horizon of their impact (see Graph I.1.10). The duration of the effects depends on the duration of the pandemic, but also on whether changes to trade policies and globalisation attitudes, consumer behaviour, working methods and production chains become permanent. Moreover, debt accumulated during the downturn may exert a lasting impact on firms (e.g. bankruptcies), investor risk perception (e.g. debt sustainability concerns) and the banking sector (e.g. non-performing loans). In addition, the interplay of pre-existing economic conditions and the impact of the pandemic could make some effects longer lasting.

Graph I.1.10: **Selected economic effects of the COVID-19 outbreak in Europe**



The multiplicity of effects implies that not all of them can be addressed separately. Bundling them

[9] The IMF stressed that it is the first time since the Great Depression that both advanced economies and emerging markets are in recession. See Gopinath, G. (2020). 'The Great Lockdown: worst economic downturn since the Great Depression'. *IMF Blog*, April 14.

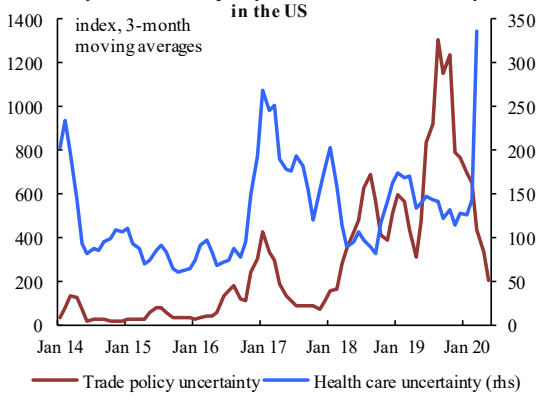
[10] Studies on the economic impact of previous pandemics can provide useful information, but these outbreaks hit a less integrated global economy; for an overview see F. Boissay and P. Rungcharoenkitkul (2020). 'Macroeconomic effects of Covid-19: an early review'. *BIS Bulletin* 7, April 17; this caveat also applies to studies of the influenza pandemic in 1918-20, see e.g. Barro, R.J., Ursúa, J.F. and J. Weng (2020). 'The coronavirus and the Great Influenza Pandemic: lessons from the 'Spanish flu' for the coronavirus' potential effects on mortality and economic activity'. *NBER Working Paper* 26866, March.

leads to the main questions of this forecast round concerning (a) the impact of the unprecedented uncertainty shock, (b) the chances of seeing a quick rebound after the severe downturn and the role policy responses can play, and (c) the impact of COVID-19 on the inflation outlook.

(a) The role of unprecedented uncertainty

Until early 2020, forecasters were mainly concerned about uncertainty related to trade conflicts as they were seen as an obstacle to foreign trade growth, to the future of global value chains (cross border production) and thereby to investment. With the spread of the virus, the main factor driving uncertainty has shifted to health concerns. The COVID-19 pandemic has triggered a massive spike in uncertainty, which relates to many features of the pandemic including the capacity of health care systems to deal with it. This is visible when plotting trade policy uncertainty in the US (as shown in the autumn forecast) and health care uncertainty in the US (see Graph I.1.11).

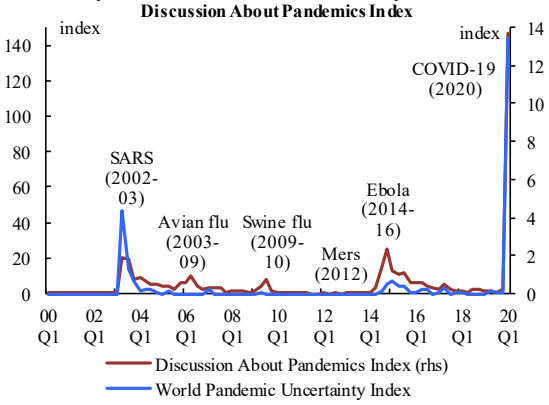
Graph I.1.11: **Trade policy and health care uncertainty in the US**



Source: Baker, Bloom and Davis at www.PolicyUncertainty.com.

The health care uncertainty index is only available for the US and provides therefore only regional information. A counterpart at the global level can be seen in the 'World Pandemic Uncertainty Index' (WPUI) and the 'Discussion about pandemics index' (Graph I.1.12). [11] Both show that their latest rise clearly exceeded that observed during past epidemics, mainly because COVID-19 affects more countries than previous pandemics.

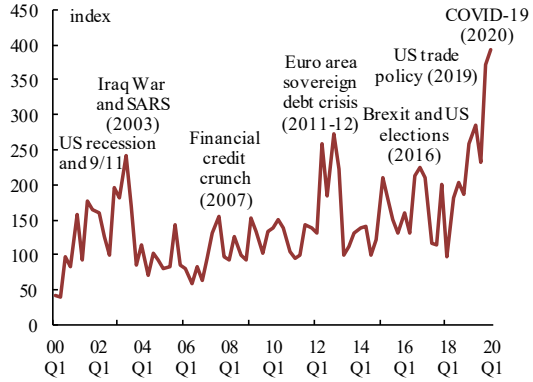
Graph I.1.12: **World Pandemic Uncertainty Index and Discussion About Pandemics Index**



Source: www.worlduncertaintyindex.com.

In order to assess the impact, it is useful to check how the pandemic-induced uncertainty as a sub-index relates to the World Uncertainty Index, which has already been used in past forecast exercises. The latest reading of this broader global index (Graph I.1.13) confirms the exceptionally high level of uncertainty COVID-19 has caused.

Graph I.1.13: **World Uncertainty Index**



Source: Ahir, H., N. Bloom, and D. Furceri (2018), "World Uncertainty Index", Stanford mimeo (data download in April 2020)

What do these quick and enormous increases in economic uncertainty signal for the macroeconomic impact of the pandemic? In the past, high uncertainty has coincided with periods of lower growth and tighter financial conditions. However, at the current juncture, providing an answer is extremely difficult, given the scarcity of similar developments, which could provide useful guidance. [12] In principle, heightened uncertainty can delay decisions that imply long-term commitments. For companies, this matters for hiring decisions that are costly to reverse, but also

[11] See Ahir, H., Bloom, N. and D. Furceri (2020). 'Global uncertainty related to Coronavirus at record high'. *IMF Blog*, 4 April.

[12] See European Commission (DG ECFIN) (2020). 'Putting the forecast into perspective: the impact of uncertainty'. European Economic Forecast – Spring 2017. *Institutional Paper* 53, pp. 10-13.

and mainly for investment decisions. The pandemic increases uncertainties for investment returns, raising risk premia, which causes firms to either postpone investment plans, or cancel them altogether. For consumers, heightened uncertainty reduces spending as precautionary savings are increased, for example to prepare for potential unemployment. Thus, via lowering consumption and investment, increases in uncertainty lower aggregate demand and deteriorate the employment situation. [13] Moreover, uncertainty could also raise risk premia on sovereign debt and thereby increase the cost of additional public debt.

As regards the time horizon of uncertainty effects, empirical analyses for the US economy suggest that, through the uncertainty channel, the pandemic is likely to weigh on the economy persistently, depressing economic activity and inflation well beyond the near term. [14] These considerations suggest that uncertainty regarding the spread of virus is likely to hurt investment decisions in the EU economy and other countries, further dampening demand prospects and delaying a full recovery.

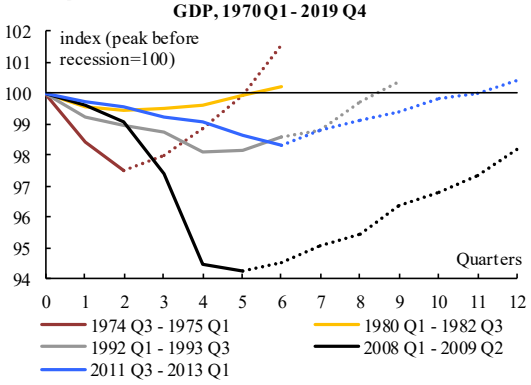
(b) Assessing the shape of the downturn and the subsequent rebound.

The current economic downturn is unique, not only because of its size and abruptness, but also because it results from a public health imperative to deliberately shutdown economic activity, rather than any of the standard triggers of a downturn such as the build-up of cyclical excesses. Neither inappropriate financial asset valuations, nor financial sector weakness, nor sovereign debt issues or debt sustainability concerns, nor an excessive expansion of the construction sector is behind the recession. This provides central banks and fiscal authorities with options they did not have during more typical recessions, but also with challenges in terms of the most effective policy tools to deploy at what time, e.g. the effectiveness of measures to support aggregate demand in a situation of supply constraints and containment measures.

The current set-up also implies that a rebound does not hinge on an adjustment phase during which previous cyclical or structural excesses first need to be corrected. As a result, there has been some hope that a rebound could start earlier than during a more 'normal' recession, as it would mainly depend on getting control of the pandemic and on the length of the containment measures related to it. In combination with an 'optimistic' assumption about the pandemic and about the lifting of containment measures, the 'warming up' after a relatively short period of 'hibernation' appears less difficult, adding up to a kind of 'rebound optimism'.

A very swift, 'V-shaped' recovery would indeed be extraordinary, as in previous, more 'normal' recessions in the euro area it has always taken some time to return to the pre-recession level of GDP, in particular after the Global Financial Crisis (see Graph I.1.14).

Graph I.1.14: **Recessions and rebounds in the euro area, real GDP, 1970 Q1 - 2019 Q4**



Note: Peak-to-trough, dates as identified by the CEPR Business Cycle Dating Committee (straight lines), recoveries shown until return to prior peak (dotted line). Source: AWM database.

The speed at which GDP growth rebounds will depend on the duration of the lockdowns and the economic impediments stemming from the 'cocktail' of containment measures that need to remain in place for longer. The duration of containment measures is difficult to forecast as it depends on characteristics of the virus that are so far not well understood and the development of treatment options and, in the best case, on the availability of a vaccine. The longer a lockdown lasts, the more companies might suffer from liquidity or even solvency issues and go bankrupt, the more workers may permanently lose jobs, and the more impaired assets will weigh on bank

[13] See S. Leduc and Z. Liu (2016). 'Uncertainty shocks are aggregate demand shocks'. *Journal of Monetary Economics* 82, pp. 20–35.

[14] Baker et al. (2020) estimate 'a year-on-year contraction in U.S. real GDP of nearly 11% as of 2020-Q4, with a 90% confidence interval extending to a nearly 20% contraction' with about half of the contraction reflecting a negative effect of COVID-19 induced uncertainty; see Baker, S.R., Bloom, N., Davis, S.J. and S.J. Terry (2020). 'COVID-induced economic uncertainty'. *NBER Working Paper* 26983, April.

balance sheets. [15] The longer shops are closed and consumers are missing spending opportunities, the more consumption may be permanently lost. The longer fiscal authorities have to keep companies alive, the more relevant debt sustainability issues might become.

A look at GDP components suggests a slow and incomplete recovery by the end of 2021…

For many years, ***private consumption*** has been the backbone of economic growth in Europe. Moreover, during past economic downturns private consumption has been the most stable demand component with declines of only up to 2% during the sovereign debt crisis. At present, the contraction of private consumption is expected to be sharp, as shop closures and containment measures lead to 'forced savings'. General uncertainty and specific concerns about employment prospects may induce households to increase their precautionary savings beyond the end of the lockdowns. A particularly strong pandemic impact on lower-income jobs hits persons with a high marginal propensity to consume, so that distributional effects could additionally weigh on private consumption. [16] Wealth effects from falling asset prices may reinforce spending restraint. [17] On the upside, policy measures to protect workers' incomes should mitigate some of these impacts. There is a high probability of private consumption starting to recover quickly, but incompletely and with differences for the various consumption purposes. While postponed car and furniture purchases could lead to pent up demand later, much of the discretionary spending on leisure and travel will be permanently lost.

Investment is the most volatile GDP component and is likely to take a very severe hit, reflecting a combination of demand, supply and financial factors. Faced with high uncertainty about future sales prospects, weakened equity positions and potentially more difficult access to credit, firms are likely to postpone or cancel investment plans. Even if they intend to carry on with certain projects, the current disruption to international supply chains may make a swift realisation impossible. Moreover, the lack of revenue during the lockdown may constrain firms' ability to finance investment projects in the near term, and longer if the increase in debt leads to deleveraging needs. On balance, many of the dampening factors are set to remain in place even once economic activity has started to rebound. [18]

Finally, ***exports of goods and services*** may remain dampened for some time as demand from outside the EU, which was already weak in 2019, takes time to recover from the pandemic and existing global supply chains go through structural changes to reduce the risk of disruptions such as those experienced with the current shock. Moreover, the rebound of exports and imports in Member States depends heavily on exports and imports within the EU, which have substantially increased in recent decades as economic integration within the internal market has intensified. Due to the high degree of intra-EU interdependence, most notably via a high integration in intra-EU value chains, an incomplete rebound in one country would spill over to all the other countries and dampen economic growth everywhere. [19]

…as the impact on the labour market may be difficult to reverse quickly.

Labour markets were the bright spot in the expansion years up to early 2020 with unemployment rates falling to their lowest in more than a decade and employment reaching new all-time highs. The pandemic is expected to bring the decade-long improvement in the labour market

[15] Increased debt could also slow the recovery; for a discussion see Becker, B., Hege. U. and P. Mella-Barral (2020). 'Corporate debt burdens threaten economic recovery after COVID-19: Planning for debt restructuring should start now'. *VoxEU*, March 21.

[16] See also A. Glover, J. Heathcote, D. Krueger and J.-V. Rios-Rull (2020). 'Health versus wealth: on the distributional effects of controlling a pandemic'. *CEPR Discussion Paper* 14606, April.

[17] According to recent estimates for the euro area, the long-term marginal propensity of consumption out of financial wealth is significantly positive, ranging between 1% and 7%; see De Bondt, G., Gieseck, A. and M. Tujula (2020). 'Household wealth and consumption in the euro area`. *Economic Bulletin* 1 (ECB), February, pp. 46-61.

[18] Empirical studies of past pandemics found sustained periods with depressed investment opportunities, partly due to a lasting fall of the real natural rate; see Ò. Jordà, S. R. Singh and A.M. Taylor (2020). 'Longer-run economic consequences of pandemics'. *CEPR Discussion Paper* 14543, March.

[19] An ECB study has found that an initial decline of GDP in the largest euro area economies by 5% (15%) would already during the downturn lower GDP in the euro area by 7% (20%) with further declines possible in subsequent periods; see F. Panetta (2020). 'Why we all need a joint European fiscal response'. *Politico*, April 21. Moreover, global spillovers magnify the impact of domestic shocks and add to internal spillovers in the euro area; see Holland, D. and I. Liadze (2020) 'Quantifying the global macroeconomic spillovers of illness and lockdown measures'. *National Institute Economic Review* 252, May, F69-F70 (Box B).

shuddering to a halt, but how severe the deterioration in the labour market situation is remains difficult to assess. On the one hand, the measurement of employment and unemployment is complicated by statistical issues (e.g. the measurement of short-time work in employment series that include for some countries only headcount numbers). On the other hand, the usual mapping from economic activity into the employment/unemployment situation might be misleading due to the unprecedented situation (e.g. by newly implemented labour market measures).

The information content of labour market statistics differs across regions and countries as labour market institutions and policies differ. Some employees affected by the situation have kept their jobs either with their full salary, or with some type of temporary wage subsidy, such as a short-time work scheme. [20] Others have been laid off and provided either with a recall date (temporary layoff, furlough) or without such cushioning. Such effects hit large companies, medium and small sized-enterprises but also the self-employed. In some countries, more generous short-time working arrangements have so far limited the increase in unemployment but dramatically increased the number of employees in such schemes, often markedly above levels observed during the Great Recession (e.g. in Germany and France). [21] In other countries, the number of unemployed has increased markedly.

The duration of the lockdowns and the containment measures kept in place (e.g. physical distancing) and the strength of the rebound in economic activity will determine to what extent large reductions in hours worked will translate into employment losses and increases in the unemployment rate. Government-subsidised job retention, such as short-time work arrangements where workers benefit from transfers, can be expected to limit negative permanent effects on employment. rate. [22] A high share of labour hoarding that ends up in re-employment is crucial for avoiding mismatches and hysteresis effects. [23] In addition, the long-term impact on the labour market will depend on how successful labour market policies are in cushioning the negative effects on vulnerable groups with a lower attachment to the labour market (e.g. young persons, low-skilled workers, elderly people).

(c) COVID-19's impact on inflation

The inflation outlook depends on the balance of downward pressures from the demand shock and upward pressures from the supply shock. Up to now, COVID-19 is more likely to put additional downward pressure on consumer inflation (as measured by the Harmonised Index of Consumer Prices) and inflation expectations. [24]

- The demand effects on prices of *non-energy goods* should dominate the supply side effects. So far, downside effects of lower demand are only partially mitigated by the upside effects from the disruption of supply chains. Downward pressure on inflation is reinforced by the large drop in oil prices and a deteriorating labour market situation.

- Going forward, *domestic price pressures* are expected to subside. The weaker demand outlook is expected to make it harder for firms to maintain their margins, which would imply that the pass-through from wages to prices has become more difficult. Moreover, the outlook for future wage increases is clouded by the expected deterioration of the labour market situation that is set to raise economic slack. [25]

[20] The Commission's proposal for '*Support to mitigate Unemployment Risks in an Emergency*' (SURE) will support Member States to cover costs directly related to the creation or extension of national short-time work schemes, and other similar measures they have put in place for the self-employed; see F. Vandenbroucke, L. Andor, R. Beetsma, B. Burgoon, G. Fischer, T. Kuhn, C. Luigjes, and F. Nicoli (2020). 'The European Commission's SURE initiative and euro area unemployment re-insurance'. *VoxEU*, 6 April; European Commission (2020), 'Proposal for a Council Regulation on the establishment of a European instrument for temporary support to mitigate unemployment risks in an emergency (SURE) following the COVID-19 outbreak', 2 April 2020, COM (2020), 139 final.

[21] See e.g. Berson, C., Camatte, H. and S. Nevoux (2020). 'Short-time work: a useful tool in times of crisis'. *Eco Notepad* 158 (Banque de France), April 20.

[22] Empirical analysis showed that short-time work may save up to 0.87 jobs per short-time worker in deep economic crises; see Gehrke, B. and B. Hochmuth (2020). 'Counteracting unemployment in crises: Non-linear effects of short-time work policy'. *Scandinavian Journal of Economics* 122 (forthc.).

[23] See e.g. Giupponi, G., and C. Landais (2018). 'Subsidizing labor hoarding in recessions: The employment and welfare effects of short-time work'. CEPR Discussion Paper 13310. Boeri, T. and H. Bruecker (2011). 'Short-time work benefits revisited: Some lessons from the Great Recession'. *Economic Policy* 26:68, pp. 697–765.

[24] For a recent discussion of this issue see also L. Cadamuro and F. Papadia (2020). 'Three macroeconomic issues and Covid-19'. *Bruegel Blog Post*, March 10.

[25] In assessing euro-area wide developments in the compensation of employees the impact of the CICE in

- Lower *oil price assumptions* are also expected to weigh on the inflation outlook. The deteriorated global growth outlook and the dispute over production cuts, most notably between Saudi Arabia and Russia, has pulled prices to very low levels. The agreement on production cuts that was reached in the first half of April has not led to a rebound in prices. Accordingly, the oil price assumptions underlying this forecast are markedly lower than in the previous forecasts.

Overall, in the near term, the new downward pressures on prices are expected to dominate, leading to a downward revision of the forecast for headline HICP inflation in 2020. Developments in 2021 will certainly be driven by energy prices and thus depend mainly on external assumptions.

Beyond the short-term impact of COVID-19, some analysts have raised the issue as to whether unprecedented monetary and fiscal efforts, the sharp increase in debt, and the monetisation of government debt would necessarily push inflation over the medium term. [(26)] Although this cannot be completely excluded, there is so far no evidence, for example in inflation expectations, that this risk is significant. [(27)]

Finally, one has to note that the pandemic is affecting the measurement of prices as lockdowns limit the basket of goods consumers can purchase. This applies to roughly half of the weight of the HICP in the euro area. According to Eurostat's HICP Methodological Manual, prices that are temporarily not available are kept unchanged for a period of up to two months after the closure of shops, which could constitute one cause of biased inflation measurement. [(28)] Another cause could be the temporary change in consumption patterns with less spending on consumer services.

France in 2019 (lowering the growth rate by up to half a percentage point) need to be taken into account.

(26) See e.g. C. Goodhart and M. Pradhan (2020). 'Future imperfect after coronavirus'. *VoxEU*, March 27.

(27) See e.g. Blanchard, O. J. (2020). 'Is there deflation or inflation in the future?'. *VoxEU*, April 24; Blanchard, O. J. and J. Pisani-Ferry (2020). 'Monetisation: Do not panic'. *VoxEu*, April 10.

(28) This provision means that past price developments matter for annual inflation. For example, in 2019 during the Easter period the prices of package holidays increased markedly (annual rate in April 2019 at 7.7%), whereas in April 2020 prices for Easter holiday travel are almost impossible to collect. The prolonged use of the package holiday prices from February would result in April in annual inflation of package holidays of -10.3% (i.e., lowering annual HICP inflation by 0.16 pps.).

1.4. THE FORECAST AND ITS MAIN RESULTS

Forecasters are in uncharted territory. This implies that the usual compass needles might not work properly any longer and that a more flexible approach is needed for assessing the economic situation and outlook. Accordingly, this section starts by looking at forecasting in times of a pandemic, sketches the results of a scenario analysis and presents the main results of the Commission's spring forecast.

The challenge of economic forecasting during a pandemic...

Without any sort of historical precedent upon which to base analysis and a substantial lack of information about the spread of the virus and the duration of containment measures, macroeconomic forecasting is more challenging than usual. What can be done? First, sticking to the usual forecast techniques does not look like a feasible option. Given the speed of the downturn, any method that relies on the rear view and the availability of hard data could provide misleading signals. Moreover, given the size and speed of the downturn, elasticities and relationships between economic variables that have been used in previous forecasts do not necessarily provide guidance for producing a reasonable projection. Second, interrupting forecast activities until more knowledge about the pandemic and its impact are known might be tempting but is not an option in a situation where informed policy decisions need to be taken. [(29)] Accordingly, a more flexible approach to forecasting ('a forecast like no other'), which exploits data and techniques that are usually not at the centre of forecasters' attention, seems necessary.

A more flexible forecast approach requires, first, evidence from previous pandemics and information from sources outside the standard forecast sphere (a more multidisciplinary approach). Second, it widens the view on data by putting more emphasis on the most recent developments, on real-time data such as electricity consumption (see above), and on data about the spread of the virus. Third, in terms of methods, the selection of models needs to be reconsidered (see also Section I.3), for example by assigning a larger role to model-based scenario analyses.

(29) At its meeting in mid-March 2020, the Federal Reserve opted to drop its Summary of Economic Projections, citing greater-than-usual uncertainty.

How can model results support the forecast? Faced with fundamental uncertainty along several dimensions (e.g. the dynamics of the pandemic, the economic impact of containment measures) this spring forecast resorts more than usual to scenario analysis whereby the baseline projection is conditioned on a set of assumptions, and then its sensitivity to these assumptions is tested in alternative scenarios. Model results depend crucially on the assumptions about the pandemic, its duration and deepness. Under a set of assumptions, models can provide valuable information about economic processes, for example for linkages between shocks and developments in private consumption and investment. [30] For this purpose, forecasters can develop scenarios that illustrate how the EU economy might be hit by the pandemic and how the rebound from the trough might look like once the spread of the virus has been stopped. [31] Such information can then assist forecasters who combine model-based results and in-depth knowledge to arrive at rough estimates. This is the route the European Commission's spring 2020 forecast has followed. [32]

[30] See e.g. Pollitt, Hector (2020). 'Coronavirus: how to model the economic impacts of a pandemic'. *Cambridge Economics Blog*, 10 March.

[31] Several past pandemic studies have used scenario analyses; see L. Jonung and W. Roeger (2006). 'The macroeconomic effects of a pandemic in Europe - A model-based assessment'. *European Economy Eonomic Paper* 251, DG ECFIN (European Commission); Rubin, H. (2011). 'Future global shocks: pandemics'. *OECD Report* IFP/WKP/FGS(2011)2, January, OECD.

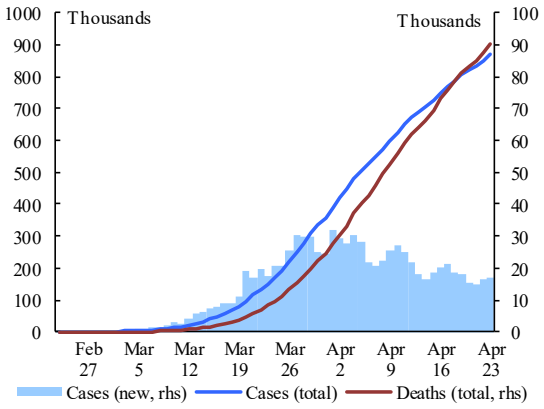
[32] Several institutions and researchers have recently presented scenario analyses to evaluate the COVID-19 impact, including outcomes for the euro area; see e.g. OECD (2020). 'Coronavirus: the world economy at risk'. *OECD Interim Economic Assessment*, March 2; IMF (2020). 'Alternative evolutions in the fight against COVID-19'. *World Economic Outlook*, April, pp. 15-6 (box); Battistini, N. and G. Stoevsky (2020). 'Alternative scenarios for the impact of the COVID-19 pandemic on economic activity on the euro area'. *Economic Bulletin* 3 (ECB), May (forthc.); Hurst, I., Liadze, I., Naisbitt, B. and G. Young (2020). 'A preliminary assessment of the possible economic impact of the coronavirus outbreak: update.' *NiGEM Observations* 18, March 27; McKibbin, W. and R. Fernando (2020). 'The global macroeconomic impacts of COVID-19: seven scenarios'. *Brookings Report*, March 2; CPB Netherlands Bureau of Economic Policy Analysis (2020). 'Scenarios for the economic consequences of the corona crisis'. *CPB Scenarios*, March. Additional scenario analyses have been published by private banks and, for their respective countries, by several euro area central banks (e.g. in Ireland, Spain, Lithuania, and Portugal).

…and the approach in the Commission's spring 2020 forecast.

The Commission's spring 2020 forecast uses structural (QUEST model) and statistical (input-output tables) approaches (see Section I.3). However, the scenarios developed to evaluate the impact of the pandemic and the point forecasts presented in this section should be understood as strongly dependent on the assumptions about the length of the lockdowns, the containment measures and the effectiveness of the policy response. The high uncertainty surrounding them should be noted.

The most important assumptions for the spring forecast baseline are the following: (1) Having peaked in April, the number of new COVID-19 infections in Europe (Graph I.1.15) remains under control after the containment measures are loosened; (2) strict lockdowns are gradually lifted in the coming months, only targeted containment measures with a relatively minor economic impact will remain in place in the second half of this year; (3) policy measures are effective in protecting the economic tissue. Widespread bankruptcies and mass unemployment as well as a financial crisis are avoided.

Graph I.1.15: **Reported COVID-19 cases and deaths, EU**



Note: since 100th case on 23 February 2020
Source: ECDC, April 23, 2020.

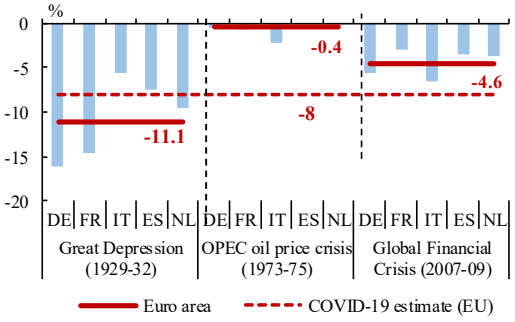
The COVID-19 crisis is estimated to have a very large detrimental economic impact on the EU. A scenario with automatic stabilisers but without planned policy measures estimates that GDP in the EU will fall by about 13% in 2020, compared to a non-pandemic reference scenario, and rebound by about 10% in 2021 (see Section I.3). About half of the decline is attributable to the demand shock, whereas the supply and the liquidity shocks account for about one fifth and the rest is due to

the uncertainty shock. Once the planned policy measures are taken into account (baseline scenario) the impact looks much smoother, with GDP falling with respect to the non-pandemic scenario by about 8% in 2020 and recovering by about 6% in 2021. These mitigation effects in both years can mainly be attributed to discretionary spending and government guarantees to businesses.

The effectiveness of planned policy measures is also reflected in the developments of demand components and employment. The scenario without planned measures shows in 2020 double-digit declines in private investment, private consumption, but also exports and imports, and much smaller but further declines compared to a non-pandemic reference scenario in 2021. Planned measures are estimated to cushion the declines in private consumption and private investment but also for exports and imports, but not sufficiently to prevent an unprecedented decline in private consumption in 2020, which would then only partially be offset by the rebound in 2021, as private consumption would still be below a non-pandemic reference scenario. Planned policy measures are estimated to halve the fall in employment in 2020, but despite a significant rebound in the labour market, employment is estimated to remain below the non-pandemic scenario in 2021.

The estimated fall in annual real GDP in 2020 exceeds the amplitude of the deepest recessions in the history of the EU, including the first oil price shock (1973-1975) and the Global Financial Crisis (2007-2009), [33] but it is smaller than the peak-to-trough decline during the Great Depression (Graph I.1.16). [34]

Graph I.1.16: **GDP declines during Great Depression, first oil crisis, and Global Financial Crisis, euro area**



Note: Largest peak-to-trough GDP declines since 1921 (peacetime years only), based on annual data, 1921-51 EA12 excl. LU, 1952-84 EA19 excl. EE, LT, LV, and SK, and since 1985 EA19.
Source: Maddison Project Database, 2018, www.ggdc.net/maddison

Overall, these results of the baseline scenario show up to the end of the forecast horizon in 2021 a relatively rapid, but incomplete recovery with output remaining below a non-pandemic scenario. In assessing these results one has to acknowledge the large amount of uncertainty surrounding the numbers, in particular with respect to the dynamics of the pandemic and the relaxation of containment measures, but also with respect to the availability of an effective treatment for COVID-19 and a vaccine. More adverse assumptions about the pandemic and about the stringency and duration of containment measures result in outcomes that are more negative for 2020 and 2021 (Section I.3). [35]

The euro area has undergone a severe shock...

The pandemic and the efforts to contain it have brought the economic expansion in the EU and the euro area to an end. The extremely rapid peak-to-trough decline in GDP growth constitutes an unusually fast downturn, which is expected to be partially reversed in the second half of the year.

COVID-19 has spread globally and caused governments to shut down large portions of their economies in an attempt to contain the virus' transmission. [36] The combination of the

[33] These three post-World War II recessions have been identified as globally outstanding; see Kose, M. A., Sugawara, N. and M. E. Terrones (2020). 'Global recessions'. *Policy Research Working Paper* 9172 (World Bank), March.

[34] The same ranking is obtained for euro area per-capita GDP data from the Long-Term Productivity database (-15.2% in the Great Depression, -4.8% in the Global Financial Crisis and -1.2% in the OPEC oil price crisis); for further analysis see Bergeaud, A., Cette, G. and R. Lecat (2020). 'Current and past recessions: a long-term perspective'. *Eco Notepad* 159 (Banque de France), April 27.

[35] This does not necessarily imply a trade off between containment measures and economic recovery, as the failure to mitigate the peak of an infection may cause very large upfront costs in terms of output and demand; see Bodenstein, M., Corsetti, G. and L. Guerrieri (2020). 'Social distancing and supply disruptions in a pandemic'. *Finance and Economics Discussion Series* 31 (Federal Reserve Board), April.

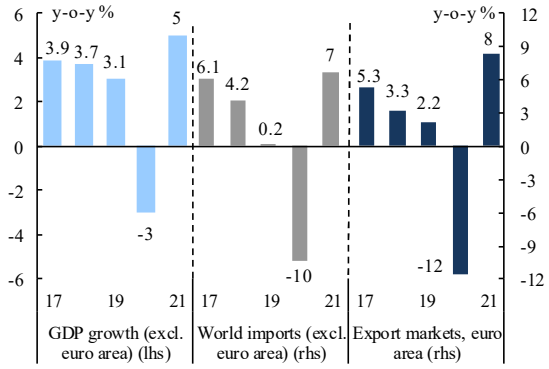
[36] According to ILO estimates, in early April full or partial lockdown measures were affecting almost 2.7 billion workers, representing around 81% of the world's workforce; see International Labour Organization (2020). 'COVID-19 and the world of work. Second edition'. *ILO Monitor*, April 7.

pandemic, falling oil prices and financial market shocks is expected to have pushed the global economy into recession (see Graph I.1.17). Global economic activity outside the euro area is forecast to contract by about 3% in 2020, which is a sharper downturn than during the Global Financial Crisis when at least some countries escaped the downturn.

Supported by unprecedented policy efforts, the outlook for the external environment in 2021 is more benign, showing a strong rebound in growth, although output is expected to not fully recover to pre-pandemic levels within the forecast horizon (see Section I.2.1). Economic activity in advanced economies (excluding the EU) is projected to fall by about 6% this year and to increase by about 4½% next year. In emerging market economies, the projected decline in GDP in 2020 is somewhat smaller, reflecting the expected growth rebound in China. The deterioration is expected to be sharper in emerging market countries with limited capacity to deal with a health crisis of this magnitude as well as with limited policy space to absorb the macroeconomic shock. Moreover, in many emerging market economies, the negative impact of COVID-19 is compounded by a simultaneous commodity price shock and a sharp deterioration in financing conditions.

The COVID-19 shock is set to affect the global economy via disruptions to demand, labour supply and industrial output, supply chains, commodity prices, international trade and capital flows. For the trade outlook (Graph I.1.17), this implies that an already weak 2019 is followed by a year with plummeting global trade. [37] The rebound in 2021 is projected to be limited because some of the disruption in global value chains caused by the pandemic is likely to prove more permanent. Overall, these projections for the external environment are expected to weigh on the outlook for the euro area, as they imply unfavourable developments in euro area export markets.

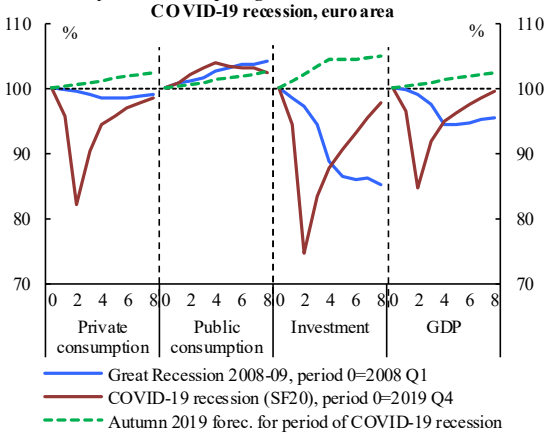
Graph I.1.17: **Forecast: Global economic activity, world trade and euro area export markets**



...with private domestic demand set to recover only gradually...

Economic activity in the euro area and the EU is being hit by a variety of shocks, as described in the model-based scenario analysis. Private consumption and investment are set to fall sharply in the first half of the year, before rebounding in the second half. Both the downturn and the upswing are expected to be extreme compared to the Global Financial Crisis (Graph I.1.18). However, it has to be noted that the pace of the rebound rests on assumptions about the pandemic, which are surrounded by large uncertainty.

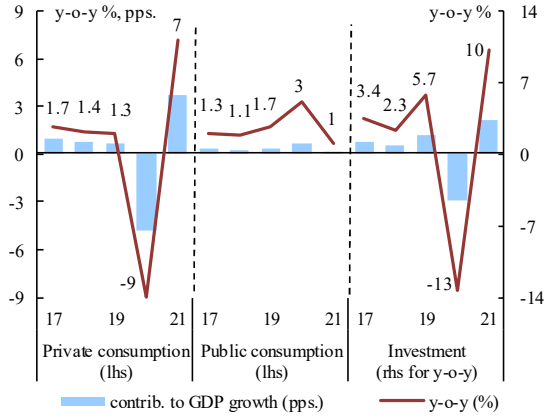
Graph I.1.18: **Comparing recessions, 2008-09 crisis vs COVID-19 recession, euro area**



Despite the expected gradual rebound in the second half of 2020, the troughs in the first half of the year are set to be so deep that the projected annual growth rates are at unprecedented lows (see Graph I.1.19). The profile implies strong carry-overs to 2021, which are one reason for projections of relatively strong growth next year.

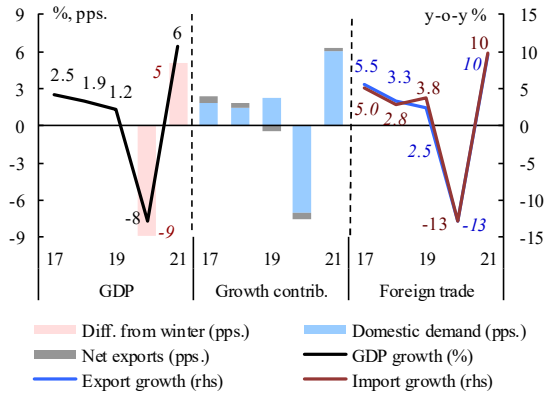
[37] The WTO projected world merchandise trade to fall in 2020 by between 13% and 32%; see WTO (2020). 'Trade set to plunge as COVID-19 pandemic upends global economy'. *WTO Press Release* 855, April 8.

Graph I.1.19: **Forecast: Domestic demand components, euro area**



Due to the synchronous global economic downturn expected in 2020 and the subsequent rebound in 2021, euro area exports and imports are set to move almost in parallel (Graph I.1.20), limiting net contributions to growth from the external side. As a result, domestic demand components dominate the growth outlook, which is characterised by a sharp downturn in 2020 and an incomplete rebound in 2021.

Graph I.1.20: **Forecast: GDP, growth contributions and foreign trade, euro area**

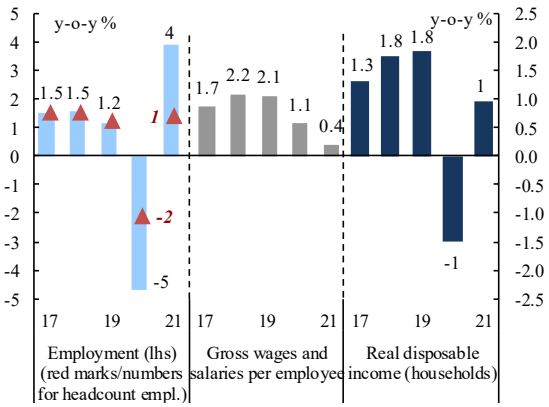


Against the background of sharp moves in annual growth rates, the expected importance of calendar effects on euro area growth this year (due to the leap year and a relatively high number of working days in some Member States) has faded.

...the labour market being severely hit...

The ups and downs in economic activity are also reflected in projections for the labour market (see Section I.2.4). The relatively moderate expected decline in employment of about 4% in 2020 hides a more substantial deterioration in the number of hours worked, as employees in short-time work schemes are de facto unemployed but remain statistically employed. The deterioration in the labour market situation is projected to limit increases in wages and salaries this year and next as the bargaining power of workers is diminished. Accordingly, gains in real disposable incomes are also expected to fall behind the rates seen in the years of economic expansion (Graph I.1.21).

Graph I.1.21: **Forecast: Employment, wages and real disposable incomes, euro area**



...near-term inflationary pressures diminishing rapidly...

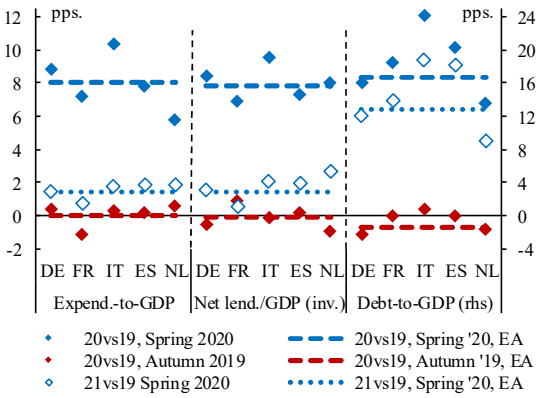
The combination of weakening economic activity and a deteriorating labour market outlook translates in the near term into lower domestic price pressures that weigh on core inflation. In combination with falling energy price inflation, mainly reflecting the sharp fall in oil prices, this explains the downward revision to inflation projections. HICP inflation in the euro area is forecast to fall below 1% in 2020 and to tick higher in 2021, mainly on the back of base effects.

...while additional policy measures impact on public finances.

To protect households, workers and firms, new discretionary fiscal measures have been announced or implemented that add to the effects of automatic stabilisers (see Section I.2.6). As a result, public expenditure, deficit, and debt to GDP ratios are projected to increase significantly (Graph I.1.22), whereas the revenue ratio is set to remain roughly unchanged. Under the baseline scenario, in 2020 increases in the deficit and debt ratios combine the effects of unprecedented fiscal policy measures and the decline in economic activity (nominal GDP). The increases in 2020 (dashed blue line) differ markedly from the autumn forecast (red line). In 2021, Member States are assumed to

unwind many of the temporary policy measures adopted in response to the COVID-19. In combination with the expected rebound in economic activity in 2021, under a no-policy change assumption this is projected to lower expenditure, deficit and debt ratios (dotted blue line). It has to be noted that not all measures are reflected in the budget, e.g. liquidity support measures such as loans or loan guarantees to firms.

Graph I.1.22: **Forecast: Change in public finance indicators, 2019-2020/21, EA and large Member States**

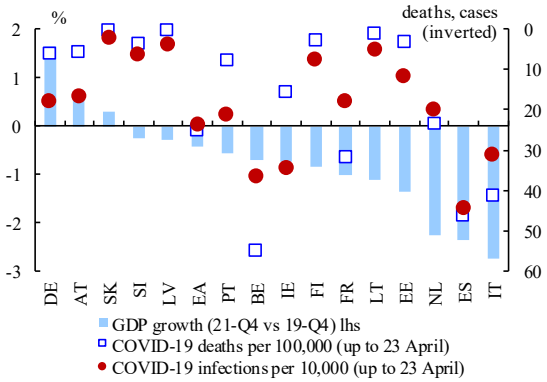


Most Member States are pushed into recessions, though of different extents,...

The COVID-19 shock is broadly symmetric and hits all Member States, but both the downturn and the rebound of economic activity are expected to be asymmetric (Graph I.1.23). While some countries are set to return next year to their pre-pandemic levels of output, a majority of Member States is expected to recover only partially by the end of the forecast horizon. Among the reasons are country-specific features, such as differences in the extent and timing of the pandemic in individual countries as also reflected in the reported numbers of COVID-19 infections and deaths.

Other differences are found in the exposure to sectors most affected by the pandemic and containment measures (e.g. tourism), and in the fiscal response to the crisis (see Section I.2.7). Country specific developments are expected key public finance indicators. For example, in 2020, the highest increase in the debt ratio is expected in Italy and Spain (Graph I.1.22), partly reflecting a more pronounced economic contraction. In 2021, both economies are projected to face the highest increases as compared to the outturns in 2019.

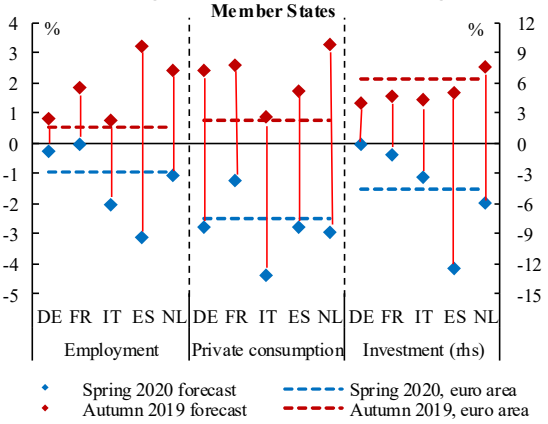
Graph I.1.23: **COVID-19 and its asymmetric growth impact in euro area Member States**



Source: ECDC, April 23, 2020.

The uneven rebound of economic activity is also visible in annual figures. While the levels of employment and private domestic demand (private consumption and investment) are projected to remain in 2021 below their pre-pandemic levels in the euro area and the five largest Member States, the differences across countries are substantial (Graph I.1.24). This also applies in terms of 'lost growth' when compared with the growth rates that were expected in autumn 2019 forecast (red lines in the graph below).

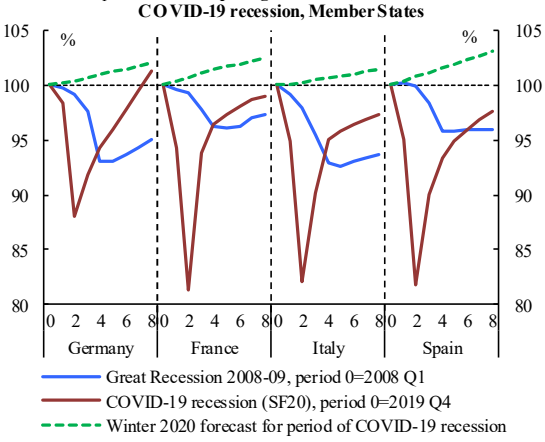
Graph I.1.24: **Forecast: Employment and domestic demand growth 2019-2021, euro area and largest Member States**



Substantial differences across countries are also clearly visible in the projected profiles of GDP growth in 2020 and 2021. Among the largest Member States (Graph I.1.25), the projected declines are more similar than the rebounds, which are set to be more limited in Italy and Spain, so far the two countries hardest hit by COVID-19. The decline in GDP is followed by a largely asymmetric recovery, which leads to entrenched divergences. In comparison to the Great Recession in 2008-2009, the crisis triggered by the COVID-19 pandemic is much deeper and highlights the

importance of persistent structural, macroeconomic differences in Member States.

Graph I.1.25: **Comparing recessions, 2008-09 crisis vs. COVID-19 recession, Member States**

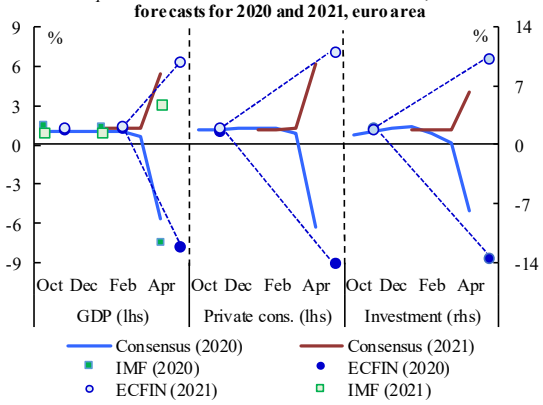


...and the downturn is resulting in sharp downward revisions to forecasts.

Both the exceptional pace of the expected downturn and rebound are reflected in recent revisions by most forecasters (including the IMF and the forecasters surveyed by Consensus Economics). Within weeks, rather flat forecast evolutions for private consumption, investment and GDP in the euro area have turned into forecast 'scissors' with low forecast numbers for 2020 and high forecast numbers for 2021. Thus, the directions forecasters have taken in the newly entered 'uncharted territory' look quite similar (Graph I.1.26).

Overall, the economic outlook for the euro area and the EU economy has sharply deteriorated since the winter 2020 interim forecast. The COVID-19 pandemic has affected China much more than expected and spread globally, including in the EU. As key parameters of the disease including its duration remain unknown, forecasts at the current juncture are inevitably shrouded by elevated uncertainty. It is therefore somewhat premature to try to assess the likely shape of the rebound. As compared to the profiles observed during the Global Financial Crisis, however, current projections could still merit description as 'V-shaped', but the incomplete rebound that is projected for economic activity, trade and employment could suggest a 'U shaped' rebound. Whether this in the end turns into an 'elongated U', as for some countries in the wake of the Great Recession, depends on the validity of assumptions on which the forecast is based.

Graph I.1.26: **COVID-19 and forecast 'scissors', selected forecasts for 2020 and 2021, euro area**



Sources: IMF, ECFIN, and Consensus Economics.

Extremely high uncertainty and substantial downside risks surround the forecast

The huge uncertainty surrounding this spring forecast is unprecedented. The scale and duration of the pandemic are essentially unknown. There is also uncertainty regarding both the duration and scope of containment measures and, in turn, the shape of the rebound.

Risks surrounding the forecast are severe and mostly point to the downside. The major risks concern the total economic impact of COVID-19 on the EU economy, which will depend upon the scale and duration of the pandemic.

- Growth in the EU could underperform the already revised forecast, as the ***pandemic*** poses downside risks. The forecast is based on the assumption that the pandemic exerts its biggest impact in the second quarter 2020 followed by a period of gradual relaxation of the containment measures. This could be too optimistic, in particular as a treatment drug or vaccine may not be available soon. Already planned or implemented relaxations of containment measures could prove premature and spark another outbreak ('second wave'). A prolonged or more severe spread of the virus would yield an even worse downturn than currently expected, as also visible in the adverse scenarios that have been simulated (see Section I.3).

- The recovery in Europe could also suffer from insufficiently ***coordinated national policy responses, or a too limited common response at the EU level***. This could limit the efficient use of the workforce (e.g. labour mobility), result in different treatment of companies

depending on their location in the EU, or be inadequate to compensate for the lack of sufficient policy space in those euro area Member States that are also hardest hit. It could endanger the functioning of the internal market, result in efficiency losses, dampen economic growth, increase divergence, and ultimately threaten the stability of the monetary union. Tight linkages through supply chains, financial connections and trade relationships would compound and spread negative effects throughout the EU.

- Growth in the ***external environment*** could be weaker than expected, i.e. the recession could be deeper than anticipated and the rebound could be more gradual than expected. This could be related to more painful economic effects of COVID-19 in emerging market economies (e.g. sovereign defaults).

- The possibility of ***financial turmoil*** cannot be excluded. For indebted corporate borrowers, initial liquidity strains could turn into solvency problems, which lead to bankruptcies, make loans non-performing and cause losses in the banking sector that endanger financial stability and cause a risk-off episode with implications to companies' access to credit and their funding costs. [(38)] Frictions in credit markets could lower economic efficiency due to higher costs of capital and/or by capital being misallocated away from its most productive uses. For some sovereigns, the budgetary burden of implemented and planned measures could become more difficult to cope with than currently expected. This – in combination with the impact of the recession on output and inflation – could lead to a revival of concerns about debt sustainability, and financial tensions. In the absence of sufficient circuit breakers, economic and financial feedback loops could emerge.

- Even if the virus is successfully suppressed in the near term and a lifting of containment measures leads to a revival in economic activity, the pandemic could leave ***permanent scars*** in the EU economy that are not included in the central scenario. They could be related to a wave of bankruptcies and an accompanying destruction of capital, as well as fragmentation in the Single Market, which would lower the intensity of trade and dampen investment. In addition, experiences from the pandemic could also trigger fundamental changes to global trade and international cooperation that would hit open economies such as the EU most. Against the background of fears that imported cases result in renewed infections, a rise of protectionism could become more popular than currently expected.

- In addition, some ***downside risks evaluated in the previous forecasts*** remain in place. These include concerns that new tariffs might be applied on a much wider range of items, which could adversely affect business investment plans and lead to a worse outcome. Moreover, the failure to secure an agreement about the future trading relationship between the EU and the UK could dampen economic growth, particularly in the UK.

On the upside, a more rapid than expected development of a vaccine against COVID-19 could allow physical distancing measures to be lifted more quickly, could improve economic sentiment, and result in a faster-than-anticipated return to a more normal economic situation.

(38) Regarding financial stability, the Financial Stability Board assessed the pandemic as 'the biggest test of the post-financial system to date'; Financial Stability Board (2020). 'COVID-19 pandemic: Financial stability implications and policy measures taken'. April 15.

2. ECONOMIC OUTLOOK

2.1. INTERNATIONAL ENVIRONMENT

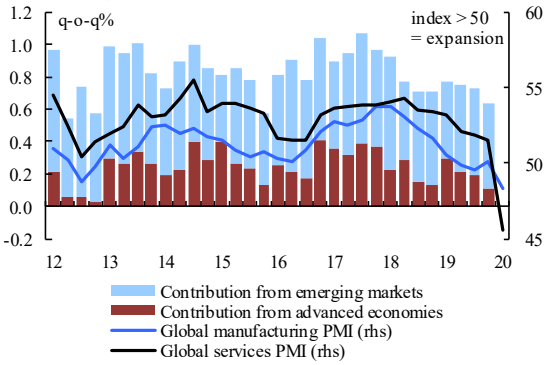
Pandemic hits a vulnerable global economy

Around the turn of the year, the global economy, which was slowing down since 2018, showed some tentative signs of bottoming out when it was hit by the COVID-19 global pandemic. This crisis profoundly disrupted global demand, supply chains, labour supply and industrial output and triggered a collapse in oil and commodity prices as well as financial market turmoil. The combination of these shocks is expected to push the global economy into a deep recession in the first half of 2020. The unprecedented policy efforts to limit the economic impact of the pandemic however, are expected to contain the downturn and contribute to the subsequent recovery. The resumption of economic activity is projected to begin in the second half of 2020 when the pandemic is assumed to be broadly contained and the restrictive health policy measures progressively phased out. However, the restart in economic activity is set to be gradual and uneven across countries and regions as it will depend on their policy space and capacities to deal with a health crisis of this magnitude. For many emerging and low-income countries, the economic impact is projected to be particularly long lasting. Furthermore, the economic and social challenges in some of these countries are expected to be compounded by a simultaneous commodity price shock and a sharp deterioration of financing conditions. Overall, global real GDP (excluding the EU) is projected to contract by around 3% in 2020 before a recovery of 5% in 2021, implying that by the end of the forecast horizon global output would recover above the 2019 level but below the projected level in the autumn 2019 forecast. Uncertainty around the present forecast is extremely large as it is impossible to predict the future patterns of the virus outbreak, the containment measures taken to flatten its spread, the effectiveness of the policy response as well as the damage it may have on international trade and global value chains. Overall, the economic shock hitting all economies simultaneously may have a deeper and longer lasting impact.

A triple shock of global pandemic, collapsing oil prices and financial market turmoil

Global growth (excl. EU) remained subdued in the second half of 2019 but signs of an upturn started to emerge around the turn of the year. Some high frequency indicators improved on the back of easing concerns around possible tail risks thanks to the "phase one" trade deal between the US and China and the reduction of uncertainty about the UK withdrawal from the EU. In addition, macroeconomic, and especially monetary, policy support in a number of major economies supported global business sentiment. Signs of bottoming out were particularly strong in emerging Asia where a tentative upturn in the tech cycle further strengthened the outlook for manufacturing.

Graph 1.2.1: **Growth in global GDP and global PMIs**



Sources: National sources, OECD, IMF and WB for GDP, JPMorgan/IHS Markit for PMI. Quarterly PMIs are calculated as the average over three months.

The outbreak and spread of COVID-19, starting in China in December 2019 and subsequently becoming a pandemic, derailed this incipient global recovery and fundamentally changed the economic outlook. The fast cross-border spread of the virus triggered a wave of public containment measures, a change in behaviour of the general public, a substantial drop in business confidence, and a steep rise in financial market risk aversion, implying a sharp and abrupt halt to economic activity. This shock rippled through the global economy via disruptions to global demand, labour supply and industrial output, supply chains, commodity prices, international trade and capital flows. The latest high frequency data confirm that since the beginning of the year the pandemic has caused significant disruption across the global economy, with global output, trade and employment contracting in March and April at the

Table I.2.1:

International environment

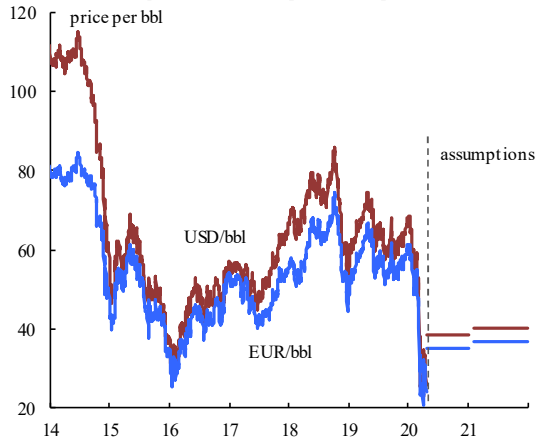
(Annual percentage change)					Spring 2020 forecast			*Autumn 2019 forecast*		
	(a)	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	***2019***	***2020***	***2021***
					Real GDP growth					
Japan	4.1	0.5	2.2	0.3	**0.7**	**-5.0**	**2.7**	*0.9*	*0.4*	*0.6*
United Kingdom	2.2	1.9	1.9	1.3	**1.4**	**-8.3**	**6.0**	*1.3*	*1.4*	*1.4*
United States	15.2	1.6	2.4	2.9	**2.3**	**-6.5**	**4.9**	*2.3*	*1.8*	*1.6*
Emerging and developing Asia	34.1	6.9	6.5	6.4	**5.6**	**0.6**	**7.2**	*5.7*	*5.6*	*5.5*
- China	18.7	6.8	7.0	6.7	**6.1**	**1.0**	**7.8**	*6.1*	*5.8*	*5.6*
- India	7.7	9.0	6.6	6.8	**5.3**	**1.1**	**6.7**	*5.6*	*6.1*	*6.3*
Latin America	7.5	-0.9	1.1	0.9	**-0.1**	**-5.6**	**2.4**	*-0.1*	*1.1*	*1.7*
- Brazil	2.5	-3.3	1.3	1.3	**1.1**	**-5.2**	**1.9**	*0.8*	*1.5*	*1.8*
MENA	6.5	4.6	1.9	1.0	**0.2**	**-3.8**	**2.0**	*1.0*	*1.8*	*1.9*
CIS	4.4	0.7	2.2	2.7	**2.1**	**-4.0**	**2.3**	*1.7*	*2.1*	*2.1*
- Russia	3.1	0.3	1.6	2.3	**1.3**	**-5.0**	**1.6**	*1.0*	*1.4*	*1.5*
Sub-Saharan Africa	3.2	1.1	2.6	2.6	**2.4**	**-4.1**	**2.1**	*2.7*	*2.8*	*2.8*
Candidate Countries	1.9	3.2	7.0	2.9	**1.1**	**-5.3**	**4.5**	*0.6*	*3.1*	*3.5*
World excluding EU	86.0	3.5	3.9	3.7	**3.0**	**-2.9**	**5.0**	*3.1*	*3.3*	*3.4*
					Trade of goods and services, volumes					
World excluding EU, import		1.3	6.0	4.1	**0.1**	**-10.3**	**6.7**	*0.5*	*2.1*	*2.5*
EU export market growth (b)		3.3	5.4	3.3	**2.2**	**-11.5**	**8.4**	*2.3*	*2.6*	*2.7*

(a) Relative weights in %, based on GDP (at constant prices and PPS) in 2018.(b) Imports of goods and services to the various markets (incl. EU-markets) weighted according to their share in country's exports of goods and services.

sharpest rate since the Great Depression. Reflecting on the experience in China where the virus outbreak first appeared and seemed to have been contained, the COVID-19 pandemic is assumed to be of transitory nature but to hit all economies across the globe. The severe disruption to global activity is expected to be largely concentrated in Q1 (China and large parts of East Asia) and Q2 (Europe and the US). It is expected to be followed by a rebound, starting in the second half of this year, as the pandemic ebbs away and containment measures are phased out (albeit in a staggered and managed way). Nevertheless, the pick-up in economic activity is expected to be only gradual and particularly subdued in countries with limited policy space.

The virus outbreak and the associated sharp economic slowdown resulted in a negative demand shock to oil and many other commodities, putting downward pressure on prices since the beginning of the year. In the case of oil, in March a brief price war between Saudi Arabia and Russia prompted a surge in supply leading to an additional sharp plunge in prices. Eventually, in April, the OPEC+ countries agreed to curtail oil production in the face of the slump in global demand. However, concerns that the agreed production cuts would be insufficient to cope with the plunging demand, together with scarcity of storage for the excess oil supply, sustained the downward pressure on prices. In an environment of extreme uncertainty around the unfolding COVID-19 pandemic and the growing jitters over the global economic outlook, oil and commodity prices are set to remain subdued over this year and next, well below earlier expectations. As a result, the assumptions for Brent prices are revised downwards to an average of 38 USD/bbl in 2020 and 40 USD/bbl in 2021, down by 33% and 28%, respectively compared to the autumn Forecast (see Graph I.2.2). In euro terms, downward revisions as compared to the autumn forecast amount to 32% and 27%, respectively. These developments are expected to further dampen the economic prospects for many oil-exporting countries, in addition to limiting their fiscal space to counter the health shock in a context of exacerbating financial vulnerabilities. On the other hand, potential positive effects from lower oil prices in oil importing countries would be impaired in the near-term by the depressed demand conditions in view of restrictive public health measures effectively shutting down large parts of their economies.

Graph I.2.2: **Brent oil price assumptions**



A fiscal policy response mainly concentrated in the advanced economies and East Asia

Outside of the EU, the most sizeable fiscal measures to cushion the negative shock have been put forward by the governments in the US (11% of GDP), the UK (at least 5% of GDP) and Japan (5% of GDP). In addition, these countries provided substantial guarantees for personal and business loans (2% of GDP in the US, 16% in the UK and 17% in Japan). At the same time, China expanded fiscal policy by around 1¼% of GDP while Russia, India and some of the emerging markets in Southeast Asia have also put forward ambitious fiscal packages. Most of the announced fiscal measures have been primarily aimed at enhancing the existing automatic stabilisers in all these economies, i.e. cushioning the economy during the shock by stabilising incomes, providing liquidity and avoiding bankruptcies. In contrast, a large number of emerging and low-income countries affected by the pandemic and/or its macroeconomic spillovers have been constrained by limited policy space in addition to already weak social safety nets (most of Latin America and Sub-Saharan Africa). In order to support these countries, the G20 and the Paris Club agreed for a time-bound suspension of debt service payments by bilateral official creditors, for the poorest countries that request forbearance, while the IMF approved immediate debt service relief to 25 countries.

A global recession followed by an uneven recovery across countries and regions

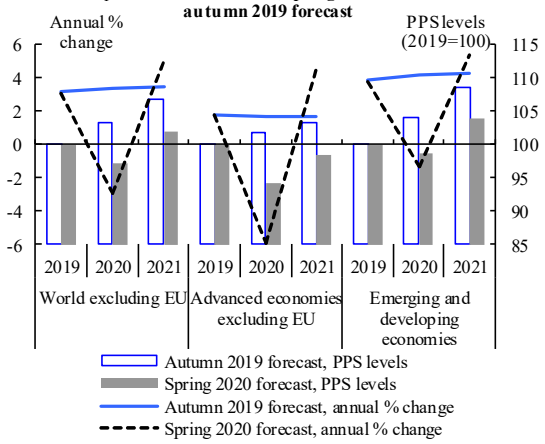
The triple shock of a global pandemic, collapsing oil prices and financial market turmoil hit an already fragile global economy that expanded by less than 3% in 2019 (the lowest growth rate since the Global Financial Crisis). The combination of these shocks is set to push the global economy into an abrupt and deep recession in 2020 with global real GDP (excluding the EU) contracting by around 3% (-6¼ pps. compared to the autumn forecast). However, the massive health and macroeconomic policy efforts across most major economies are expected to contain the pandemic and limit its negative impact on the global economy to a deep but temporary downturn. Thus, in 2021 global real GDP (excluding the EU) is projected to rebound by 5% (+1¾ pps. compared to the autumn forecast), though driven to a large extent by base effects. The rebound is expected to be gradual and uneven across countries and regions.

Economic growth in the advanced economies (excluding the EU) decelerated to 1¾% in 2019 (from 2½% in 2018) on the back of subdued business confidence, waning fiscal stimulus in the US and a drop in GDP growth in Japan around the consumption tax hike in October. This slowdown is poised to sharply deepen in the first half of 2020 as the COVID-19 containment measures depress domestic demand, employment and incomes, leading to a real GDP contraction of 6½% for the year as a whole (-7½ pps. compared to the autumn forecast). However, thanks to the significant macroeconomic policy response assumed to broadly preserve the economic fundamentals in these countries, a gradual economic normalisation starting from the second half of 2020 is projected to result in a rebound of growth to 4½% in 2021 (+3 pps. compared to the autumn forecast). This implies that by the end of the forecast horizon, output in most advanced economies outside the EU would remain below 2019 levels (see Graph I.2.3).

In the emerging economies, real GDP growth decelerated to 3¾% in 2019 (from 4½% in 2018) amid weak global trade momentum, heightened uncertainty, a surge in geopolitical tensions, and an array of largely political and structural impediments. Going forward, economic prospects in many of these countries are set to severely deteriorate in view of the COVID-19 pandemic as they enter the crisis with weak public health systems, low institutional capacity and constrained macroeconomic policy space. Furthermore, in a number of these economies the impact of the virus outbreak is set to be compounded by a simultaneous commodity price shock and a sharp deterioration of financing conditions laying bare many of the financial vulnerabilities accumulated

in the past decade, such as high debt levels and a large share of foreign-currency denominated debt. On the positive side, in China and some countries in Southeast Asia, the virus appears to have been contained so far and these economies are expected to gradually recover as of the second half of 2020 underpinned by accommodative monetary and fiscal policies. Against this backdrop, real GDP in the EMEs as a group is projected to contract by 1¼% in 2020 (-5½ pps. compared to the autumn forecast) before expanding by 5¼% in 2021 (+1 pp. compared to the autumn forecast). This implies that in 2021 output in emerging markets is expected to recover above 2019 levels, but below the projected level in the autumn 2019 forecast (see Graph I.2.3). The expected rebound in 2021 is mainly driven by the dissipating global pandemic and the normalisation of growth dynamics in China while only a limited pick-up in growth is set to take hold in Latin America, the Middle East and Africa.

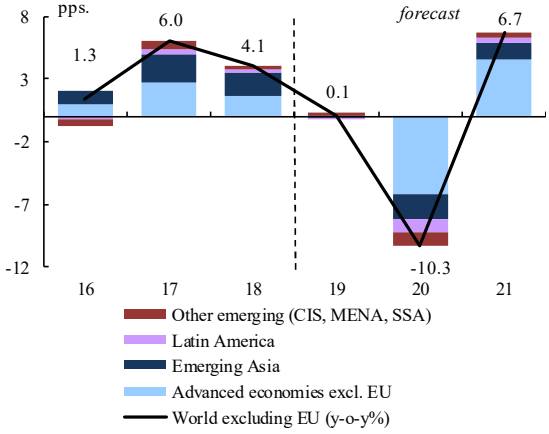
Graph I.2.3: **GDP forecast, spring 2020 forecast vs autumn 2019 forecast**



A deeper slump in global trade

Following an already weak 2019, global trade is expected to plummet in 2020. A combined demand and supply shock due to worldwide lockdown measures is projected to lead to an unprecedented collapse in trade in the first half of the year. In the second half of the year, trade in goods should start rebounding as lockdown measures are gradually lifted and global demand gradually recovers. However, trade in services, particularly tourism, is expected to rebound more slowly. Thus, global imports (ex-EU) are expected to plunge by 10¼% in 2020 (see Graph I.2.4). In 2021, global imports (excluding the EU) are set to grow by 6¾%, as economic and trade activity in the advanced economies and China enter the year with strong momentum and positive carry-over effects mechanically boost the forecast. On the whole, however, the current crisis is expected to weigh on gross trade flows as it is set to lead to lesser integration of production processes and simpler global value chains. Furthermore, global trade policy uncertainty is predicted to continue weighing on trade, in spite of the recent US-China "phase one" trade deal, which is considered not sufficient to reverse the ongoing broader trend towards protectionism. For these reasons, while trade is expected to fall considerably more steeply than GDP in 2020, producing imports elasticity of about 3, its rebound in 2021 is expected to be in line with the recovery of economic activity (elasticity of around 1).

Graph I.2.4: **Contributions to non-EU world import growth**



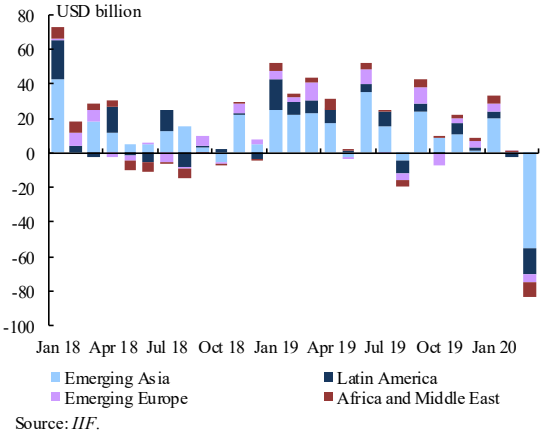
2.2. FINANCIAL MARKETS

Global financial markets severely shaken by COVID-19 shock

As the global economic outlook deteriorated and uncertainty about the evolution of the COVID-19 pandemic increased, a sharp shift to global risk-off sentiment resulted in deep losses in global equity markets, massive capital outflows from emerging markets and rallies in safe haven assets. As a consequence, longer-term yields have declined materially since the beginning of the year across advanced economies. In March, global market turmoil and risk aversion intensified to a point where a liquidity crunch temporarily caused stress in US credit markets, hampering the transmission mechanisms of the Fed's monetary policy and testing the limits of the resilience of the global financial system. In emerging markets, the interaction of the COVID-19 shock with the collapse in oil and commodity prices has triggered sharp capital outflows, currency depreciations and

an increase in corporate and sovereign bond spreads. These developments create a major risk for financial stability in emerging and developing countries, reflecting their heavy dependence on external and USD-denominated debt. Taken together, all these developments have resulted in a sharp tightening of global financing conditions, despite a massive easing of global monetary policy over the last few months.

Graph I.2.5: **Portfolio flows to emerging markets**



Source: *IIF*.

A bold policy response to the pandemic

Central banks and governments around the world have taken unprecedented policy measures to contain the macroeconomic fallout from the COVID-19 pandemic. The US Federal Reserve led a global monetary policy response, swiftly slashing its benchmark interest rate to zero, re-starting quantitative easing programmes on a major scale and activating USD currency swap lines and repo operations with other central banks. A number of major central banks followed suit. In the advanced economies where interest rate policy space is limited (Japan, the UK, Korea), the response also focused on credit stimulation, asset purchases and regulatory forbearance. In emerging markets, the easing measures of the US Fed combined with limited inflationary pressures provided some space for cutting rates, but depreciating currencies and capital outflows forced several central banks to sell foreign currency reserves and intervene directly in their sovereign debt markets. In China, the central bank has provided more liquidity to financial markets and banks have been encouraged to provide more lending to SMEs and to raise their tolerance for bad debt. Some key policy rates have been cut but to a limited extent. Overall, the swift global monetary policy response has so far been effective in ensuring global financial stability by alleviating liquidity pressures amid intense financial market tensions.

European financial markets have been particularly impacted

Until mid-February, financial-market volatility in Europe remained subdued across major asset classes, with prices in the riskier market segments even marking new highs. In the second half of February, investor sentiment changed profoundly as it became clear that rather than remaining largely confined to China, the COVID-19 virus was spreading across continents, gravely impacting the global and European economy. In Europe's riskier market segments, such as equities and high yield corporate bonds, investors cut exposures sharply, causing the fastest market sell-off since the Global financial crisis of 2008-2009. This is largely due to the severe pressure on the liquidity stance of non-financial companies, including SMEs, as the sudden collapse in cash flows among many non-financials could quickly trigger liquidity problems and lead to a sharp increase in default rates.

Monetary and fiscal authorities in the euro area and EU have reacted swiftly to the crisis, proposing unprecedented policy support measures. Financial markets have since shown signs of stabilisation with sovereign and to a lesser extent corporate bond spreads narrowing, equity markets recovering part of their losses and liquidity stress softening in several market segments. Investor sentiment improved further in April on reports suggesting the pandemic had peaked in some countries and that an exit from the confinement period might be approaching. However, caution is still warranted in the absence of estimates of the nature and duration of the economic damages due to the COVID-19 outbreak.

EU central banks were quick to respond with mitigating measures to the COVID-19 economic shock …

The ECB has taken a broad range of monetary and credit policy measures since mid-March to try to mitigate the adverse economic impacts of the COVID-19 pandemic and in particular to prevent non-financial companies from suffering from liquidity shortages that could threaten their solvency during the crisis. These include additional liquidity-provision measures for banks (both targeted and non-targeted), supported by

measures aimed at easing collateral requirements, as well as substantial additional purchases of public and private sector assets under the Asset Purchase Programme (APP) and the Pandemic Emergency Purchase Programme (PEPP).

The ECB announced additional purchases of public and private sector assets amounting to EUR 870bn until the end of 2020. As these purchases aim to address risks to the uniform transmission of the ECB's monetary policy across the euro area, fluctuations in the distribution of purchase flows would be allowed over time, across asset classes and among jurisdictions.

Through its additional liquidity-provision operations, the Eurosystem could lend more than EUR 1trn of additional funding to euro area banks at a negative rate, which could be as low as -0.75%. In order to enhance banks' access to central bank liquidity across the euro area, a number of temporary collateral easing measures have also been introduced. In particular, these measures ease the conditions at which loans granted by euro area banks are accepted as collateral in the Eurosystem's liquidity-provision operations and reduce the haircuts applied to all assets pledged as collateral. Crucially, loans to corporations, SMEs, self-employed individuals and households that benefit from public sector guarantees offered in the context of the COVID-19 crisis will be accepted as collateral. On 22 April 2020, the ECB adopted additional temporary measures related to the collateral that can be used by euro area banks in their credit operations with the Eurosystem. The ECB will accept as collateral until September 2021, all assets that fulfilled minimum credit quality requirements on 7 April 2020, independently of any possible downgrades by rating agencies after this date, as long as the ratings remain above a certain credit quality level (i.e. not more than two notches below the current minimum credit quality requirements defined in the Eurosystem collateral framework).

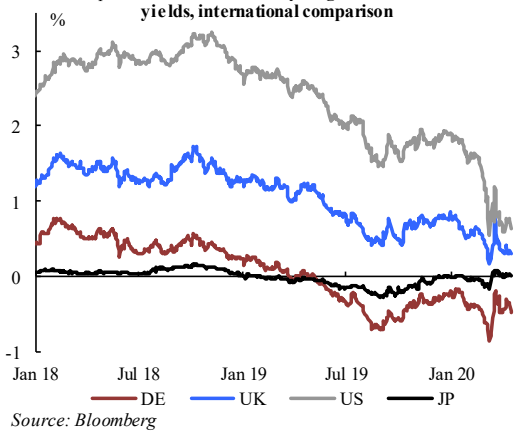
The ECB's liquidity measures have been complemented by a number of decisions by the Single Supervisory Mechanism (SSM) to relax regulatory requirements on banks in a counter-cyclical way. The SSM measures will provide temporary capital and operational relief to euro area banks, which could be used to absorb losses or loans provided to the real economy.

Most of the central banks in the EU countries outside the euro area have also taken measures with similar objectives.

…in a context of significant tensions in financial markets…

In bond markets, benchmark sovereign bonds rallied at the beginning of the year and the downward trend in yields gained strength in late February. As the impact of the public health crisis led more and more governments across the world to shut down non-essential economic activity, investors sought refuge in traditional safe havens. The 10-year German Bund yield reached an historic low of -0.84 % on 9 March amid extreme risk aversion. However, as central banks worldwide adopted massive, coordinated measures to inject liquidity in the financial system and investors started to gauge the enormous cost of adequate fiscal policy responses for public finances, investors subsequently sold off even these traditional safe assets and went into cash or money market assets. After the ECB announced the launch of the PEPP on 18 March, benchmark bond yields softened again (see Graph I.2.6).

Graph I.2.6: **Benchmark 10-year government bond yields, international comparison**

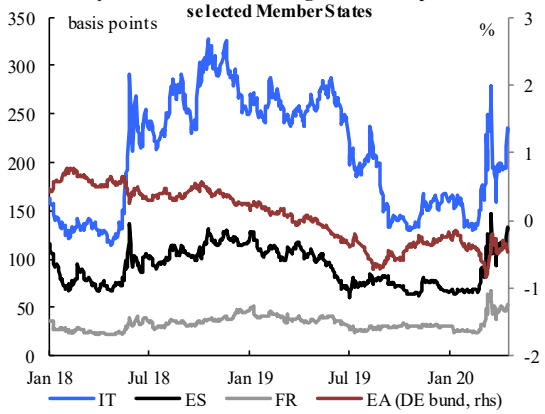


Source: Bloomberg

On the euro area sovereign bond markets, peripheral and core-euro area sovereigns started the year with yield curves flattening and spreads to the Bund somewhat narrowing. Following the COVID-19 outbreak in Europe in the last week of February, sovereign spreads widened strongly suggesting that worries about the budgetary impact of the economic fallout have re-ignited debt sustainability concerns. By 17 March, spreads on 10-year euro area sovereign bonds to the Bund had increased very significantly. The subsequent announcement of the PEPP by the ECB effectively triggered a temporary reversal of the widening of

sovereign bond spreads. The spread on Greek 10-year sovereign bonds also declined, supported by the ECB's waiver of the eligibility requirements for securities issued by the Greek government. However, at the end of April, most euro area Member States were still seeing higher spreads than before the COVID-19 outbreak (see Graph I.2.7).

Graph I.2.7: **Euro area sovereign bonds and spreads of selected Member States**

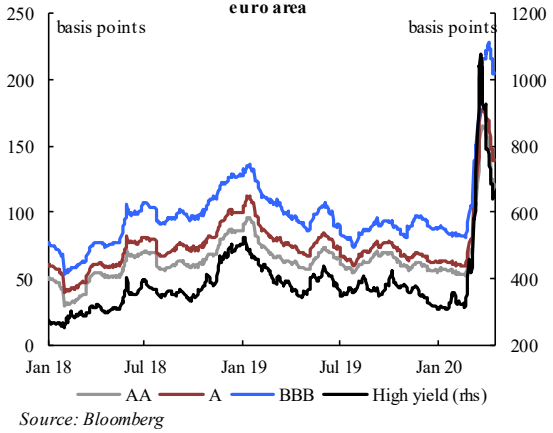


Source: Bloomberg

...particularly in the riskier market segments...

European corporate credit markets started the year with spreads in a tight range and at historically low levels, while primary market activity was very strong, with high levels of issuance. At the end of February, however, corporate bond spreads widened very sharply (see Graph I.2.8), leading primary markets to shut down and corporates to tap credit facilities at banks, where possible.

Graph I.2.8: **Corporate bond spreads, 5-year maturity, euro area**

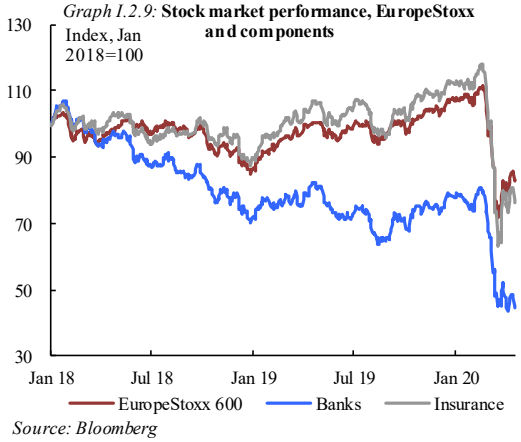


Source: Bloomberg

The ECB's PEPP has also been helpful for this market segment as corporate spreads narrowed somewhat after the announcement but remain double their pre-crisis levels. The deterioration in corporate debt quality could be particularly worrying for bonds currently rated BBB, as downgrades could see them fall into the non-investment grade segment. While the average share of BBB-rated corporate bonds downgraded to high-yield has historically been less than 5% per year, it reached 15% during the financial crisis in 2009. In the current crisis, a downgrade to the non-investment grade segment would lead to portfolio rebalancing by investment funds, asset sales and further impacts on the value of the downgraded assets.

Stock markets, which began the year with generous valuations, have been hammered since the outbreak began. Between 24 February and 24 March, European stock indices declined at a record speed within a range of between -35% and -45% (see Graph I.2.9). Around mid-March, financial-market authorities in several Member States adopted emergency short-selling prohibitions for a limited period. In addition, the European Securities and Markets Authority (ESMA) issued a decision temporarily requiring the holders of net short positions in shares traded on an EU regulated market to notify the relevant national competent authority if the position reached or exceeded 0.1% of the issued share capital after the entry into force of the decision. Thanks to these decisions, as well as the massive monetary and fiscal measures announced in the EU and across the globe, stock markets have recovered part of their losses.

Graph I.2.9: **Stock market performance, EuropeStoxx and components**



Source: Bloomberg

...and risks for the credit dynamics of the private sector.

Before the impact of the pandemic, credit dynamics in the euro area were robust, growing at an annual rate of 3.7% to the private sector in February (adjusted for loan sales, securitisation

Table I.2.2:

Financing side - euro area and EU

(Annual percentage change)	Euro area							EU						
	Spring 2020 forecast				*Autumn 2019 forecast*			Spring 2020 forecast				*Autumn 2019 forecast*		
	2018	2019	2020	2021	2019	2020	2021	2018	2019	2020	2021	2019	2020	2021
Domestic non-financial private sector	3.3	3.2	**-2.2**	**2.7**	*3.1*	*3.0*	*3.1*	3.3	4.1	**-0.5**	**2.8**	*3.0*	*3.0*	*3.1*
(% of GDP)	87.3	86.9	**90.9**	**86.7**	*87.7*	*87.9*	*88.2*	102.1	102.3	**108.8**	**104.1**	*102.2*	*102.2*	*102.3*
- Credit to households	3.2	3.6	**-1.5**	**2.5**	*3.0*	*2.9*	*3.0*	3.1	4.6	**0.2**	**2.8**	*2.9*	*2.9*	*3.1*
(% of GDP)	51.7	51.9	**54.6**	**52.0**	*51.9*	*51.9*	*52.1*	63.6	64.2	**68.9**	**65.9**	*63.6*	*63.5*	*63.5*
- Loans to non-financial corporations	3.4	2.6	**-3.1**	**3.1**	*3.3*	*3.1*	*3.2*	3.6	3.2	**-1.8**	**2.9**	*3.3*	*3.1*	*3.2*
(% of GDP)	35.6	35.0	**36.3**	**34.7**	*35.8*	*35.9*	*36.1*	38.5	38.0	**40.0**	**38.3**	*38.6*	*38.7*	*38.7*

Note: Credit data is adjusted for sales and securitisation, counterpart area is domestic (home or reference area). Data from the Autumn 2019 forecast for the EU have been recalculated to exclude the UK.

and notional cash pooling). The annual growth rate of adjusted loans stood at 3.0% for non-financial corporations and at 3.8% for households. The COVID-19 outbreak puts this positive dynamic at risk as demand may decline and any decrease in borrower creditworthiness may lead banks to tighten their lending standards.

Banks are exposed to the economic recession via lower business generation, rising default rates (particularly among more risky loans, including leveraged loans), and depressed prices of securities on their balance sheet (including sovereign assets). The sharp fall in bank share prices since late February and their underperformance vs broader stock markets, is a reflection of such expectations. The Achilles heel of the banking sector is its low profitability rate, which implies that losses will quickly hit capital buffers. The banking sector's capital position, however, has been strengthened very substantially since the global and financial crisis of 2008. Judging from the 2018 EBA/ECB stress tests, banks are resilient enough to withstand a massive economic recession. Meanwhile, supervisors have called on banks to suspend dividend distribution for 2020 in order to save capital and support lending to the economy.

The ECB has responded to the deterioration of corporate credit conditions on bond markets, both through direct purchases of non-financial corporate bonds and commercial paper by the Eurosystem. For banks, the more favourable terms for TLTRO III should incentivise euro area banks to continue providing financing to the non-financial private sector. Moreover, the ECOFIN council has called on banks to continue lending to households and corporates, including SMEs, or to set in place moratoria for those experiencing temporary difficulties (see statement of 23rd of March)[39]. Meanwhile, national Banking Authorities have been called on to make full use of the flexibility provided for in prudential regulation and accounting frameworks.

Besides measures involving the banking sector, a number of other support measures have been implemented by Member States to shore up the cash-flow constraints that non-financial companies are suddenly facing. These include deferrals of social security contributions and taxes, guarantees, wage subsidies, and the implementation of economic stabilisation funds to guarantee corporate loans. To complement measures in the Member States, existing EU budget instruments are being used to support companies with liquidity constraints, including a guarantee to the European Investment Bank/European Investment Fund to incentivise banks to provide liquidity to SMEs.

Overall, the wide range of policy measures are expected to be effective in protecting the corporate sector from widespread bankruptcies by preventing the temporary liquidity squeeze from turning into a solvency crisis. As regards bank lending, a moderate decline in credit to the private sector is expected this year, essentially due to business discontinuity in the banking sector during the confinement period. Assuming that policy measures prove effective, credit volumes should rebound in 2021 (see Table I.2.2).

The euro has strengthened in nominal effective terms since the COVID-19 outbreak

The euro's appreciation in nominal effective terms by around 4% since mid-February mainly reflects the significant weakening in commodity prices and

[39] see Council of the EU (2020). 'Statement of EU ministers of finance on the Stability and Growth Pact in light of the COVID-19 crisis'. *Press Release*, 23 March.

emerging market currencies that has occurred amid mounting evidence about the damaging economic impact the COVID-19 pandemic will have on the global economy. While the euro in mid-April was broadly unchanged against the US dollar compared to mid-February, it has experienced significant swings in recent months driven by changing risk perceptions and monetary policy expectations on both sides of the Atlantic.

Acute US dollar funding shortages in March led to a very significant widening in cross currency basis swap spreads, thereby raising funding costs for non-US borrowers. Coordinated actions amongst central banks to enhance liquidity provision via standing US dollar liquidity swap line arrangements, as well as enhanced swap lines and unlimited purchases of US government bonds by the US Federal Reserve, have since succeeded in halting a further deterioration in USD funding conditions.

2.3. GDP AND COMPONENTS

The COVID-19 crisis hit the euro area economy when it was already treading on a soft path. Growth flattened out in the last quarter of 2019 and the economy contracted in a few countries. With a near stagnation in international trade, the external environment had become much less supportive than in previous years. Rising geopolitical tensions, uncertainty about the future EU-UK trading relations, tariff threats, the persistent weakness in manufacturing and several structural factors kept a lid on growth.

At the turn of the year, there were signs of a bottoming-out of external demand and leading indicators were pointing to a stabilisation in global manufacturing activity. However, the spread of COVID-19 derailed this nascent progress. This was particularly evident after the World Health Organization (WHO) declared the coronavirus outbreak a pandemic in early March.

The European economy was hit by a simultaneous wave of supply and demand shocks, as policy makers took unprecedented measures to flatten the fast rising infection curve. This was further compounded by a sudden and sharp tightening in financial conditions, as uncertainty gripped financial markets and led to sharp risk-off episodes. [40]

Containment measures of unprecedented scope in western democratic societies delivered a drop in the number of new infections. Through these measures in response to the virus, the economy has deliberately been put into what has been described as 'hibernation' or an 'artificial coma' [41]. On the supply side, worker absenteeism and factory shutdowns have led to reduced output in a wide range of industries, further amplified by supply chain disruptions. Containment measures leading to the temporary closure of shops, restaurants and other services providing activities have had further knock-on impacts on output. On the demand side, social distancing has weighed on aggregate demand, particularly through reduced household spending. Fundamental uncertainty and concerns about jobs, incomes and sales prospects have led consumers and firms to delay purchases and investment. A synchronised global retrenchment has dampened external demand.

The full extent of these supply and demand shocks is still difficult to capture, not only given the lack of available data to gauge their size but also given the uncertainty about their duration. Moreover, the nature of the restrictions and the extent of second-round effects blur the distinction between demand and supply factors.

A forecast in an extreme context…

In the current context, economic forecasts are subject to higher and more fundamental uncertainty [42] than usual, as there is no recent historical precedent of comparable size and nature to this crisis. To a much larger extent than usual, the present forecast is therefore based on a number of key conditioning assumptions. It should be understood as a scenario analysis more than a standard forecast. [43] Alternative scenarios to the

[40] See Lane, P. (2020). 'The monetary policy package: an analytical framework'. The ECB Blog, 13 March.

[41] See Krugman, P. (2020). 'Notes on the Coronacoma (Wonkish)'. New York Times *Opinion*, 1 April.

[42] Different dimensions of uncertainty reflect the lack of data (e.g. about important parameters of the pandemic such as the true number of infected people), lack of information about the probability of key events (e.g. mutations of the virus, availability of a vaccine) as well as uncertainty about the adequacy of standard economic and econometric tools in the current situation.

[43] Whereas a forecast uses all available information about the current state of the world to assess the most likely future developments, a scenario analysis derives the assessment of future outcomes from assumptions about the current

central scenario described below are discussed in section I.3 (‘*How the pandemic shaped the forecast*’).

The set of assumptions concerns in particular the evolution of the pandemic, the path of containment measures in the coming months and quarters, and the effectiveness of policy measures to protect workers against income losses and firms against bankruptcy.

Importantly, this forecast is based on the assumption that the number of people requiring hospitalisation is swiftly and durably reduced to a level that no longer overburdens health care systems, and that this allows containment measures across the European Union to be eased substantially over the course of the second quarter. Containment measures remaining in the second half of 2020 are assumed to have a lighter economic impact, allowing the economy to recover at a relatively strong pace. It is also assumed that fiscal and monetary policy measures announced up to the cut-off date of this forecast are successful in preserving the economic fabric (e.g. products, processes and human capital) that was rebuilt since the sovereign debt crisis.

Other assumptions from previous forecasts continue to hold: trade tensions are not set to escalate further, measures credibly announced are implemented (e.g. the ‘Phase-one’ trade agreement between the United States and China) and the technical assumption for 2021 of a status quo in EU-UK trading relations applies.

…after both cyclical and structural headwinds put a lid on euro area growth in 2019 …

Last year, economic growth in the euro area lost momentum and fell well below its average of recent years. GDP growth in 2019 stood at 1.2%, down from 1.9% in 2018 and the post-crisis high of 2.7% in 2017. This step down in growth momentum was broad-based among the largest euro area economies. The GDP breakdown, abstracting from developments in Ireland, [44] confirmed the key role of domestic demand as the driving force of growth – particularly of private consumption. In contrast, destocking weighed significantly on activity during this period, subtracting about 0.5 pps. from GDP growth.

In the last quarter of 2019, GDP expanded by 0.1% (q-o-q) in the euro area, ending the longest economic expansion on record on a soft note. The decline from the 0.3% growth recorded in the quarter before was driven by both private consumption and investment. [45] GDP growth was close to zero in Germany and activity contracted in France and Italy. Apart from transitory distortions due to a high number of ‘bridge days’ (vacation days taken between public holidays and weekends), as well as strikes in France, the underlying momentum reflected the ongoing drag from manufacturing. This can be partly traced to persistent economic uncertainty, which hindered the demand for capital goods. [46]

…when there were some rays of light ahead in the horizon…

In early 2020, both surveys and hard data showed positive signs, suggesting that global trade might have bottomed out and that there might be some uptick in manufacturing output. The ‘Phase One’ trade deal between the US and China and the clarity about trading relations between the EU and the UK until 31 December 2020 eased some of the uncertainty overshadowing the near-term outlook.

In January, the main sectoral indices rebounded after the weak readings at the end of 2019, which was somewhat exaggerated by ‘bridge days’ around Christmas and New Year’s Eve. *Industrial production went* up by 2.3% m-o-m (after declining -1.8% in December), *retail trade volumes* were up by 0.6% (after having fallen

state of the world but also about the future (e.g. duration of containment measure, speed of the rebound), which are acknowledged to be fundamentally uncertain.

(44) As in previous years, euro area aggregates were significantly affected by the activity of multinational companies in Ireland, which mainly mattered for investment and imports of services and resulted in large shifts in the balance of domestic and external growth contributions. These activities of multinational firms include the relocation of intellectual property and contract manufacturing; see e.g. J. FitzGerald (2018). ‘National accounts for a global economy: the case of Ireland’. *ESRI Quarterly Economic Commentary* 2 (Economic & Social Research Institute), Summer, pp. 85-122.

(45) In the euro area (excluding Ireland), the contribution of domestic demand (excluding inventories) declined from 0.4 to 0.1 pps., while net exports posted a positive contribution to growth (0.2 pps. after turning out neutral in 2019-Q3). The rollback of inventories reduced quarterly growth by 0.3 pps.

(46) Uncertainty acts as an extra hurdle on the required return for new projects. Investment is hit more than in normal circumstances as waves of uncertainty resurface following previous peaks, frustrating expectations around duration and resolution, consistently increasing the real value of waiting. See Broadbent, B. (2019). ‘Investment and uncertainty: the value of waiting for news’. Speech at the Imperial College Business School, 20 May.

Table I.2.3:

Composition of growth - euro area

(Real annual percentage change)

	2018			2014	2015	2016	2017	2018	Spring 2020 forecast 2019	2020	2021
	bn Euro	Curr. prices	% GDP	Real percentage change							
Private consumption		6207.6	53.7	0.9	1.9	2.0	1.7	1.4	**1.3**	**-9.0**	**7.1**
Public consumption		2363.3	20.4	0.8	1.3	1.9	1.3	1.1	**1.7**	**3.2**	**0.6**
Gross fixed capital formation		2408.1	20.8	1.4	4.8	4.0	3.4	2.3	**5.7**	**-13.3**	**10.2**
Change in stocks as % of GDP		82.4	0.7	0.5	0.5	0.5	0.6	0.7	**0.2**	**0.1**	**0.2**
Exports of goods and services		5547.7	48.0	4.8	6.6	2.9	5.5	3.3	**2.5**	**-12.9**	**9.5**
Final demand		16609.1	143.7	2.4	3.7	2.6	3.3	2.2	**2.0**	**-9.3**	**7.3**
Imports of goods and services		5048.9	43.7	4.9	7.7	4.1	5.0	2.8	**3.8**	**-12.9**	**9.7**
GDP		11561.5	100.0	1.4	2.1	1.9	2.5	1.9	**1.2**	**-7.7**	**6.3**
GNI		11636.5	100.6	1.2	1.8	2.1	2.7	2.0	**1.1**	**-8.0**	**6.5**
p.m. GDP EU		13485.3	116.6	1.6	2.3	2.1	2.7	2.1	**1.5**	**-7.4**	**6.1**
				Contribution to change in GDP							
Private consumption				0.5	1.0	1.1	0.9	0.8	**0.7**	**-4.8**	**3.7**
Public consumption				0.2	0.3	0.4	0.3	0.2	**0.3**	**0.7**	**0.1**
Investment				0.3	0.9	0.8	0.7	0.5	**1.2**	**-2.9**	**2.1**
Inventories				0.4	0.0	0.0	0.2	0.0	**-0.5**	**-0.2**	**0.0**
Exports				2.1	3.0	1.3	2.5	1.6	**1.2**	**-6.2**	**4.2**
Final demand				3.4	5.2	3.6	4.6	3.1	**2.9**	**-13.4**	**10.2**
Imports				-2.0	-3.1	-1.7	-2.1	-1.2	**-1.7**	**5.7**	**-3.9**
Net exports				0.1	-0.2	-0.4	0.4	0.4	**-0.5**	**-0.5**	**0.4**

by -1.1%), and *construction output* increased by 3.6% (after -1.8%).

Having bottomed out towards the end of 2019, the Commission's *Economic Sentiment Indicator* increased in the euro area in both January and February, to a level of 103.5 points. This resulted from significantly higher confidence among consumers and in industry, with sentiment remaining virtually unchanged in other sectors. Moving in tandem, Markit's *Purchasing Managers Composite Output Index* (PMI) reached a six-month high (of 51.6) in February. These improvements were summarized by the strengthening of the *EuroCOIN* indicator, which rose in February to a one-year high of 0.28% (0.16% in December).

…but dimmed significantly as shutdowns unfolded…

While the European economy was displaying a divergence between the resilience of the domestic services sector and the weakness of the manufacturing industry, it was expected that domestic growth drivers and the robustness of its labour market would compensate for (remaining) external headwinds.

However, the COVID-19 pandemic and its economic fallout changed the picture abruptly and dramatically.

At this early stage, hard data on production losses in Europe are still patchy. A real-time assessment of the impact on economic activity therefore has to rely on alternative indicators (i.e. road traffic congestion, daily electricity consumption).[47] Financial-market indicators can also be used to gauge investors' consensus about future income streams.[48] The dramatic fall in production and trade in China in the first quarter offered an early indication of the order of magnitude of the shock.

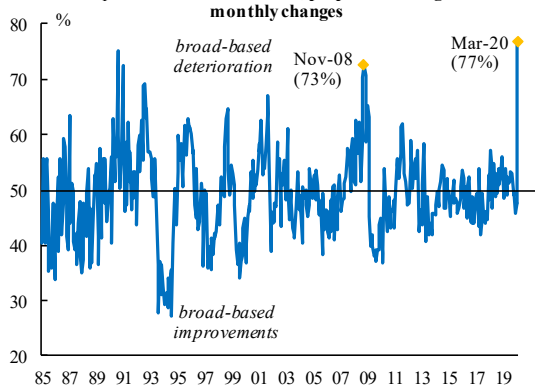
In March, the *Eurozone Composite Output Purchasing Managers' Index* (PMI) suggested that business activity was in free fall. This unprecedented collapse was renewed in April, when the flash Composite PMI dropped to 13.5 (from 29.7 the month before), its largest monthly fall since comparable data collection began. As a reference, the prior low was seen during the Global financial crisis in February 2009, when the index hit 36.2. Inferring from these readings about GDP growth is more difficult now, since diffusion

(47) Recent research, for example, has looked at the economic impact of the outbreak through the lens of equity investors and by distinguishing how equity valuations price-in both local and global risks. Avalos, F., and Zakrajšek, E. (2020). Covid-19 and SARS: what do stock markets tell us?'. BIS Quarterly Review, March.

(48) Using dividend futures to estimate the expected GDP growth following the corona outbreak points to next-year revision of growth in the EU of about -8 pps. See Gormsen, N., and Koijen, R. (2020). 'Coronavirus: impact on stock prices and growth expectations'. VoxEU.org, March.

indices are based on the proportion of firms reporting falling output and not the extent to which output is falling. This feature of surveys is of extraordinary importance in circumstances in which many firms' output drops to extreme lows.

Graph I.2.10: **ESI breakdown, proportion of negative monthly changes**

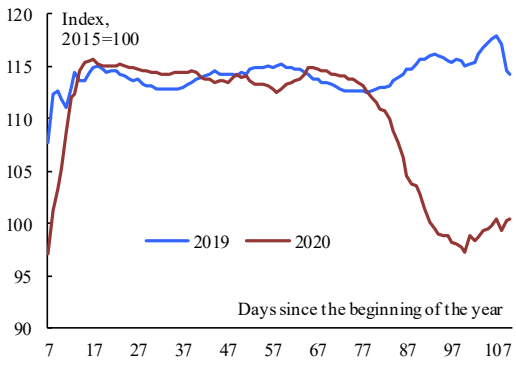


Note: Industrial, construction, services and retail breakdown by NACE rev 2 divisions; consumer by income quartile.

This time around, no sector has been insulated from the economic malaise. With consumer-focused activities (e.g. travel, tourism and restaurant visits) drying up or being suspended, Markit's flash *Service Business Activity Index* slumped to just 11.7 (from 26.4 in March and 52.6 in February) thus surpassing the survey's prior low of 39.2 from February 2009. The decline in the *Manufacturing PMI Index* was apparently more muted (33.6 from 44.5 in March). A closer look, however, shows that supply-side disruptions caused delivery times to lengthen, thereby artificially boosting the PMI reading. The situation was thus much worse already in March than the headline PMI for the manufacturing sector suggests. [49]

The Commission's *Economic Sentiment Indicator* (ESI) also suffered its worst monthly drop on record, slumping to 94.8 points in March (down by -8.2 points). This was the most broad-based deterioration since the survey began in 1985, with sentiment in almost 80% of all sectors across all euro area countries falling simultaneously – only in November 2008 did a similar picture emerge (see Graph I.2.10). [50] In April, DG ECFIN's flash *consumer confidence indicator* saw its strongest decline on record, to a level well below its long term average and close to the lows recorded during the Great Recession in 2009.

Graph I.2.11: **Daily truck toll mileage, Germany**



Note: Seven day moving average.
Source: Destatis.

Evidence from 'hard' data point in a similar direction. In mid-April, *electricity consumption* in the euro area was about 15% below its level in the corresponding month of the previous year. *Truck toll mileage* data, now available on a daily frequency, [51] is testament to the extent of the disruption to freight traffic by trucks on German roads – and on the evolution of the country's transport and industrial activity (see Graph I.2.11). In the same vein, n*ew passenger car registrations* between January and March declined by about -25% (y-o-y) in the EU. Most of this dire performance was concentrated in March, when registrations nosedived by almost 60%, hitting their lowest level on record.

…changing the economic landscape in the quarters to come.

With the adverse effects of the COVID-19 pandemic hitting the economy particularly hard, the euro area will not be able to escape a technical recession in the first half of 2020. Euro area GDP is expected to decline by about 3 ¼% (q-o-q) in 2020-Q1, its first contraction in seven years. This is far below the Commission's winter interim

[49] Delivery times are used to gauge the pressure being placed on suppliers' capacity. Since the manufacturing survey began in mid-1997, only May 2000 saw more widespread supply chain delays. In a demand-driven downturn, delivery times should typically move in tandem with activity, and it is with this signal that this component is build into the PMI composite.

[50] This comparison is still very likely understating the severity of the crisis because most responses were collected before strict containment measures were enacted.

[51] Due to the pandemic, in Germany trucks are now allowed to operate on weekends and public holidays. This explains some of the movements shown in the graph, because the calculation does not fully capture such structural breaks. See Destatis (2020). 'Truck toll mileage index is updated every day for the time being'. *Press release* 129, 9 April.

Table I.2.4:

Composition of growth - EU

(Real annual percentage change)

	2018			2014	2015	2016	2017	2018	Spring 2020 forecast 2019	2020	2021
	bn Euro	Curr. prices	% GDP	Real percentage change							
Private consumption		7204.9	53.4	1.1	2.1	2.2	2.0	1.7	**1.6**	**-8.5**	**6.7**
Public consumption		2768.9	20.5	1.0	1.4	1.9	1.3	1.2	**1.8**	**3.3**	**0.6**
Gross fixed capital formation		2837.6	21.0	2.1	5.0	3.3	3.7	2.9	**5.7**	**-13.2**	**9.7**
Change in stocks as % of GDP		112.8	0.8	0.5	0.5	0.5	0.7	0.8	**0.3**	**0.2**	**0.2**
Exports of goods and services		6631.7	49.2	5.0	6.6	3.4	5.6	3.5	**2.7**	**-12.8**	**9.5**
Final demand		19555.9	145.0	2.7	3.9	2.7	3.5	2.5	**2.2**	**-9.1**	**7.1**
Imports of goods and services		6071.8	45.0	5.4	7.4	4.4	5.3	3.3	**3.7**	**-12.8**	**9.5**
GDP		13485.3	100.0	1.6	2.3	2.1	2.7	2.1	**1.5**	**-7.4**	**6.1**
GNI		13533.3	100.4	1.4	2.0	2.2	2.9	2.2	**1.4**	**-7.7**	**6.2**
p.m. GDP euro area		11561.5	85.7	1.4	2.1	1.9	2.5	1.9	**1.2**	**-7.7**	**6.3**
				Contribution to change in GDP							
Private consumption				0.6	1.1	1.2	1.1	0.9	**0.8**	**-4.5**	**3.5**
Public consumption				0.2	0.3	0.4	0.3	0.2	**0.4**	**0.7**	**0.1**
Investment				0.4	1.0	0.7	0.8	0.6	**1.2**	**-2.9**	**2.0**
Inventories				0.4	0.0	0.1	0.2	0.1	**-0.6**	**-0.2**	**0.1**
Exports				2.2	3.0	1.6	2.6	1.7	**1.3**	**-6.3**	**4.3**
Final demand				3.8	5.5	3.9	5.0	3.6	**3.1**	**-13.2**	**10.0**
Imports				-2.2	-3.1	-1.9	-2.3	-1.4	**-1.7**	**5.8**	**-3.9**
Net exports				0.0	-0.1	-0.3	0.4	0.3	**-0.3**	**-0.5**	**0.4**

forecast of 0.2% (q-o-q) growth. The contraction in the first quarter is expected to be followed by a deeper one in the second, with output falling further by about 12 ¼%. This contraction would be about four times larger than that seen in 2009-Q1, with all countries pushing in the same direction.

How deep, lasting, or widespread the economic impact will be remains highly uncertain. [52] This uncertainty includes the spread of the disease, the extent to which it affects the economy and the ability of different policy levers to mitigate the shock. The economic costs triggered by the virus are also likely to increase with disproportionate strength the longer its disruption continues. Still, it is expected that highly accommodative monetary conditions, muted inflation and the supportive discretionary fiscal and regulatory measures implemented in recent weeks should enable the resumption of normal spending patterns and a rapid even if not entirely complete bounce-back in economic activity. A gradual reduction in global uncertainty and recovery in foreign demand should also prove supportive.

In part, the ability to reverse some of the economic damage inflicted is contingent on expectations and beliefs, in which policy and communication take the centre stage. At this point in time, a rebound may be possible in the second half of the year, assuming that containment measures are gradually eased and that household and corporate sentiment strengthens. Afterwards, production and consumption patterns should slowly normalise, assuming that employment losses are contained, the capital stock is not severely impaired and financial tensions ease swiftly. However, not all the consumption and investment that was foregone in the first half of the year will necessarily be made up for later. [53]

The large scope of the containment measures and the considerable uncertainty about job and income prospects triggered by the pandemic are likely to result in elevated precautionary savings for some time, as consumers remain reluctant to buy big-ticket items. Parts of the corporate sector will be left with larger debt burdens, with distressed firms likely to sell assets, reduce investment and employment. [54] This comes on top of the impact

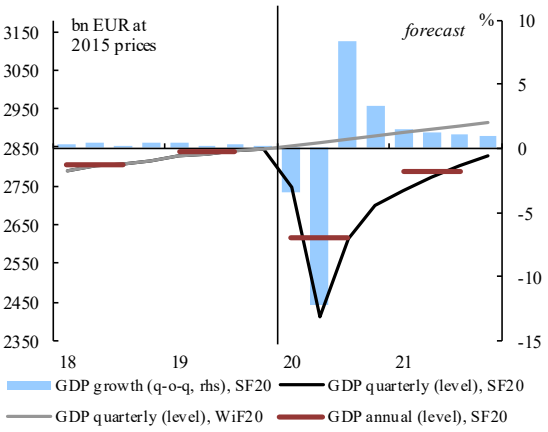
[52] It should be noted that the economic costs of the shutdown are likely to increase disproportionately with its duration, which extends the time needed for a return to normal levels of activity. See Dorn, F., Fuest, C., Göttert, M., Krolage, C., Lautenbacher, S., Link, S., Peichl, A., Reif, M., Sauer, S., Stöckli, M., Wohlrabe, K., Wollmershäuser, T. (2020). 'The economic costs of the coronavirus shutdown for Germany: a scenario calculation. EconPol *Policy Brief* 21.

[53] see Furman, J. (2020). 'Protecting people now, helping the economy rebound later'. VoxEU.org, March.

[54] With a risk of turning a temporary economic shock into a balance-sheet driven dislocation, slowing down the return of productive assets to the economy. Becker, B., Hege, U., and Mella-Barral, P. (2020). 'Corporate debt burdens threaten economic recovery after COVID-19: Planning for debt restructuring should start now'. VoxEU.org. March.

that such disruptions can have on social trust, with important economic consequences. (55)

Graph I.2.12: **Real GDP growth path, euro area**



The effects of this pandemic will likely reverberate for several years. Some bottlenecks in production will not be immediately resolved and some value chains will need to be rebuilt. Beyond the toll on health, the economic toll on workers who lost their jobs or saw reductions in their incomes is expected to be longer lasting. Frictions in labour market matching imply that rises in unemployment rates tend to lead to only staggered falls. Questions have also been raised about possible structural shifts in how people work, shop and travel, and how firms organise supply chains.

In contrast to previous recessions, this one was not preceded by the building-up of macroeconomic or financial imbalances. However, prospects for recovery are this time around muted by the synchronised and severe global aftershocks of the crisis. While many countries have been driven to a recession by a common shock, they are likely to emerge from it in an asymmetric way. Some were better equipped than others to contain the virus, or were more successful in doing so. The same can be said about the economic and financial damage that followed.

At the same time, the euro area economy suffers from a number of 'pre-existing conditions' that could complicate the healing process. These include a high level of economic policy uncertainty, as well as structural impediments (e.g. the trend decline in productivity, and population ageing). (56)

All in all, the pandemic crisis is generating a succession of shocks that will stretch across both time and geography. In 2020, the euro area economy is forecast to contract by about 7 ¾%, significantly worse than the 4.5% drop in GDP registered during the global financial crisis in 2009. In 2021, the economy is projected to recover most but not all of the lost ground. As the shock wears off, a lower starting level in 2020 and a high carry over into 2021 should boost annual growth rates in 2021 to about 6 ¼% (see Graph I.2.12). This would leave GDP at the end of 2021 about 3 ¼% smaller than the level projected by the winter interim forecast (published in February). Finally, the mostly temporary, but sharp fall in activity opens a negative output gap in all euro area countries.

Domestic demand will be the most hit. Its contribution to growth in the euro area will turn sizeably negative this year (close to -6 ½ pps.) due to a sharp fall in private consumer and investment spending, only partially cushioned by public consumption and investment. With exports falling at a faster rate than imports, the contribution of net exports to growth is projected to turn strongly negative (near -1 pps.). These are the most negative contributions to growth on record. As activity recovers, the rebound in domestic demand from depressed levels is forecast to drive a positive contribution to growth of about 6 pps. whereas the partial upswing in external markets should lead to a positive contribution to growth from net trade..

Importantly, while the shock hit all Member States due to the wide spread of the pandemic and the high interconnectedness between industries and countries, the impact on lost output was heterogeneous. This is clear when assessing how much euro area countries' economies are forecast to distance themselves both from their output levels at the end of 2019, and also from their pre-crisis path as set out in the winter forecast. On both accounts, the recovery is expected to be incomplete (see Graph I.2.13).

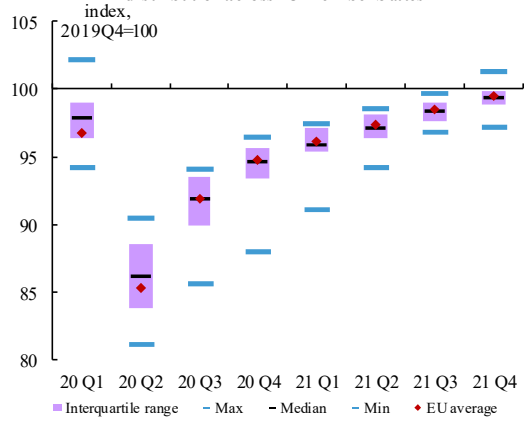
The majority of euro area countries are expected to see their GDP levels in the last quarter of 2021

(55) Aassve, A., Alfani, G., Gandolfi, F., Le Moglie, M. (2020). 'Pandemics and social capital: From the Spanish flu of 1918-19 to COVID-19'. VoxEU.org, March.

(56) For a more comprehensive analysis see European Commission (DG ECFIN) (2019). 'European Economic Forecast: Autumn 2019'. *Institutional Paper* 115, pp. 12-19.

below that of the last quarter of 2019. While for the euro area as a whole, the shortfall in GDP is projected to be of around - ½%, there is a significant discrepancy among countries. The difference among the largest euro area economies is forecast at about -2 ¾% in Italy, -2 ¼ in Spain and -1% in France. In Germany, output is forecast to surpass its pre-crisis level by about 1 ¼%. This reflects factors such as the different timing at which containment and social distancing measures were enforced or lifted; but also economic structures, including exposure to services dependent on person-to-person contact (e.g. tourism and leisure activities). Also, the size and expected effectiveness of the policy response cannot be overlooked.

Graph I.2.13: **Cumulative growth performance-distribution across EU Member States**



Private consumption had shown great resilience…

Before the pandemic, private consumption had for years been the backbone of economic growth. Continued employment creation, high (nominal and real) wage increases and fiscal measures in several countries supported growing households spending. These pillars have also been behind the resilience of consumer confidence in an environment of elevated uncertainty.

On the back of stable real disposable income growth, consumer spending growth was relatively strong in comparison to the cooling of overall economic activity, last year. The annual growth rate in the euro area fell only slightly to 1.3% from 1.4% in 2018. The breakdown of consumer expenditure shows that non-durable goods and services consumption growth moved sideways (at 1.1%) while durable goods consumption slowed. It has decreased to its lowest growth rate since 2013 (-0.8 pps. to 2.4%) which cannot be dissociated from ongoing structural and regulatory changes affecting the car industry, as well as lowered pent-up demand after years of catching up. [57]

Still, private consumption ended the year on a soft note, dragged by some pullback in the purchase of durable goods. It grew by only 0.1% (q-o-q), after increasing by 0.5% in 2019-Q3.

…but hit the brakes as containment measures were raised…

Consumer spending has been greatly disrupted by the curtailment of economic and social activity triggered by the pandemic. The social distancing through reduced person-to-person contact and quarantine measures has led to a significant cutback to consumer-facing services, particularly restaurants, hotels and transport services. This was initially particularly relevant for Member States with sizeable tourism sectors (see Graph I.2.14), but then started to apply more extensively across countries and sectors.

The impacts on labour income and wealth [58] are difficult to assess at this point in time but are expected to lead to a deterioration in both consumer and business confidence for some time. The combined intense negative supply and demand shocks are having a significant impact on the production of goods and services and on the income from which it is sourced. Many households will be both emotionally and financially distressed as the risk of unemployment increases, incomes fall and 'economic anxiety' rises. [59]

The pandemic can also be expected to severely reduce the marginal propensity to consume. It has been shown that consumers who have experienced times of high job insecurity exhibit persistent pessimism about their future financial situation and spend significantly less, controlling for the standard life-cycle consumption factors. This is

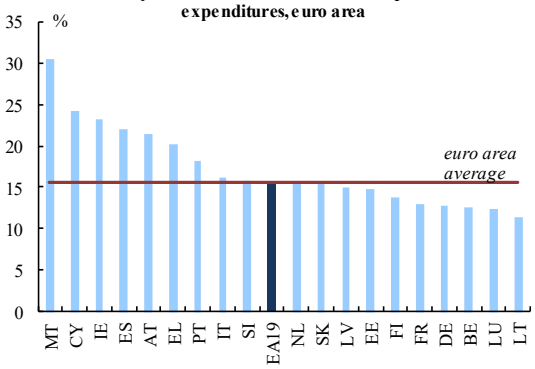
[57] At least on aggregate, as the share of durables on overall consumer expenditure is now close to where it stood prior to the euro area crisis (at about 9.0%).

[58] Equities net worth accounted for about 40% of financial net worth and 15% of total net worth (including housing wealth) in 2019-Q4. The decline in net worth can be expected to result from the sharp downward adjustment in financial market prices. See Guerrieri, C. and Mendicino, C. (2018). 'Wealth effects in the euro area'. ECB *Working Paper Series* 2157.

[59] Recent research has documented the rise of 'economic anxiety' as shown by the surge in the search activity of specific topics. See Fetzer, T., Hensel, L., Hermle, J. and Roth, C. (2020). 'Coronavirus perceptions and economic anxiety'. VoxEU.

particularly relevant for households at the lower end of the income distribution that have a lower capacity to smooth consumption spending. (60) This is because workers are affected unevenly - the income of lower-wage earners and younger cohorts shows more vulnerability to downturns. (61) The same households might also be credit constrained, limiting their ability to cushion the shortfall in income with credit. (62)

Graph I.2.14: **Share of social consumption expenditures, euro area**



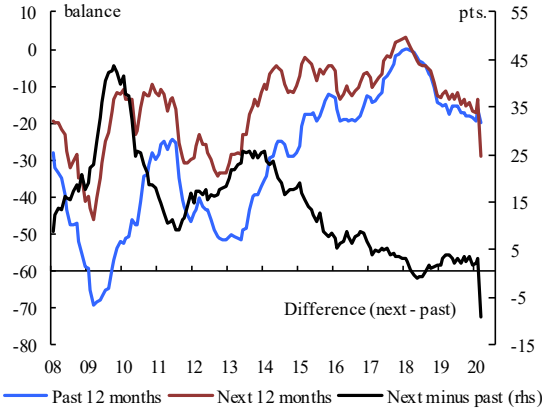
Note: COICOP classification. Includes recreation and culture, incl. package holidays; hotels & restaurants; personal care services. Data for 2018, with the exception of EL where data is for 2017.

Early on, there was evidence of 'panic buying' of a number of consumer goods and hoarding behaviour. (63)As a result, precautionary purchases can be expected to have pushed up sales of several products, but to come along with substantial delays (and declines) afterwards, so that the overall impact on private consumption may be minor. (64)

At this time, neither sentiment indicators nor retail sales data, for example, can fully reflect the situation. Early in 2020, available short-term indicators hinted at a continued resilience in private consumption. After rising in January and February, DG ECFIN's *consumer confidence indicator* plummeted in March and, even more so, in April, falling to close to the record low recorded during the Great Recession in 2009. The detailed breakdown of consumer survey results shows that consumers became more pessimistic about the labour market with *consumers' unemployment fears* over the next 12 months shooting up to 2009 levels. Among the components of the consumer confidence indicator the largest adjustment was for the expectations about the *general economic situation* for the coming year, with the 'optimism bias', i.e. the difference between the assessment of the future and the past economic situation, turning strongly negative (see Graph I.2.15). In April, consumers' expectations concerning their own financial situation took a massive dive, equalling the all-time low recorded in March 2012.

With individuals' experiences significantly influencing beliefs about their future financial situation, changes in sentiment tend to have a long-lasting and persistent impact on consumer spending, weighing on activity well beyond the short term. (65) This creates the risk of a self-perpetuating downward spiral in household expectations.

Graph I.2.15: **Consumers' assessment of the past and future general economic situation, euro area**



The sharp adjustment in expectations sets the stage for a rise in precautionary savings, pushing up the saving rate. This is amplified by the intertemporal substitution of consumption, mostly for durable goods. Foregone consumption of travel and other services will also only partly be compensated for in the coming quarters, also feeding a higher saving rate (e.g. as shown by the extensive drop in

(60) The public health imperative of school closure can exacerbate such effects through higher absenteeism. Dee Lempel, H., Epstein, J. M., and Hammond, R. A. (2009). 'Economic cost and health care workforce effects of school closures in the U.S'. PLoS currents, 1, RRN1051.

(61) Dossche, M. and J. Hartwig (2019). 'Household income risk over the business cycle'. ECB *Economic Bulletin* 6, pp. 58-64.

(62) A substantial heterogeneity in the structure of balance sheets across households remains, with the share of credit constrained- households at about 7%. See ECB (2020). 'The household finance and consumption survey: results from the 2017 wave'. Statistics Paper Series 36. March.

(63) In periods of high uncertainty, the influence of the group on individual behaviour also increases. Beliefs that depend upon others' beliefs can lead to herd behaviour and panic, with multiple equilibriums likely. See Toal, A. (2020). 'Why are we panic buying?'. Durham University.

(64) While making up for a small share of expenditures, durables account for a large fraction of overall spending fluctuations.

(65) See Benhabib, J., Shapiro, B., and M. M. Spiegel (2018). 'How persistent are the effects of sentiment shocks'. Federal Reserve Bank of San Francisco *Economic Letter* 22. October.

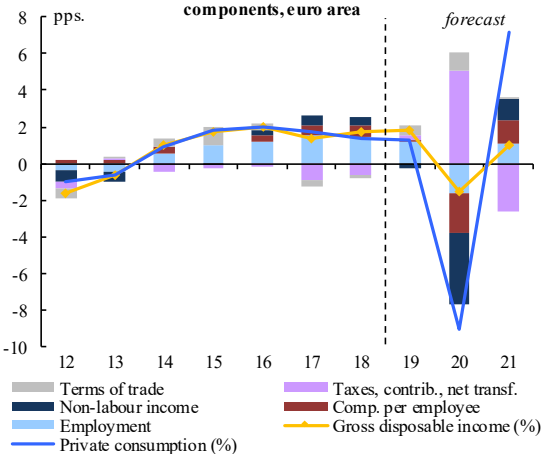
travel and hotel bookings). Such painful experiences can 'scar' consumers into building higher precautionary savings for a long time. (66)

...with the fastest drop in household spending on record....

Real household disposable income is projected to decrease by around -1 ½%, on aggregate, bouncing back only partly in 2021 (by about 1%, see Graph I.2.16). The projected divergence between GDP developments and household income is mostly due to the working of automatic stabilisers and targeted government measures through income taxes, contributions, net transfers and short-time work schemes (see Graph I.2.17). Both non-labour and labour income act as a drag this year, while these should prove supportive in 2021.

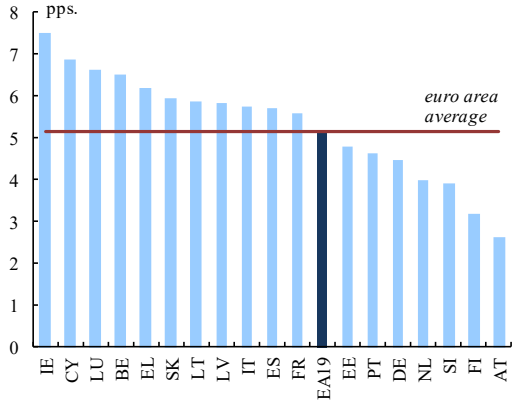
Aggregate labour income is set to decrease this year as many companies are deferring decisions about employing new staff, while others are resorting to short-term employment contracts, reducing hours or staff numbers. These effects are expected to be partially mitigated by government measures (e.g. extending the terms of reduced-hours compensation), wage stickiness and lags in the response of employment to the slump in activity.

Graph I.2.16: **Real gross disposable income and components, euro area**



How much of the decline in income spills over to actual consumer spending will ultimately depend on household saving decisions. The lack the confidence (67) or the opportunity to spend is expected to drive a large wedge between private consumption and income growth through an increase in both precautionary and forced savings this year. After increasing strongly over the past two years, (68) the saving rate is forecast to pick-up strongly in the euro area from 12.8% in 2019 to around 19% in 2020. This is its highest level since at least the inception of the Monetary Union. As containment measures are lifted, households' savings are expected to be largely rolled back but to remain above pre-crisis levels, with the saving rate approaching 14 ½% in 2021.

Graph I.2.17: **Net taxes, social contributions and transfers, contribution to income in 2020**



With everyday activities and work in limbo and consumers scaling back or refraining from non-essential spending, private consumption is projected to fall markedly in the first half of 2020. Over the forecast horizon, however, private consumption growth should still find support in favourable financing conditions and the gradual disappearance of economic stress factors. However, there is exceptional uncertainty surrounding the timing and size of the expected rebound and the length of time it will take for consumer behaviour to normalise.

Overall, private consumption in the euro area is expected to fall sharply this year by 9%. As a reference, consumer spending fell by 1.1% in both 2009 (at the height of the global financial crisis) and in 2012 (during the euro area sovereign debt crisis). In 2021, it is forecast to crawl back by around 7% thanks to a recovery in consumer

(66) Wee Malmendier, U. and Sheng Shen, L. (2019). 'Scarred consumption'. Board of Governors of the Federal Reserve System *International Finance Discussion Papers* No. 1259.

(67) See Knotek II, E. and Khan, S. (2011). 'How do households respond to uncertainty shocks?'. Federal Reserve Bank of Kansas City, *Economic Review*.

(68) On the back of a worsening outlook, the possible saturation of consumer demand and the impact of low (or negative) interest rates on capital gains and "target saving behaviour".

confidence, decreased savings, and favourable financing conditions.

… while government consumption growth is set to surge …

In 2019, government consumption continued to contribute positively to growth. It expanded by 1.7%, which compares favourably with the increase of 1.1% in 2018. This was particularly driven by developments in Germany, where government consumption increased almost twice as much as in the previous year.

Government consumption offered the first line of defence from the economic fallout across all remaining demand components and is expected to continue playing a stabilising role throughout 2020. On the back of a step-up in the acquisition of intermediate goods (e.g. medical supplies), it is projected to increase by around 3% this year in the euro area, its highest on record.

In 2021, government consumption growth is projected to decelerate (to about ½%) but to remain above what was expected in the autumn forecast. This projected slowing is partly a result of exceptional and front-loaded spending in 2020 and partly linked to the no-policy-change assumption, according to which measures are only factored into the forecast if they have been adopted and presented to national parliaments, or if they have been sufficiently specified.

The stabilising role of public spending, however, has gone beyond the more restricted accounting in government consumption. Governments have enacted or announced a wide range of discretionary policy measures that build on top of existing automatic stabilisers and which have been taken by the Member States and the EU. [(69)]

In the Member States, these include [(70)]: (i) measures which provide for an *immediate fiscal impulse*, namely short-time work schemes, the extension of sick pay and unemployment benefits, subsidies to firms, public investment and the outright cancelation of certain taxes and social security contributions; (ii) measures aimed at *improving the liquidity position* of households and firms through deferrals of taxes and social security contributions, servicing of loans or the payment of utility bills; (iii) *broader liquidity provision* through credit lines and public guarantee schemes, export guarantees and waiving of delay penalties in public procurement contracts.

These efforts have been complemented and strengthened by EU initiatives such as: flexible State Aid rules; a €37 billion 'Corona Response Investment Initiative' directed at healthcare systems, SMEs and labour markets; re-activation of the Emergency Support Instrument, with EUR 2.7 billion from EU budget resources; initiatives with the EIB to mobilise working capital lending for firms, backed by the EU budget; and the creation of a pan-European guarantee fund of EUR 25 billion, which could support EUR 200 billion of financing.

…and investment to lose impetus.

Investment in the euro area (excluding Ireland) remained surprisingly resilient last year, despite the deterioration of company profit margins. It slowed only slightly from 3.3% in 2018 to 2.9% in 2019. But these annual figures mask unfavourable developments during the year. Half year-on-half year investment spending was brought to a standstill in the second half of 2019, growing by only 0.4% in the euro area, below the 2.2% rate seen in the first half of the year.

Since then, many businesses have been experiencing the economic fallout of the pandemic across a broad front, with a series of incremental supply and demand shocks. First, a direct supply disruption hindering production through increased worker absenteeism or factory closures due to containment policies. Second, a supply-chain contagion. [(71)] [(72)] Finally, regardless of their desire to spend, consumers and firms are unable to do so in light of the sudden stop in activity. Heightened uncertainty around the full extent of the economic

(69) Member States have so far committed to provide liquidity support for sectors facing disruptions and companies facing liquidity shortages, consisting of public guarantee schemes and deferred tax payments, which are now estimated at 22% of EU GDP.

(70) See Anderson, J., Bergamini, E., Brekelmans, S., Cameron, A., Darvas, Z., Domínguez Jiménez, M. (2020). 'The fiscal response to the economic fallout from the coronavirus'. Bruegel, April.

(71) see Demertzis, M. and Masllorens, G. (2020). 'The cost of coronavirus in terms of interrupted global value chains'. Bruegel Blog Post, March.

(72) The supply of components is often highly specialised and tailored to the needs of the next step in the value chain, with limited alternative suppliers who can deliver quickly and at acceptable prices for companies. See Bofinger, P., Dullien, S., Felbermayr, G., Fuest, C., Hüther, M., Südekum, J., and Weder di Mauro, B. (2020). 'Economic implications of the COVID-19 crisis for Germany and economic policy measures'. VoxEU, March.

damage and the outlook for domestic and external demand undermines incentives to invest. As a result, wait-and-see investment delays by firms are likely to be prominent, particularly in capital-intensive sectors most exposed to international markets.

These fallouts will also lead to a sudden shortfall of revenue and liquidity and a sharp drop in *capacity utilisation* rates across industries. The amount of idle capacity is reducing the need for investments linked to capacity expansion and lowered incentives for upgrading.

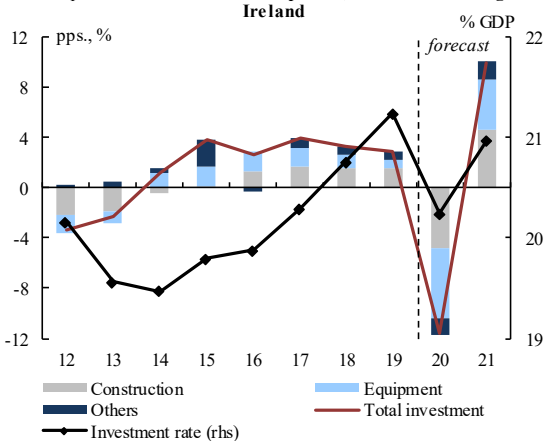
The various distortions to manufacturing, services and retail are set to have far-reaching implications for the financial health and the profit outlook of companies. Non-financial corporations have accumulated significant liquid asset positions over the last few years, providing some cushion against swings in income. Still, this crisis may prove existential for many businesses. Cash-strapped firms reliant on cash flow for debt repayments are the most vulnerable to default and bankruptcy. Large-scale defaults would exacerbate financial stability concerns and damage the recovery prospects of the economy.

Short-term pressures to companies' inventory levels are expected to deepen further. Firms' investment in inventory build-up closed the previous year at its lowest since the euro area sovereign debt crisis. Following the collapse in global demand and emergence of supply bottlenecks, firms are set to further deplete their stocks.

Taking these elements together, a sharp turnaround in corporate investment plans seems inevitable. A subsequent recovery will depend on how different countries and jurisdictions implement a return to normality, particularly for multinational companies. Expectations will be key. Were policy interventions and communications to be uncoordinated and staggered, the pullback would be more persistent and expectations depressed for longer. There is some evidence that a rise in uncertainty has a larger impact on economic activity in an environment of high uncertainty than when uncertainty is low to begin with. [73]

The car sector will find its woes increased by the current crisis. This is especially worrying since this sector is directly responsible for a non-negligible share of all investment in the euro area. [74] A weaker financial position will negatively impact the sectors' transformation, diverting investment in R&D. Regulatory uncertainty was already weighing down car sales for some time, [75] and the sector has been troubled by a number of structural issues. [76] It has been extensively reported that a large number of car manufacturers have announced factory closures due to supply shortages or imposed shutdowns and important automotive shows have been cancelled. With consumer confidence plummeting, the appetite for major purchases will be much reduced. Consequently, investment plans may be further curtailed.

Graph I.2.18: **Investment developments, euro area excluding Ireland**



Nevertheless, investment should find support from the highly accommodative monetary policy stance and targeted government support schemes that have been put in place. The degree to which these factors prove successful in spurring investment is, however, far from certain and is highly dependent on how business sentiment recovers. Diminishing uncertainty would give way to favourable economic fundamentals as a driving force of business investment. A recovery of profit margins after a long period of erosion would also provide should further incentives to resurrect postponed investment plans.

[73] See Mann, C. (2020). 'Real and financial lenses to assess the economic consequences of COVID-19'. VoxEU.

[74] The sector (C29) invests around 4% of the total gross fixed capital formation in the euro area. This estimate is based on a subset of countries (12) for which information is available.

[75] See Banco de España (2020). 'Regulatory uncertainty and its impact on car sales'. *Quarterly Report on the Spanish Economy* 1, Box 8.

[76] Such as the shift away from internal combustion engines, alternative modalities of usage (e.g. car sharing), and the move towards autonomous driving and connectivity.

Against this background, after growing by 2.9% in 2019, investment in the euro area (excluding Ireland) is projected to fall by almost 11 ½% this year (see Graph I.2.18). In line with the gradual resumption in activity throughout the year, investment is forecast to fall the most in the first half of 2020, after which it is forecast to grow faster that overall activity. Topped by elevated uncertainty and faltering demand both at home and abroad, the prospects for a strong catch-up once the adverse impact of the COVID-19 outbreak abates are limited. While investment is forecast to rebound by close to 10% in 2021, only some ground will be recovered, particularly if one compares with the levels expected back in the autumn. The cumulative investment foregone is expected to amount to an estimated 5% of euro area GDP, a level which has implications for the economy's capital stock.

After interrupting the upward trend it had been tracing since 2014, the investment rate in 2021 is forecast to settle close, but below, its 2019 level of 21% of GDP also thanks to a pick-up in public investment (from 2.8% in 2019 to about 3.1% of GDP) in 2020. The expectation that public investment will provide a degree of stabilisation during the downturn is worth highlighting, as public investment is often cut back when deficits soar.

Investment in construction and equipment (excluding Ireland) are expected to contract by about 9 ½% and 18%, respectively this year. The drop in construction investment is partially linked to the likely slump in the number of *building permits* that come on top of absenteeism, construction sites that have been temporarily closed and administrative bottlenecks for processing such permits. In the following year, as strains on firms' profit margins are lifted and capacity utilisation recovers, equipment investment is expected to drive ahead of other demand components (14 ½%, with construction at around 9%). High levels of capacity utilisation in the construction sector of some Member States were already a constraining factor along with unfavourable demographic trends.

Recent events are fuelling questions about the reversibility of existing supply chains and friction-free trade. Supply chain disruptions and bottlenecks may be larger and more extended than is currently evident and may take some time to be fully resolved. An increased push to repatriate supply chains ('reshoring') and undo their fragmentation could increase domestic investment in the near-term but dampen productivity prospects and long-term growth, a key metric for the return on investment. Still, it is likely that the crisis may result in a new attitude towards cross-border supply chains and drive a re-assessment of geographical diversification needs.

Export growth was already weak…

Even before the pandemic hit the global economy, euro area exports where humming through at a muted pace. Euro area exporters had suffered from softening foreign demand in an environment characterised by trade tensions and elevated uncertainty. There was also Brexit-related volatility in trade flows spurred by UK companies stockpiling in anticipation of the Brexit deadlines in March and October 2019 which strongly affected the quarterly profile. [77]

Exports of goods and services in the euro area (excluding Ireland) rose by 1.8% (y-o-y) in 2019, down from 2.8% in 2018, its lowest growth rate since 2013. The aggregate picture masks considerable differences between goods and services, but not between countries. The softening was driven by the halving in the growth rate of goods exports, whereas growth in service exports picked up. Despite its volatility throughout the year, export growth cooled particularly in the second half of 2019 and finished the year by growing at just 0.3% in in the fourth quarter, down from 0.5% in the third.

The growth path of imports mirrored that of exports, particularly for trade in goods, which likely also reflects the strong unwinding of inventories in the same period. Accordingly, the growth contribution of net exports remained broadly neutral in the last three quarters of the year after adding as much as 0.3 pps. in the first.

International trade data shows that both intra- and extra-euro area exports of goods were anaemic in 2019. Both failed to grow and trailed closely the downswing in new industrial orders. This is seen in the divergence between the strong growth in consumer goods exports and the contraction in both capital and intermediate goods over the year.

[77] According to international trade data, exports volumes of goods to the UK fell -3.1% (q-o-q) in the fourth quarter, after increasing 8.0% in the third, falling -17.4% in the second and picking-up 8.2% in the first quarter of 2019.

Looking at extra-euro area exports of goods in detail, positive growth outturns in the US market did not compensate for drops in sales to the UK, China, India and Iran.

…and external demand will not soften the blow.

Early this year, the grinding to a halt of activity in China was already set to dampen the demand for European exports as well as the import of intermediate goods. [78] Particularly for exports of services, travel restrictions for Chinese visitors had already massively reduced bilateral China-EU tourism with the impact mostly felt in the favourite travel destinations of Chinese tourists (e.g. Italy and France).

As the scale of the crisis increased later in February, the slump in commodities and the crash in international trade paved the way for a significant contraction in exports. The halt in the free movement of people, goods and services is set to result in a sudden, severe and synchronised drop in external demand - heightened by a so-called 'bullwhip' effect. [79] With its relatively high participation in global value chains, the euro area is expected to be among the worst hit. Additionally, the cost of transport restrictions and border controls may be non-negligible, driving export prices up. [80]

As foreign incomes fall, trading partners will reduce their spending on imports, which will weigh on European export sales. This impact can already be seen in the negative response of commodity prices and the large depreciation of emerging economies' currencies, which are important markets for euro area exporters. [81] The ensuing tightening of financial conditions and capital outflows, exacerbated by corporate leverage and exposure to foreign exchange debt [82] are thus likely to lead to a sharp fall in investment and demand for euro area capital goods. [83]

For countries relatively specialised in the export of manufactured goods, the hit could be magnified by the adoption of wait-and-see behaviour by consumers and firms, as the purchase of capital-intensive goods can be postponed without large short-term costs. As the lifting of containment measures may take place at different times and follow different patterns in different parts of the world, the euro area's high dependence on trade may delay a swift rebound at home, as it may take time to resolve production bottlenecks or find alternative suppliers.

For now, the intensifying headwinds are mostly visible in soft data although hard data is beginning to drip in and fuel grim expectations. In the beginning of the year, there was a muted response of trade to events unfolding in China. This delay can be partly explained by the usual one-month time it takes for goods to ship from Asia to Europe by sea. [84] Since then, Markit's *Manufacturing PMI new export orders* index showed a record fall in export business as cross border trade flows seized up.

The geographical orientation of the euro area's external trade, as well as its product specialisation are unlikely to do it any favours. After growing by 2.2% in 2019, euro area export markets are forecast to plummet by about 11 ½% in 2020 before rebounding by around 8 ½% in 2021 and thus only partially making up for lost ground. In a context of persistently sluggish world trade, heightened uncertainty adds to the challenges facing a revival in demand for trade-intensive capital goods.

The impact of the pandemic on euro area exports and imports is expected to be seen primarily in the first half of the year when factors dampening demand and supply come together. While both exports of goods (e.g. particularly manufactured

[78] See UNCTAD (2020). 'Global trade impact of the coronavirus (COVID-19) epidemic'. *Technical Note*. March.

[79] A drop in demand for final goods leads each producer in the value chain to empty their inventories before re-ordering, amplifying the demand shock further up the supply chain see Baldwin, R. and Tomiura, E. (2020). 'Thinking ahead about the trade impact of COVID-19'. VoxEU.

[80] For an assessment of cost incurred by border controls see European Commission (DG ECFIN) (2016). 'Estimating a hypothetical scenario of generalised border controls in the Schengen area'. European Economic Forecast – Spring 2016, Institutional Paper 25, pp. 54-7 (Box I.3).

[81] see Arezki, R. and Nguyen, H. (2020). 'Novel coronavirus hurts the Middle East and North Africa through many channels'. VoxEU.

[82] see Banerjee, R., Hofmann, B. and Mehrotra, A. (2020). 'Corporate investment and the exchange rate: The financial channel'. BOFIT *Discussion Papers* 6.

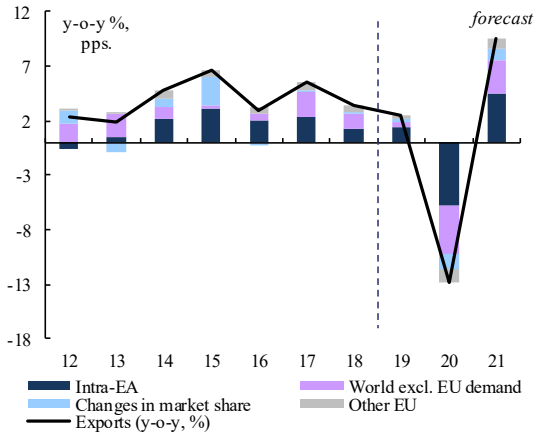
[83] Estimates of the economic impact and revisions of earnings of the largest multinational enterprises (MNEs) suggest that the downward pressure on FDI flows could range from -30% to -40% during 2020-2021. See UNCTAD (2020). 'Impact of the COVID-19 pandemic on global FDI and GVCs'. *Investment Trends Monitor*. March.

[84] See Weder di Mauro, B. (2020). 'Macroeconomics of the Flu'. VoxEU.org.

goods) and services (e.g. travel and transport services) are set to suffer, the latter is projected to take a more significant hit and the shortfall to be larger compared to 2019.

In the second half of the year, export growth is projected to gain traction, in line with the recovery forecast for major trading partners. While goods exports could bounce back later in the year, lost output in services-producing sectors including travel and tourism cannot be expected to be fully recouped. Both pull factors (e.g. travel restrictions imposed in EU Member States) and push factors (e.g. the economic fallout in countries of origin leading to lower outward traveling) will play a role. With regards to service exports, the duration of travel and migration restrictions will be key in determining the persistence of the shock.

Graph I.2.19: **Export growth contributions, euro area**



All in all, euro area exports (excluding Ireland) are projected to fall by around 13% in 2020, the sharpest contraction among final demand components. A strong catch-up is limited by enduring foreign demand weakness, likely delays to the resumption of production and supply chain normalisation. The assumed appreciation of the euro's nominal and effective exchange rates will further hinder a more robust recovery, with the appreciation persisting through the typical lags in the reaction of trade flows to exchange rate movements. As a result, exports of goods and services are forecast to grow by only about 10% next year (see Graph I.2.19).

Euro area imports of goods and services are projected to broadly follow developments in final demand. Still, with the large magnitude of the impact concentrated in components with the highest import content (e.g. durable goods consumption and investment spending) import penetration is expected to decline somewhat in 2020. With export growth weakening more dramatically than imports, net trade is projected to act as a drag on growth this year before contributing only slightly next year.

Projections for 2021 are based on a purely technical assumption of status quo in terms of trading relations between the EU and the UK. This is for forecasting purposes only and reflects no anticipation or prediction of the outcome of the negotiations between the EU and the UK on their future relationship.

2.4. LABOUR MARKET

The outbreak of COVID-19 will test the resilience of the EU labour market that has prevailed until now. The pandemic has generated an unprecedented macroeconomic shock in the EU with sizable effects on working hours and corporate earnings. Bold policy measures have been taken to limit employment losses during the confinement period and to ensure that work can be resumed smoothly after the confinement. While the uncertainty is wide, a drop in employment seems a given by the end of the year even though, with support from targeted policies, firms are expected to hold on to most of their workers during the confinement period. The drop in headcount employment is therefore expected to be dampened even as the number of hours worked drops sharply. As a consequence, the creation of additional jobs in the expected recovery will also be muted.

Labour markets proved rather resilient to the economic slowdown last year …

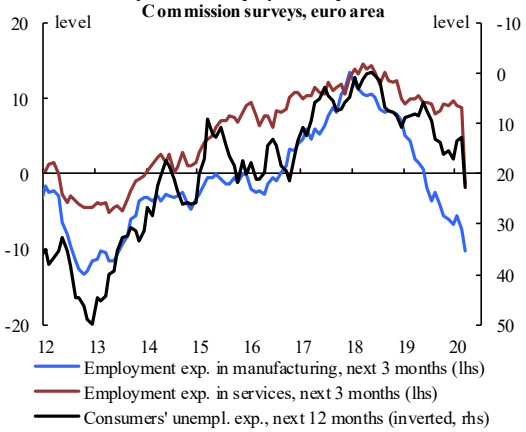
Last year's economic slowdown had only limited effects on the labour market. While manufacturing activity declined, companies appear to have largely refrained from layoffs, suggesting labour hoarding in this sector. Meanwhile employment in the services sector was still on the rise and weighs significantly more in aggregate employment. Overall, for the euro area, the unemployment rate declined further to 7.6% last year, as total employment grew by 1.2%, the same rate as GDP. The absence of productivity gains in 2019 combined with above-inflation wage growth has already affected firms' margins. This suggests that firms were at the limit of their capacity to hoard labour early this year and that employment losses

in the manufacturing sector were likely in the absence of a rebound in economic growth this year. This is consistent with the observation that changes in the labour market situation usually lag developments in economic activity by several quarters.

…but the COVID-19 outbreak has led to a massive drop in hours worked…

The COVID-19 outbreak and subsequent confinement measures taken by all EU countries have led to significant disruptions in labour markets. According to the Commission's survey conducted in March, firms and households have rapidly adjusted their employment expectations (see Graph I.2.20).

Graph I.2.20: **Employment expectations, Commission surveys, euro area**



The strictness of the containment measures implemented in the EU since March this year vary across countries to a certain degree. But, all euro area Member States have faced discontinuity in the production of goods and services in most sectors with the labour force becoming partially or totally redundant. While working arrangements such as teleworking have been implemented wherever possible, the nature of work in many sectors does not allow for this alternative. The sectors most affected by production discontinuity include accommodation and food services, retail, business and administrative activities but also manufacturing and construction activities.

In response to the current COVID-19 crisis and with the objective to protect employment and prevent an increase in unemployment during 2020 that could become persistent, EU Member States have provided liquidity support for businesses and the self-employed and implemented or reinforced short-time work schemes. The experience from the 2009 crisis showed that the use of short-time/part-time working schemes such as the German 'Kurzarbeit' was effective at securing jobs[(85)]. These arrangements allow companies to temporarily reduce labour costs by reducing regular working hours while the income loss for employees is partly offset by a short-time working allowance paid by the government. Additional measures have been taken in most Member States to support micro enterprises and the self-employed who are eligible to one-off compensations to cushion pandemic-induced income losses. Other examples of measures taken include a moratorium on laying off workers (Italy), or the possibility to take sick leave to look after children at home (France).

To support these efforts, the EU had adopted a proposal by the Commission for a new instrument for temporary Support to mitigate Unemployment Risk in an Emergency (SURE). The SURE facility will provide financial assistance, in the form of loans granted on favourable terms from the EU to Member States, of up to €100 billion in total. These loans will assist Member States to cope with sudden increases in public expenditure to preserve employment. Specifically, these loans will help Member States to cover the costs directly related to the creation or extension of national short-time work schemes, and other similar measures they have put in place for the self-employed, as a response to the COVID-19 pandemic.

The overall objective of these measures is to allow firms to weather the fall in revenues without permanently dismissing workers. The number of applications for these schemes is already considerable across Europe and is expected to far exceed the numbers recorded in 2009 in countries such as Germany where such schemes existed. However, these measures may do little to help spare the more precarious workers who are already seeing their contracts not being renewed.

…which may partially translate into more permanent employment losses…

During the second half of this year, once the confinement period ends and most workers come

(85) See Balleer A., B. Gehrke, W. Lechthaler, C. Merkl (2016). 'Does short-time work save jobs? A business cycle analysis'. European Economic Review 84: 99–122. See also Hijzen A., S. Martin (2013). 'The role of short-time work schemes during the global financial crisis and early recovery: a cross-country analysis'. IZA Journal of Labor Policy

back to work, firms may adjust to the new context of lower demand in many sectors by either laying off workers or maintaining them at the expense of productivity if they value their skills and believe in the temporary nature of the lower demand. The length of the partial unemployment schemes may play a crucial role in preserving employment in sectors that will be affected beyond the confinement period and need more time to recover. However, employment losses could become more permanent despite the measures taken, if growth in EU economies struggles to rebound later this year and in 2021. Hysteresis with structurally higher unemployment rates might in turn dampen growth rates and productivity further.

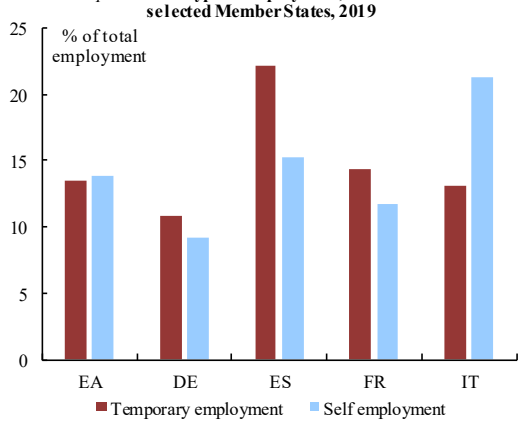
In particular, the usual movements in the labour market may stall if uncertainty remains high long after the confinement ends, leading to little or delayed new hiring. This would disproportionally affect young new labour market entrants and the unemployed. Such a development would structurally damage the labour market, lowering its efficiency and generating higher unemployment. The risk of substantial outflows into early retirement also looms large. This is not addressed by the current policy schemes which aim at maintaining existing jobs. Additional policy measures aimed at upskilling and reskilling workers to smooth their transition into new jobs may also become necessary to revive labour markets.

…depending also on country-specific features…

The final impact on EU labour markets this year and in 2021 remains uncertain and largely depends on future developments in the COVID-19 crisis and the success of the policy measures taken to contain it and offset its impact. However, some country-specific features allow us to assess the fragility of employment in the current crisis. The difference between countries may appear large and are not only linked to the successful implementation of policy measures but to pre-existing vulnerabilities. Three measures can be used to reflect the vulnerability of a country's labour market to the crisis: (i) the existing labour market structures, in particular the share of temporary or self-employed workers, (ii) the average size of corporations and (iii) the sectoral specialisation of the country.

Countries with a higher share of temporary and self-employed workers have more vulnerable labour markets, as these parts of the workforce are more likely to see significant employment and income reductions during a sharp economic contraction. Moreover, the self-employed tend to receive less support from government schemes and are overrepresented in the sectors hardest-hit by the confinement. While Spain has a high share of temporary contracts, Italy has a relatively high proportion of self-employed workers (see Graph I.2.21).

Graph I.2.21: **Atypical employment, euro area and selected Member States, 2019**



Also, in Italy and Spain, small firms, which are typically more fragile during economic contractions, account for a high share of employment. While measures have been put in place to offset liquidity shortages, the smallest firms are more likely to see liquidity squeezes and blocked bank credit lines. Companies that already began to experience difficulties during the slowdown last year or who have been struggling since the financial crisis may be particularly vulnerable.

As regards the sectoral effect, the sectors most at risk include accommodation and food services, transport, retail and other personal services. Here again, countries in the euro area's periphery such as Italy and Spain are more exposed to these sectors which are specifically linked to tourism. Manufacturing is also being his in this crisis but as firms in this sector are more reliant on specific skills, firms tend to value their workforce more and try harder to maintain workers during a temporary crisis. While manufacturing firms hoarded labour as manufacturing activity declined last year, it seems that key firms in this sector are now heavily using the temporary/partial

Table I.2.5:

Labour market outlook - euro area and EU

(Annual percentage change)	Euro area							EU						
	Spring 2020 forecast				Autumn 2019 forecast			Spring 2020 forecast				Autumn 2019 forecast		
	2018	2019	2020	2021	2019	2020	2021	2018	2019	2020	2021	2019	2020	2021
Population of working age (15-64)	0.2	**0.2**	**0.2**	**0.2**	0.2	0.2	0.2	0.1	**0.1**	**0.1**	**0.1**	0.1	0.1	0.1
Labour force	0.5	**0.5**	**0.1**	**0.4**	0.4	0.3	0.3	0.4	**0.4**	**0.1**	**0.3**	0.3	0.3	0.3
Employment	1.5	**1.2**	**-4.7**	**3.9**	1.1	0.5	0.5	1.4	**1.0**	**-4.4**	**3.3**	1.0	0.4	0.4
Employment (change in million)	2.3	**1.8**	**-7.2**	**5.7**	1.7	0.8	0.7	2.7	**2.0**	**-8.9**	**6.3**	2.0	0.9	0.8
Unemployment (levels in millions)	13.4	**12.4**	**16.0**	**14.4**	12.4	12.2	12.0	15.5	**14.4**	**19.6**	**17.3**	14.4	14.2	14.0
Unemployment rate (% of labour force)	8.1	**7.5**	**9.6**	**8.6**	7.6	7.4	7.3	7.2	**6.7**	**9.0**	**7.9**	6.8	6.7	6.5
Labour productivity, whole economy	0.4	**0.1**	**-3.2**	**2.4**	0.0	0.7	0.8	0.7	**0.5**	**-3.2**	**2.7**	0.4	0.9	1.0
Employment rate (a)	62.0	**62.6**	**61.2**	**61.9**	62.6	62.7	62.9	61.6	**62.1**	**60.6**	**61.4**	62.1	62.3	62.5

(a) As a percentage of population of working age. Definition according to structural indicators. See also note 6 in the Statistical Annex

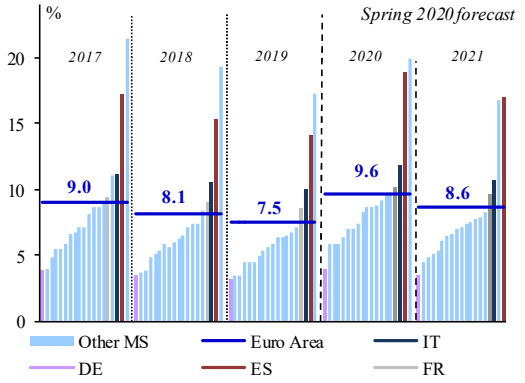
unemployment schemes put forward by governments to maintain employment.

...and lead to higher unemployment rates.

The COVID-19 outbreak has completely changed the prospects for economic output and labour markets this year. Without the measures taken by Member States to sustain employment, the containment measures triggered by the pandemic could affect employment even more than GDP, as the most affected sectors are those with the highest employment intensity and the highest shares of temporary contracts. The policy measures are expected to cushion these negative effects and allow employment to decline more moderately than GDP.

For 2020, total employment is expected to shrink by about 4 ½% in the EU. However, country-specific features and large tourism sectors mean that the negative effect on employment is likely to be bigger than average in many southern EU Member States (see annex table 23).[86] For 2021, a slight rebound in employment is forecast, consistent with the expected rebound in total output. Changes in unemployment rates mainly reflect headcount employment losses and are expected to rise to various degrees in all EU Member States. On average for the euro area, the unemployment rate is expected to jump two percentage points to 9.6% this year before setting at 8.6% in 2021.

Graph I.2.22: **Unemployment rate, euro area and Member States**



Note: In each period, the bars for all 19 euro area economies are ranked by size.

2.5. INFLATION

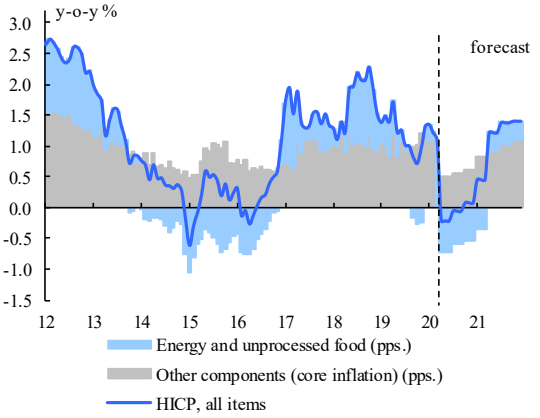
The inflation outlook over the forecast horizon has abated. The spread of the virus is expected to severely curtail both aggregate supply and demand in the domestic and global economy. Amid substantial uncertainty, this forecast takes the view that the drop in demand will dominate price developments. Moreover, the sharp drop in global oil prices is expected to lead to strongly negative energy inflation base effects for the rest of the year. Consequently, the forecast for headline HICP inflation in 2020 has been substantially cut compared to the winter forecast, with a smaller downward revision for core inflation. The forecast for 2021 has also been revised down, marginally.

During the lockdown period, some supply constraints may result in temporary increases in the prices of certain goods but this is expected to last only for a limited period as some supply chains in parts of the world and Europe had already started to normalise before the cut-off date of this forecast. As the negative output gap increases and real output is not expected to recover to 2019 levels by the end of 2021, the downward

[86] The figures presented in the table 23 of the statistical annex are referring to full time equivalent employment (FTE) for a number of countries, including France, Italy and Spain. Due to the COVID-19 induced rise in part-time employment, a discrepancy emerged between FTE and headcount figures in 2020 with the latter declining significantly less. Nevertheless, headcount employment remains more negative in Spain (-5 ½%) and Italy (-2%) than in France and Germany (-1%).

pull of a shortfall in aggregate demand is expected to outweigh the impact of remaining supply constraints over the forecast horizon. This is set to lead to a period of very low inflation rates well into 2020, after which the expected rebound in economic activity and reversed base effects uplift inflation slightly in 2021.

Graph I.2.23: **Inflation breakdown, euro area**



As overall inflationary pressures will depend fundamentally on the spread of the virus and the containment measures in force, the outlook is predicated on the assumptions inherent to this forecast, mainly that the lockdown measures will be eased gradually, starting in May, and is therefore surrounded by unprecedented and large uncertainty.

Earlier signs of a pick-up in inflation are now reversing

The outbreak of the virus led to a premature halt of signs that inflationary pressures were gradually building up. Up until February this year, headline inflation in the euro area, as measured by the Harmonised Index of Consumer Prices (HICP) had shown signs of picking up in line with what was expected in the winter forecast. In December (at 1.3%) and January (1.4%), inflation ticked above the 2019 yearly average, supported by services inflation and also reflecting stronger developments in volatile items like unprocessed foods as well as the phase out of significant negative base effects in energy inflation. Negative energy inflation detracted slightly from the February headline figure (1.2%). Excluding developments in the volatile components, core inflation (all items excluding energy and unprocessed food) had otherwise exhibited a steady pace of underlying price pressures. It crawled up to 1.3% in the fourth quarter of 2019, from 1.1% in the third quarter, and remained at that level in both January and February this year.

This pick-up in core inflation since autumn, and of services inflation in particular, provided some signs that domestic inflationary pressures were building up slowly. Excluding some relatively volatile items from the core measure, such as clothing, footwear and holiday-related items, there was a discernible increase in underlying price pressures in 2019 and early 2020. The component of services inflation related to housing had moved up, signalling that higher house prices were feeding through to consumer prices with a delay. Annual house price growth was running at 4.2% in the euro area in the fourth quarter of 2019, almost three-times as much as the inflation of actual rentals for housing.

In March, headline inflation dropped to 0.7%, down from 1.2% in February, and was dragged mainly by a strong decline in energy inflation (-4.5%). HICP inflation excluding energy and unprocessed food (core inflation) fell to 1.2%, from 1.3% in both January and February.

The detailed data of the March release showed the first impact of the virus containment measures on inflation. By adjusting for average seasonal fluctuations in March and focusing on the month-on-month change in prices, considerable impacts in certain detailed categories of inflation become apparent. The monthly change in overall prices was substantially weaker than usual for March (when prices usually increase due to the Easter holidays). This variation will exert a downward shift in inflation for the rest of this year, but will lead to a marked positive base effect in March next year if things normalise. Compared to their average monthly price change in March, most food categories increased, especially meat and fish products, but fruit and vegetables declined considerably. Likewise, clothing and footwear declined, while transport prices registered the biggest relative decline of all categories. Energy-related prices also declined strongly, reflecting the collapse in oil prices. On the other hand, health prices increased more than usual, reflecting increased expenditure on medical supplies to tackle the COVID-19 pandemic. Prices related to restaurants, hotels, recreation and cultural services dropped only slightly more than usual but this was probably due to the forced closure of many of these service outlets, which rendered price collection difficult. It is therefore likely that these

latter categories present a downside risk for inflation once they start opening, since the demand for these services is expected to suffer longer due to the social distancing measures for the sector that are expected to remain in force in many Member States.

The assessment of the inflation outlook is complicated by several factors and has to be seen in light of the current exceptional economic circumstances. There are three main factors that need to be considered and their respective impact will affect the profile of inflation. The first one relates to the impact of temporary supply-side disruptions, panic buying and sudden stops during lockdown periods. Second, the sharp fall in oil prices is expected to detract significantly from inflation in 2020. The third one relates to the opposing forces between a sharp (temporary) fall in aggregate demand, remaining supply disruptions, and a likely shift in demand preferences. On balance, these factors are expected to lead to a period of disinflation in 2020 (several quarters of inflation close to zero).

Temporary issues beset inflation in the current period

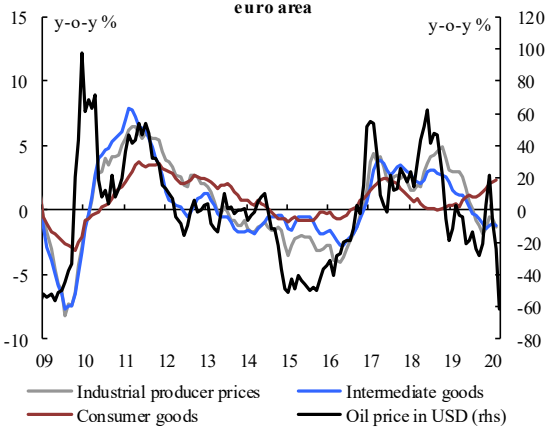
Inflation in the second quarter of 2020, and possibly in the third quarter, is expected to suffer from several issues, some of which are unprecedented and will distort normal fluctuations in prices. First, several shops, especially of non-essential items, and social spaces are still closed or are expected to remain so for some time - for example bars, restaurants, hotels and cinemas – rendering the calculation of the prices of these goods and services difficult to measure. Second, there was evidence of supply chain disruptions in the production of certain goods – for example of certain food items or medical supplies – while panic buying led to a surge in demand for example of hygienic products, essential foods or even particular IT equipment associated with remote working etc. At the same time there is a sudden stop in demand (and sometimes non-availability) for non-essential items and services. Moreover, the temporary base effect that usually uplifts inflation around the Easter holiday period, especially on items such as accommodation and package holidays, will be missing. As March data already show, the overall impact of all these factors is expected to drag on inflation in April and May.

The collapse in oil prices will dominate the profile in 2020

Oil prices (Brent) which peaked at close to $70 per barrel in early January, collapsed in March to just over $20 per barrel and were still around that level at the cut-off date in April. Oil prices are assumed to pick-up only moderately during the rest of 2020, but to levels representing approximately a 50% decline compared to their average in 2019. This will have strong negative base effects on energy inflation and will subsequently impinge heavily on overall inflation in 2020.

Despite the agreed production cuts among oil-producing countries due to begin in May, a sharp fall in oil demand is expected and is assumed to keep energy prices low. Given that oil is used as an input in many other sectors, and is strongly correlated with industrial producer prices, it is expected to have a general dampening effect on overall global price developments (see Graph I.2.24). In 2021, the slight increase in the price of oil assumed is expected to lead to some marginally positive base effects.

Graph I.2.24: **Oil price and selected producer price indices, euro area**



Lower demand expected to outweigh the impact of supply disruptions on inflation

There are two opposing forces at work in the determination of prices along global supply chains: supply disruptions and a general fall in aggregate demand. Supply side disruptions (due to forced production plant closures and offices, social distancing, and border controls) limit the supply of critical intermediate items and even the presence of labour needed for the production of goods and services. This tends to have an upward push on inflation, especially in those items still in high demand. It is still too early to assess the impact of

Table I.2.6:

Inflation outlook - euro area and EU

(Annual percentage change)	Euro area							EU						
	Spring 2020 forecast				*Autumn 2019 forecast*			Spring 2020 forecast				*Autumn 2019 forecast*		
	2018	2019	2020	2021	2019	2020	2021	2018	2019	2020	2021	2019	2020	2021
Private consumption deflator	1.4	**1.2**	**0.3**	**1.2**	*1.2*	*1.2*	*1.4*	1.5	**1.4**	**0.5**	**1.3**	*1.4*	*1.4*	*1.5*
GDP deflator	1.3	**1.7**	**1.3**	**1.3**	*1.5*	*1.5*	*1.5*	1.4	**1.9**	**1.4**	**1.4**	*1.8*	*1.7*	*1.6*
HICP	1.8	**1.2**	**0.2**	**1.1**	*1.2*	*1.2*	*1.3*	1.8	**1.4**	**0.6**	**1.3**	*1.4*	*1.4*	*1.6*
Compensation per employee	2.2	**2.1**	**1.1**	**0.4**	*2.0*	*2.1*	*2.2*	2.7	**2.6**	**1.1**	**1.1**	*2.5*	*2.6*	*2.6*
Unit labour costs	1.8	**2.1**	**4.3**	**-1.9**	*2.0*	*1.4*	*1.4*	2.1	**2.2**	**4.3**	**-1.6**	*:*	*:*	*:*
Import prices of goods	2.7	**-0.6**	**-3.6**	**1.1**	*0.4*	*0.3*	*0.8*	2.8	**-0.3**	**-3.1**	**1.0**	*0.7*	*0.5*	*0.9*

supply disruptions on prices, but anecdotal evidence suggest that so far this seems to be limited to certain categories of inflation.

Most important is the production of food, which is a staple item and has a relatively high weight in the consumption basket. Labour shortages in a number of Member States due to a lack of seasonal workers from other countries pose problems for the agricultural industry, especially in the fruit, vegetable and livestock sectors. So far however, short-term commodity futures prices for several food categories have fallen and thus do not signal immediate price pressures. The UN Food and Agriculture Organisation's Food Price Index for March fell compared to February, with the international organisation noting the impact of the pandemic on demand contractions. There is evidence that closures of restaurants and hotels, and travelling in general, is having a strong impact on prices of certain food categories and this is particularly so for example in tourist regions in the EU where the collapse in traditional demand by tourist establishments on locally sourced food is leading to excess supply. In addition, the fall in oil prices is generally associated with lower prices along the food chain. By the cut-off date of this forecast, there was anecdotal evidence suggesting that temporary solutions were being found for labour shortages in the agri-food sectors which need harvesting and in the transportation of these goods and that some lockdown measures were already being relaxed. These factors should further alleviate bottlenecks and reduce supply disruptions, however there may still be an upside risk to prices in those categories where the harvesting season or livestock processing may have been disrupted. On the other hand, a general substitution towards staple or less perishable food may add price pressures in these items.

Overall, the interaction between the aggregate demand shock and the oil price shock is set to dominate headline inflation and eclipse any short-term supply disruptions. Many inflation components that exhibited an upward trend until last year are also expected to reverse course and head downwards in 2020.

For example, housing-related inflation, particularly actual rentals for housing, may already have had a substantial downward hit and may undergo further pressures throughout the year. There are two main factors behind this. First, faced with sudden wage cuts or employment losses, there is anecdotal evidence that landlords are reducing rents paid by tenants in order to avoid rental contracts either being stopped or tenants moving to cheaper alternatives. Second, as there was an increasing trend of converting old or newly-built residential properties into alternative tourist accommodation, especially in major cities, the sudden drop in tourism and its dire outlook is expected to result in many vacant properties that will enter into competition with domestically-oriented rentals and thus force rents down. The weight of this component in overall inflation has an average of 6.5% in the euro area but differs strongly across Member States, standing for example at 11% in Germany but only 2.7% in Italy.

The expected drop in capacity utilisation is also set to have a negative impact on prices, particularly for non-energy industrial goods. Moreover, in some sectors, the build-up of large inventories during the lockdown period may force companies to push prices lower to reduce stocks once the economy progressively re-adjusts. Further ahead, as unemployment rates increase, income losses are expected to keep a lid on inflation pressures well into 2021.

A substantial drop in the forecast for inflation in 2020 …

On average, headline inflation in the euro area is forecast to drop strongly to 0.2% in 2020, but to recover to 1.1% in 2021. Compared to the winter forecast, this represents a downward revision of 1.1 pps. for 2020 and 0.3 pps. for 2021.

Growth in compensation per employee in the euro area is expected to decline throughout the forecast horizon, even though income losses are alleviated by government wage support schemes in 2020. It is projected to drop to 1.1% in 2020 and 0.4% in 2021. The growth of real compensation per employee, after deducting for inflation, is expected to turn negative in 2021. As a result mainly of labour hoarding schemes in 2020, unit labour cost growth in the euro area is expected to increase strongly to 4.2% in 2020, but then to fall strongly to -1.8% in 2021 as lower employment levels leave a mark on labour costs.

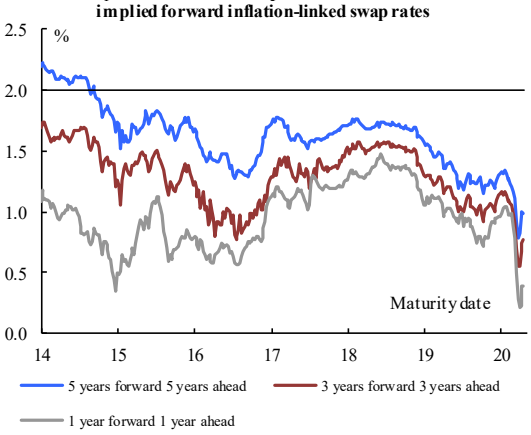
Overall, the annual growth rate of the GDP deflator in the euro area is projected to fall to 1.3% in both 2020 and 2021. On one hand, the sharp drop in oil prices improves the terms of trade and thus supports the GDP deflator, while on the other hand the latter is weighed down by the drop in the private consumption deflator.

…consistent with lower inflation expectations.

Market-based measures of inflation expectations along the maturity spectrum fell sharply in March as the scale of the COVID-19 impact became clearer but then recovered slightly in April. At the cut-off date of this forecast, inflation-linked swap rates at the one-year forward one-year-ahead horizon stood at 0.4% (see Graph I.2.25). Swap rates at the three-year forward three-years-ahead horizon imply an average inflation of around 0.8%. On a longer horizon, the widely watched five-year forward five-years-ahead indicator suggests inflation of 1%, below the ECB's definition of medium-term price stability.

Latest survey-based measures of price developments in April, taken from the IHS Markit Flash Eurozone PMI, show a strong decline in both input and output prices. Output price declines were generally facilitated by lower input prices, and this was even more so in the services sectors where input prices are linked to lower payroll costs. Factory input prices fell at a reduced rate possibly reflecting shortages along the supply chain. According to the Commission's surveys taken in March, the manufacturing sector had already signalled a sharp drop in selling price expectations. However, consumers in the euro area reported expectations of higher price trends over the next twelve months, particularly in France and Italy, possibly reflecting concerns of shortages in food and medicine supplies in times of panic-buying or fear that they may not afford current prices with reduced incomes.

Graph I.2.25: **Inflation expectations derived from implied forward inflation-linked swap rates**



Source: Bloomberg

The monthly mean of market forecasts calculated by Consensus Economics stood in April at 0.4% for 2020 and 1.3% for 2021. The results of the ECB Survey of Professional Forecasters (taken in early January, before the COVID-19 pandemic) for the first quarter of 2020 showed average inflation expectations at 1.2% in 2020 and 1.4% in 2021. Longer-term inflation expectations stood at 1.7%.

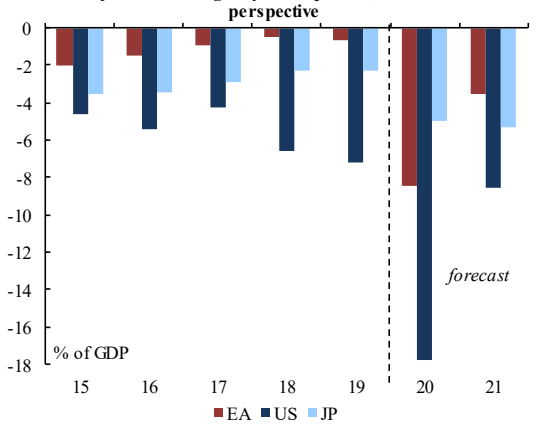
2.6. PUBLIC FINANCES

The COVID-19 outbreak is set to have a severe impact on public finances in 2020…

Having declined for eight years in a row since 2010, the euro area aggregate general government deficit (Graph I.2.26) reached a trough in 2018 and marginally increased in 2019. Sizeable discretionary fiscal measures (around 3¼% of GDP) and automatic stabilisers to cushion the economic impact of the pandemic and related containment measures imply that the deficit is set to surge in 2020 and to decrease in 2021. Moreover, euro-area governments have provided sizeable state guarantees for loans to firms and other liquidity support for almost 24% of GDP. This does not include liquidity support measures

taken at EU level. From an international perspective, budget deficits are expected to be significantly larger in the US in both 2020 and 2021 where the fiscal support aimed at containing the economic impact of COVID-19 is estimated at around 11% of GDP. In Japan, on the other hand, which is forecast to run a lower deficit in 2020, the support that has a direct impact on the deficit is estimated at less than 5% of GDP.[87]

Graph I.2.26: **Budgetary developments, international perspective**

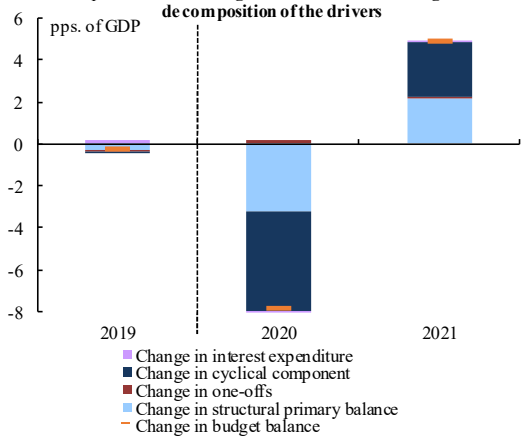


In 2019, the deficit stood at 0.6% of GDP in both the euro area and the EU. In 2020, the deficit is set to increase considerably, to about 8½% of GDP in the euro area (8¼% and the EU). The sharp increase in the deficit is primarily due to a large decline in both the cyclical component and the structural primary balance (Graph I.2.27).[88] These developments largely reflect the work of automatic stabilisers and new fiscal measures aiming at protecting households, workers and businesses from the impact of the lockdowns triggered by the pandemic.

… and to narrow in 2021 based on unchanged policies.

In 2021, based on unchanged policies, the budget deficit is forecast to decrease noticeably to around 3½% of GDP in both the euro area and the EU due to the expected rebound of GDP growth and because most Member States are assumed to unwind a large part of the measures adopted in response to the COVID-19 crisis. Indeed, the changes in the cyclical component and in the structural primary balance are both forecast to provide a large positive contribution to the increase in the budget balance in 2021 (Graph I.2.27).

Graph I.2.27: **General government balance change and decomposition of the drivers**



Looking at the country level, all Member States except Bulgaria are projected to run a deficit exceeding 3% of GDP in 2020. In 2021, half the Member States are forecast to continue running a deficit over 3% of GDP, based on a no-policy-change assumption.

Expenditure-to-GDP ratio to drive the projected ups and downs in the euro area deficit

In 2020 and 2021, developments in the deficit look set to be driven almost exclusively by the change in the expenditure ratio (Graph I.2.28). It is projected to increase noticeably in 2020 (by more than 8 pps.), due to the discretionary measures and the effect of sharply contracting nominal GDP. In 2021, the drop in the expenditure ratio (by more than 5¼ pps.) explains the deficit reduction of about 5 pps. This is due to the temporary nature of most of the fiscal measures taken in response to the COVID-19 outbreak, which are predicted to lead to much smaller additional expenditure in 2021 than in 2020. Furthermore, the projected rebound in GDP at a pace faster than potential output will also help to lower the expenditure ratio. The revenue ratio is projected to decline only slightly between 2019 and 2021.

(87) Liquidity measures that do not have a direct impact of the deficit is much larger in Japan (around 17½% of GDP) than in the US (2¼% of GDP).

(88) On 20 and 23 March 2020, the Commission and the Council, respectively, activated the general escape clause of the Stability and Growth Pact. That activation has allowed Member States to take targeted measures to deal with the health crisis and provide support for those affected by the outbreak, as well as broader measures to support the economy. To facilitate fiscal surveillance for the duration of the general escape clause, the Commission decided not to classify COVID-19-related measures as one-off in its 2020 spring forecast.

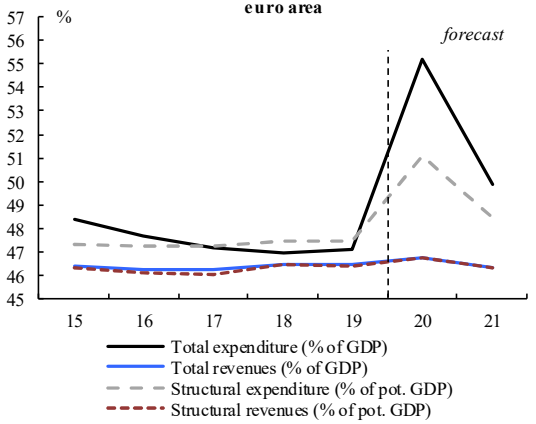
Table I.2.7:

General Government budgetary position - euro area and EU

(% of GDP)	Euro area							EU						
	Spring 2020 forecast				Autumn 2019 forecast			Spring 2020 forecast				Autumn 2019 forecast		
	2018	2019	2020	2021	2019	2020	2021	2018	2019	2020	2021	2019	2020	2021
Total receipts (1)	46.5	**46.5**	**46.7**	**46.3**	46.3	46.2	45.9	46.2	**46.2**	**46.4**	**46.0**	46.0	45.9	45.6
Total expenditure (2)	47.0	**47.1**	**55.2**	**49.9**	47.1	47.1	47.0	46.6	**46.7**	**54.7**	**49.6**	46.8	46.7	46.6
Actual balance (3) = (1)-(2)	-0.5	**-0.6**	**-8.5**	**-3.5**	-0.8	-0.9	-1.0	-0.4	**-0.6**	**-8.3**	**-3.6**	-0.7	-0.8	-1.0
Interest expenditure (4)	1.8	**1.6**	**1.7**	**1.6**	1.7	1.5	1.4	1.7	**1.5**	**1.6**	**1.5**	1.6	1.5	1.4
Primary balance (5) = (3)+(4)	1.4	**1.0**	**-6.8**	**-2.0**	0.9	0.6	0.4	1.3	**1.0**	**-6.7**	**-2.1**	0.9	0.6	0.3
Cyclically-adjusted budget balance (a)	-1.1	**-1.3**	**-4.4**	**-2.1**	-1.1	-1.1	-1.2	-1.1	**-1.2**	**-4.4**	**-2.1**	-1.1	-1.1	-1.2
Cyclically-adjusted primary balance (a)	0.7	**0.4**	**-2.7**	**-0.5**	0.6	0.4	0.2	0.6	**0.3**	**-2.8**	**-0.6**	0.5	0.4	0.2
Structural budget balance (a)	-1.0	**-1.1**	**-4.4**	**-2.1**	-0.9	-1.1	-1.2	-1.0	**-1.1**	**-4.4**	**-2.1**	-0.9	-1.1	-1.2
Change in structural budget balance (a)	0.2	**-0.1**	**-3.3**	**2.3**	-0.1	-0.2	-0.1	0.1	**-0.1**	**-3.3**	**2.3**	-0.2	-0.2	-0.1
Gross debt	87.8	**86.0**	**102.7**	**98.8**	86.4	85.1	84.1	81.3	**79.4**	**95.1**	**92.0**	79.8	78.4	77.4

(a) as a % of potential output. The structural budget balance is the cyclically-adjusted budget balance net of one-off and other temporary measures estimated by the European Commission.

Graph I.2.28: **Expenditure and revenues developments, euro area**



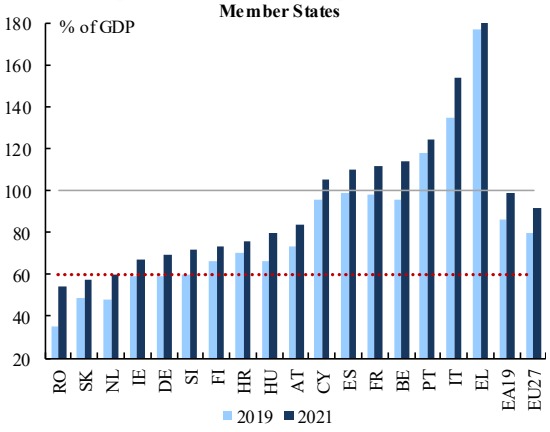
Looking at selected public spending components of the euro area aggregate, the projected surge in the expenditure ratio in 2020 is mainly related to higher social transfers, also due to the sizeable discretionary measures taken to support households and workers, followed by subsidies. Public investment as a share of potential GDP is projected to increase marginally, from 2.8% of GDP in 2019 to 2.9% in 2021, still below its average of 3.3% of GDP between 2000 and 2009.

The debt ratio is set to jump in 2020

In 2019, the debt-to-GDP ratio of the euro area fell to 86.0% (79.4% in the EU), standing around 9 pps. below its peak in 2014. However, the unprecedented economic recession expected in 2020 and the measures taken in response to the pandemic are set to derail this trend. The debt-to-GDP ratio of the euro area is projected to rise substantially, reaching a new peak of around 103% in 2020, before decreasing to below 100% in 2021, under a no-policy-change assumption. The combined impact of interest expenditure and the drop in nominal GDP (the so-called 'snow-ball effect' [89]) is forecast to increase the debt-to-GDP ratio by about 7¾ pps. in 2020. In 2021, thanks to the expected rebound in nominal GDP, the snow-ball effect is forecast to reduce the debt-to-GDP ratio by 5¾ pps. The primary deficit is expected to have a debt-increasing contribution in both 2020 and 2021 (6¾ and 2 pps. respectively).

In 2020, the debt-to-GDP ratio is projected to increase significantly in all Member States. In 2021, under a no-policy-change assumption, it is expected to stay above 100% in seven Member States (Belgium, Greece, Spain, France, Italy, Cyprus and Portugal). Other seven Member States are forecast to show a debt ratio above 60% of GDP in 2021 (Germany, Ireland, Croatia, Austria, Slovenia, Finland and Hungary) (Graph I.2.29).

Graph I.2.29: **Public debt development in selected Member States**



[89] The "snow-ball effect" captures the impact of interest expenditure on the annual accumulation of debt, as well as the impact of real GDP growth and inflation on the debt ratio.

2.7. MACROECONOMIC POLICIES IN THE EURO AREA

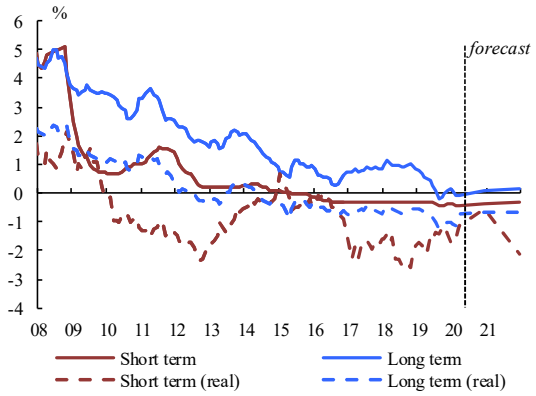
The policy mix in the euro area reflects the interplay between financing conditions and fiscal policy. Monetary conditions in the euro area remain very accommodative overall. Based on technical assumptions,[90] short-term money market rates are set to remain broadly constant over the forecast horizon and should remain very supportive overall in both nominal and real terms. As nominal long-term yields are expected to increase only marginally and inflation expectations for the longer term are also assumed to increase slightly over the forecast horizon, real long-term financing costs should remain clearly in negative territory. The fiscal policy stance, measured by the change in the structural primary budget balance, is expected be very expansionary in 2020 given the discretionary measures related to the COVID-19 outbreak. Most of those measures are set to be discontinued by 2021 under a no-policy-change assumption.

Monetary conditions are expected to remain accommodative

In light of the economic disruptions caused by the coronavirus outbreak and the ECB's subsequent easing measures, which include sizeable additional net asset purchases [91], only marginal upward pressures on nominal rates are expected over the forecast horizon. Given the present record low interest rate levels, financing conditions in the euro area are therefore expected to remain very loose by historical standards. Nominal long-term rates [92], which picked up at the end of last year but which have decreased since then on account of the pandemic, are expected to pick up only slightly and remain below their levels reached in mid-2019. The additional net asset purchases under the ECB's Asset Purchase Programme (APP) and Pandemic Emergency Purchase Programme (PEPP) in combination with the continued reinvestment of maturing securities should help keep nominal long-term rates very low, overall.[93] On the short end of the yield curve, interest rates remain at historically low levels following the deposit facility rate cut in September 2019. The high and growing volume of excess reserves, in combination with the ECB's forward guidance as well as very favourable TLTRO-III pricing [94], should keep short-term money market rates at very low levels and support favourable lending conditions further on.

In real terms, short-term rates have stayed broadly unchanged in negative territory since the autumn, although developments in headline inflation led to some fluctuations in real short-term rates (see Graph I.2.30).[95] Real long-term interest rates have increased somewhat over the same period, mainly on account of markedly lower inflation expectations, which edged downward in February and March. By contrast, their nominal counterpart remained largely unchanged on balance.

Graph I.2.30: **Euro area interest rates**



Short term rate: 3M Euribor; Long term rate: 10Y interest swap

Looking ahead, nominal short-term rates are assumed to remain broadly unchanged over the course of the current and the coming year before

[90] The interest rate assumptions underlying the forecast are market-based; nominal exchange rates are assumed to remain constant with respect to a given base period. For details, see Box I.4.1.

[91] For details, see https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.mp200312~8d3aec3ff2.en.html and https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200318_1~3949d6f266.en.html

[92] Nominal long-term rates refer to the 10 year interest rate swap based on EURIBOR 6M.

[93] Empirical evidence suggests that the portfolio rebalancing effect of asset purchases on bond market yields works predominantly via the size of the stock of purchased assets rather than the size of the monthly flows.

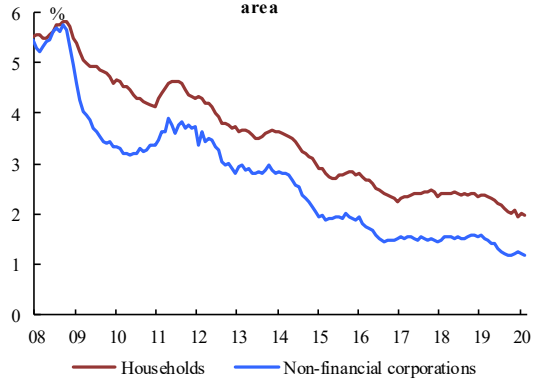
[94] From 24 June 2020 to 23 June 2021, for counterparties taking part in TLTRO-III and whose eligible net lending reaches the benchmark, the interest rate applied on all TLTRO III operations outstanding over that period will be 25 basis points below the average interest rate on the deposit facility prevailing over the same period, and in any case not higher than -0.75%.

[95] Real rates are derived from the respective short- or long-term rate minus annual HICP inflation and expected average inflation according to 10-year inflation swaps, respectively. Forecasts are derived from futures and forward rates, deflated by the Commission's inflation forecast and market-based measures of inflation expectations.

starting to increase gradually thereafter. Meanwhile, inflation is expected to decrease sharply in the second quarter of 2020 and to only recover marginally over the remainder of the year, followed by a steady increase over the course of 2021 (see section I.2.5). Altogether, this should lead to a hump-shaped profile of real short-term interest rates over the forecast horizon. At the same time, forward rates suggest a slight but persistent rise in nominal long-term rates over the forecast horizon. With markets anticipating long-term inflation to increase at a somewhat slower pace, this should also translate into marginally higher, but still clearly negative, real long-term rates.

The composite credit cost indicators (CCCI) [96] for non-financial corporations and households captures the transmission of rate developments to nominal financing conditions (see Graph I.2.31). Reflecting the subdued developments in short- and long-term nominal rates, overall changes in nominal financing conditions have been small since the autumn. The decrease in nominal long-term rates since the beginning of the year has decreased borrowing costs for non-financial corporations somewhat, mainly on account of corresponding developments in corporate bond yields and interest rates on long-term loans. However, data availability allows CCCI calculation only until February, hence the substantial increases in euro area corporate bond yields since the beginning of March are not yet captured. For households, borrowing costs have decreased somewhat, driven by lower interest rates on housing loans.

Graph I.2.31: **Composite credit cost indicators, euro area**



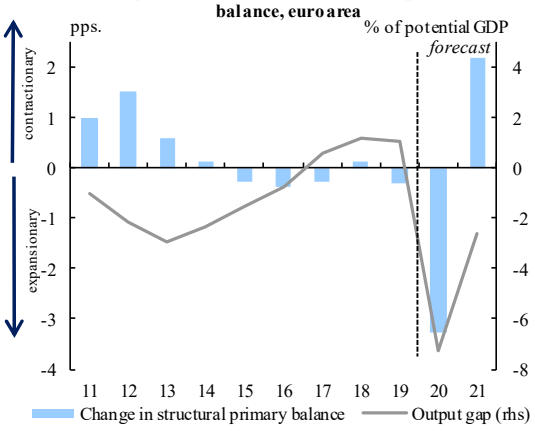
Note: Last observation: February 2020
Sources: ECB, Bloomberg, own calculations

[96] The CCCIs are calculated as weighted averages of interest rates on different types of bank loans and corporate bonds (in case of non-financial corporations).

The euro area fiscal stance set to support the economy in 2020

The euro area fiscal stance is projected to turn strongly expansionary in 2020 after having been broadly neutral since 2014. The expansionary fiscal stance - based on the expected decline in the structural primary balance of around 3¼ pps. of GDP - is essentially the result of the sizeable fiscal measures taken by Member States in response to the COVID-19 pandemic. In 2021, based on a no policy-change assumption, the euro area fiscal stance is forecast to turn contractionary (by around 2¼ pps. of GDP), reflecting the expected exit from most of the crisis related measures (Graph I.2.32).

Graph I.2.32: **Change in the structural primary balance, euro area**

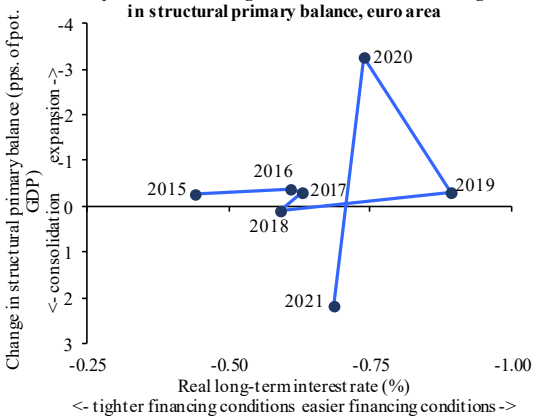


Moreover, Member States have supported businesses with sizeable guarantees for their loans and other liquidity measures, which do not show up in the fiscal stance but are nonetheless estimated to provide a significant recovery impulse (see technical box for the treatment of these guarantees). In 2021, all euro area Member States are forecast to start decreasing their structural deficits.

Looking at the policy mix (see Graph I.2.33), the policy measures taken by the ECB since the end of 2014 have exerted significant downward pressure on nominal long-term rates. However, monetary easing has been only partially transmitted to real rates as long-term inflation expectations also declined over the same period. As a result, average real long-term rates for 2020 (derived from the 10-year swap rate deflated by inflation expectations) are expected to be somewhat higher than in the previous year. Nonetheless, they remain in negative territory and financing conditions should thus remain very supportive of growth. At the same time, the fiscal policy stance is expected to

strongly support economic activity in 2020 and then retreat in 2021 when the recovery is expected to be underway.

Graph I.2.33: **Real long-term interest rates and change in structural primary balance, euro area**



2.8. RISKS

Forecast uncertainty has significantly increased since the release of the winter forecast in February while the balance of risks to the growth projection for the euro area has tilted further to the downside.

The pandemic has raised forecast uncertainty...

Uncertainty surrounding the spring forecast is huge. The scale of the pandemic is still uncertain and its duration remains unpredictable as it depends on the time needed for developing an effective treatment or a vaccine. The duration, in turn, affects both the shape of the economic rebound and the volume of fiscal policy measures that will have to be deployed. While the severe consequences of pandemics had been discussed in the economic literature, there are no recent examples comparable to COVID-19 that could guide the analysis of the impact on a diversified and globalised economy. Overall, there is a much higher level of uncertainty surrounding the spring forecast than would normally be the case.

...with risks to the economic growth outlook almost entirely on the downside…

Reflecting on the huge uncertainties, the spring forecast has been anchored on scenario analyses ('a forecast like no other'), which involved a series of assumptions to construct a stylised shock to the global economy. Given the suddenness of developments in recent weeks, this per se bears the risk that the scenario simulation is rendered obsolete by events. Faced with this the present degree of uncertainty and its partly fundamental nature, the customary risk 'fan chart' is not shown this time. Instead, illustrative alternative scenarios produced with the QUEST model are described in section I.3.

Risks to the spring forecast projections are largely skewed to the downside such that economic activity could decline more (in 2020) or rebound less (in 2021). As already signalled in the presentation of the baseline scenario (see Section I.1.4), the major risks concern the total economic impact of COVID-19 on the EU economy, which will depend upon on the scale and length of the pandemic. The assumptions about the pandemic dynamics underlying the baseline scenario might be too optimistic.

The **pandemic** could become more severe and last much longer. Already planned or implemented relaxations of containment measure could prove premature and the pandemic could resurface, requiring the re-imposition of stricter confinement measures with less policy options left for mitigating their economic effects.

The global nature of the COVID-19 shock implies that it is insufficient for the economic recovery, if only a few countries cope successfully with the medical challenge. **Insufficiently coordinated national policy responses, or a limited common response at the EU level** that limit the efficient use of the workforce (e.g. labour mobility), could result in worse outcomes than currently expected. They could endanger the functioning of the internal market, result in efficiency losses, dampen economic growth and increase divergence, and ultimately threaten the stability of the monetary union. The same could result from inadequate efforts to compensate for the lack of sufficient policy space in those euro area Member States that are also hardest hit. Tight linkages through supply chains, financial connections and trade relationships would spread negative effects throughout the EU. [97]

Economic growth in the **external environment** of the EU could turn out lower than expected, either with the recession being more severe or the

[97] On the inefficiency of policies predominantly decided upon at the national level, see Beck, T. and W. Wagner (2020). 'National containment policies and international cooperation'. *Covid Economics, Vetted and Real-Time Papers* 1 (CEPR), April 22, pp. 120-34.

recovery taking longer. Potential reasons for an unexpectedly weak performance can be attributed to both advanced, and emerging and developing countries. For the advanced economies, the downside risks to the growth projection, as in the EU, mainly relate to the (length and breadth of the) pandemic and the policy response. If necessary restrictive public health measures are to last longer than currently assumed, this risks generating more severe disruptions to global supply chains and more sizeable and longer-lasting demand shocks. There is also a risk that the coronavirus spreads to those emerging market economies with less developed medical facilities, limiting the prospects for an effective containment of the pandemic and increasing the likelihood for recurring waves of infections globally. Given these health-related uncertainties, there is a risk that extreme financial volatility may persist, with particularly concentrated damage on many of the emerging economies. Continuing capital outflows and currency depreciations in these countries risk undermining the stability of their domestic banking sectors, accompanied by spikes in sovereign debt spreads and government defaults in the most vulnerable cases. This could lead to a protracted downturn in the poorest and most vulnerable countries in the world, exacerbating already existing social tensions, and making it even more difficult to tackle long-standing structural challenges. The slump in oil prices also increases the risk of additional financial market stress related to potentially sizeable investment redemptions by sovereign wealth funds of oil-exporting countries that are asked to fill gaps in their governments' budgets. Lower oil prices also expose vulnerabilities in the highly leveraged energy sector in the US, and if persistent, risk throwing large parts of the sector into outright bankruptcy with knock-on effects on US financial stability and real activity. Countries outside the EU would also suffer from an intensification of protectionism and its adverse consequences as regards economic growth and trade.

The possibility of **financial turmoil and financial crises** in the EU cannot be excluded. The financial burden of implemented and planned measures to combat the pandemic and mitigate its economic impact is very large and expected to increase public debt substantially. In the absence of sufficient circuit breakers, yields of some Member States could come under upward pressure according to perceptions of sovereign risk, which could translate into funding difficulties for the sovereigns and banking sectors of the countries affected.

A different trigger of financial turmoil could emerge if for indebted corporate borrowers the initial liquidity strains turn into solvency problems, even under the current assumptions about the pandemic. This could then lead to bankruptcies, make loans non-performing and cause losses in the banking sector that endanger financial stability and cause a risk-off episode with implications to companies' access to credit and their funding costs. [(98)] Frictions in credit markets could lower economic efficiency due higher costs of capital and/or by capital being misallocated away from its most productive uses.

The pandemic could leave **permanent scars** in the EU economy that are not taken into account in the central scenario of the spring forecast. Inside the EU, this could result from a large number of bankruptcies that weaken competition and dampen innovation. In an international context, experiences from the pandemic period could trigger fundamental changes in attitudes towards global value chains and international cooperation. This would hit open economies such as the EU most. Against the background of fears that imported cases result in renewed infections, 'de-globalisation' could become more popular than currently expected. More permanent scars than currently expected could also characterise labour market developments (hysteresis effects).

In addition, some **pre-existing vulnerabilities** of the EU economy constitute downside risks, which were already evaluated in the previous forecasts. This includes concerns that new tariffs might be applied on a much wider range of items, which could adversely affect business investment plans and lead to a worse outcome. Moreover, reaching the end of the transition period foreseen in the Withdrawal Agreement between the EU and the UK will dampen economic growth, even if an EU-UK free trade agreement is concluded. This will affect in particular the UK, but also the EU, though to a lesser extent.

(98) The IMF and the Financial Stability Board have recently emphasised the increased risks to financial stability; see IMF (2020). 'Global financial stability overview: markets in the time of COVID-19'. *Global Financial Stability Report*, April (chapter 1); Financial Stability Board (2020). 'COVID-19 pandemic: Financial stability implications and policy measures taken'. April 15.

On the upside, a faster than expected availability of a vaccine against COVID-19 could allow removing physical distancing measures, improve economic sentiment, and result in a faster-than-anticipated return to a more normal economic situation.

...and in the near term risks to the inflation outlook are closely related.

In recent weeks, a number of downside risks to the inflation outlook have materialised, while others have diminished. Oil prices fell sharply until the cut-off date of this forecast, and domestic price pressures have been curbed by the sharp slowdown in economic activity.

In the near term, the downside risks to the growth outlook translate into downside risks to the inflation outlook. A deeper downturn and a slower rebound would negatively influence inflation expectations and price pressures. A more protracted period of low inflation could also have a more negative impact on the anchoring of medium-term inflation expectations than currently visible in surveys; this could trigger a further downward movement of inflation. Should the decline in economic activity be related to severe disruptions of production and distribution chains, a temporary mismatch between demand and supply could decouple developments in economic activity and inflation.

On the upside, a faster-than-expected rebound in the external environment could push commodity prices up and lift external price pressures. A faster and stronger than expected rebound of economic activity would raise inflation expectations and domestic price pressures. Beyond the very short term, some analysts have raised the issue as to whether unprecedented monetary and fiscal efforts, the sharp increase in debt, and the monetisation of government debt could necessarily push inflation over the medium term,[(99)] which cannot be completely excluded, but so far, there is no evidence that the risk is significant.[(100)]

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(99) See e.g. C. Goodhart and M. Pradhan (2020). 'Future imperfect after coronavirus'. *VoxEU*, March 27.

(100) See e.g. Blanchard, O. J. and J. Pisani-Ferry (2020). 'Monetisation: Do not panic'. *VoxEU*, April 10.

3. SPECIAL ISSUES

3.1. HOW THE PANDEMIC SHAPED THE FORECAST

The COVID-19 pandemic has characteristics not seen in over 100 years, and the measures taken to contain it have no precedent in living memory. Initially concentrated in China, the virus quickly spread worldwide, leading to more than 3 million confirmed cases and more than 200 thousand deaths at the time of writing. A large number of countries have implemented containment measures of unprecedented scale, ranging from limiting travel to the almost complete shutdown of public and economic life.

In this exceptional context, economic forecasters have to grapple with uncertainty at various levels. To name just a few, knowledge about the actual spread of the virus is hampered by incomplete statistics; the impact of the lockdowns on economic activity has to be assessed in real time with non-standard metrics; standard quantitative economic models, calibrated and estimated with historical data, have to be adapted to assess new types of large economic shocks.

To deal with this uncertainty, the present forecast relies much more heavily on assumptions than usual. Such assumptions concern, for instance, key parameters of the pandemic, the duration and effectiveness of containment measures, and the degree of nonlinear effects. This reliance on conditioning assumptions makes the Spring 2020 European Economic Forecast more akin to a scenario analysis.

The main value added of such a scenario analysis is to highlight the channels (and their relative magnitude) through which the economy is affected. It also allows us to discern the stabilising role of fiscal and monetary support measures announced or enacted since the start of the pandemic. These policy actions are expected to help by supporting household incomes, improving firm's liquidity positions and helping to limit long-term damages to the economic fabric, which might otherwise lead to widespread bankruptcies and persistent unemployment.

Given these extraordinary circumstances, this chapter tries to shed some light on the possible economic damage triggered by the pandemic and sketches a tentative recovery path. First, through the lens of a model-based decomposition of the spring forecast, it gives insight into how the multiple shocks triggered by the COVID-19 pandemic are likely to be transmitted to the economy over the next two years. Second, it presents simulations with DG ECFIN's QUEST model, [(101)] as they were used to chart the terrain in the preparation of this forecast. Three scenarios are sketched, mostly reflecting alternative paths for the duration of the pandemic and required containment measures. The QUEST simulations were then crosschecked against simulations with alternative quantitative tools, in order to explore different transmission channels and mitigate model uncertainty.

In interpreting the scenario analysis presented here, it is important to bear its central assumptions in mind, most of which pertain to the time-span during which people's mobility and business operations are heavily constrained. In such a complex environment with a large number of moving pieces, it is possible that the economic impact could be either smaller or larger and no probability is attached to these scenarios.

3.1.1. Setting the stage

Several institutions have put out scenarios and estimates…

Since the beginning of this crisis, a number of impact estimates have been published by private banks and analysts as well as think tanks and public institutions. Mirroring the wide range of views regarding many of the facets of the pandemic and the way out of it, as well as fast-evolving information, there is only a limited understanding of the magnitude of the impact and the size of the expected rebound. While it is outside of its scope to review the various forecasts in detail, some provided important insights for the analysis presented in this chapter.

(101) QUEST is a macroeconomic model in the New-Keynesian tradition with micro foundations derived from utility and profit maximisation by households and firms respectively, featuring frictions in goods, labour and financial markets. See Ratto M., Roeger W., In 't Veld J. (2009) , 'QUEST III: An Estimated Open-Economy DSGE Model of the Euro Area with Fiscal and Monetary Policy', Economic Modelling, 26, pp. 222-233.

One early example concerned the French statistical institute, INSEE [102]. Notwithstanding the high uncertainty and unavoidable imprecisions, it was estimated that the French economy was operating at around 65% of its normal level in the last week of March, with household consumption standing at a similar level. A similar assessment was later published by the Banque de France. [103] In Italy, Istat [104] estimated that containment measures interrupted the activity of 49% of firms and about 44% of workers. For the US, the President of the Federal Reserve Bank of St Louis stated that US real GDP might be operating at about half of its operating capacity during the lockdown period. [105]

…signalling a shock of unparalleled magnitude spurred by multiple forces…

The COVID-19 pandemic has affected the economy in a number of different ways. Once the virus started spreading in Europe, the supply side of the economy took a hit. Absenteeism due to quarantines, business closures following containment measures as well as social distancing, lowered production through declines in the number of hours worked and productivity. Still, it should be noted that containment measures are likely to prevent an even worse economic outcome, both in the short and in the medium-term. [106]

The demand side has simultaneously suffered from reduced consumer spending and investment, as both households and firms have delayed spending or lacked the opportunities to spend as a result of the confinement measures, e.g. with respect to travelling, shopping or social activities. Uncertainty about the progress of the disease and the policies implemented to stop its spread have lead to higher precautionary savings and a 'wait and see' attitude amplified by income losses incurred by reduced working times and/or due to the loss of jobs. Wealth effects are also at play through a global decline in asset prices.

As a result of suppressed demand, there is a chance that supply could be further impaired by companies going bankrupt, as liquidity constraints evolve into solvency issues. The reduction in cash flows thus constitutes an additional and significant macroeconomic risk. Business linkages across firms and workers may break down causing additional damages to productive capacity. Additional demand reduction could follow with rising unemployment and lower incomes, trapping the economy in a deeper and longer-lasting slump. All these uncertainties warrant the scenario-based approach adopted in this chapter.

Given the worldwide scale of the pandemic, the European economy will also suffer from reduced external demand and from disruptions to international supply chains. The observed fall in commodity prices, particularly for oil, can be seen as a positive supply shock to the European economy but its growth impulse is at least partially undone by the fall in external demand for European products.

…visible in the growth decomposition of this forecast.

According to the spring forecast, the COVID-19 pandemic is set to trigger a contraction of about 7 ¾% in the GDP of the euro area in 2020 and to leave scars even in 2021, when GDP rises but remains below its 2019 level. A model-based decomposition [107] of the growth forecast brings to light the narrative behind both the fall in activity in 2020 and the partial recovery in 2021. The results of the decomposition are summarised in Graph I.3.1.

As previewed above, the fall in domestic demand is the main force driving the forecast for output in the euro area deep into recessionary territory in 2020. The lack of spending opportunities that is

[102] See INSEE (2020). 'Conjoncture in France 2020'. March. Sources included direct feedback from companies and professional federations and data on electricity consumption, rail transport and statistics on bankcard transactions.

[103] See Banque de France (2020). 'Update on business conditions in France at the end of March 2020'.

[104] See Istat (2020). 'Covid-19 impact on the Italian economy: preliminary analyses'. *Monthly Report*. March.

[105] Bullard, J. (2020). 'Expected U.S. Macroeconomic Performance during the Pandemic Adjustment Period'. March.

[106] Based on the experience of the 1918 flu pandemic in the US, recent research finds that cities that intervened earlier and more aggressively did not perform worse and, if anything, grew faster after the pandemic was over. See Correia, S., Luck, S., Verner, E. (2020). 'Pandemics depress the economy, public health interventions do not: evidence from the 1918 flu.' SSRN, April.

[107] The Global Multi-Country (GM) DSGE model has been developed by DG ECFIN and the Joint Research Centre of the European Commission. A detailed description of the GM model can be found in: Albonico, A., L. Calès, R. Cardani, O. Croitorov, F. Di Dio, F. Ferroni, M. Giovannini, S. Hohberger, B. Pataracchia, F. Pericoli, P. Pfeiffer, R. Raciborski, M. Ratto, W. Roeger and L. Vogel (2019). 'The Global Multi-Country Model (GM): an Estimated DSGE Model for the Euro Area Countries'. ECFIN Discussion Paper No. 102. European Commission.

associated with the containment measures forces households to cut spending, while elevated uncertainty increases precautionary savings. The effect of higher savings is strong enough to account for almost half of the projected decline in euro area real GDP growth this year. The increase in savings, however, is seen as mostly temporary. If containment measures start to be lifted as assumed from the second quarter on, consumers are expected to gradually resume their spending patterns, and thus lead to a gradual but incomplete retreat of the negative shock from household savings.

By contrast, financial constraints and the impact of uncertainty on firms' investment plans are seen as having a more persistent dampening effect. This is reflected in the drag on domestic demand brought about by risk premium shocks, reflecting weak investment spending. In the short term, liquidity-squeezed firms are likely to strongly defer investment, even if policies aimed at relieving cash flow shortages are being implemented.

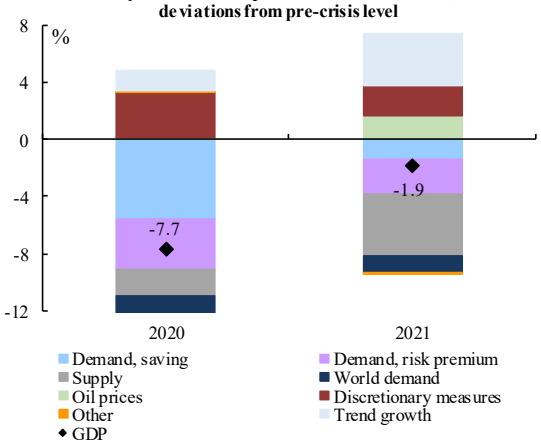
Despite large negative demand shocks, wages and prices are forecast to adjust only gradually, weighing on firms' balance sheets. Furthermore, the broad-based recession and associated supply chain disruptions and labour hoarding also have a damaging effect on productivity. These negative supply-side factors reduce production levels beyond the reduction induced by the demand contraction alone. While consumption demand is expected to pick up once containment measures are lifted, supply-side disruptions are expected to be more persistent, dampening output growth also in 2021. The more lasting effect on the productivity of investment can be traced to prolonged disruptions to value chains, which are more acute in sectors of the economy specialised in the production of capital goods.

As the global economy enters into a synchronised recession, the chances of the euro area exporting its way out of the crisis are impaired. This is reflected in the extremely negative performance of euro area exports this year. Exports of tourism, in particular, but also of manufactured products are set to suffer significantly. As the global economy and international trade are forecast to recover incompletely in 2021, this drag on the economy is unlikely to vanish even if exports pick up. Stronger support from low oil prices should find its way to help the recovery at home, however.

The policy response, beyond the working of automatic stabilisers embedded in the tax system and social transfers, is key in mitigating the depth of the recession and avoiding an even stronger hit to the economy's fabric. According to the forecast, temporary discretionary fiscal measures offset about a quarter of the impact of negative shocks to growth in 2020. Their effect largely fades in 2021, as they are unwound. Furthermore, government guarantees to company credit lines are likely to cushion investment from an even deeper fall, thereby reducing the downside contribution from risk premium shocks. Also, the same can be said about recent ECB monetary policy actions which are likely to prove effective in avoiding more severe demand shocks.

Taken together, after a sharp contraction in 2020, the euro area economy is forecast to settle at around 2% below its pre-pandemic level in 2021, on average. The sluggish recovery of investment explains a large part of this gap. Renewed consumer confidence, low oil prices, and continued policy support are of paramount importance in lifting the economy throughout the recovery period.

Graph I.3.1: **Decomposition of euro area GDP, deviations from pre-crisis level**



3.1.2. A QUEST-based scenario analysis

A scenario analysis was sketched…

The COVID-19 pandemic has led to a massive exogenous economic shock without recent historical precedent and as such is difficult to capture with standard economic models. As a result, one has to rely on a set of assumptions to tailor the simulations and benchmark the different shocks at play. This also allows for a transparent discussion. For this purpose, three scenarios are sketched to offer a more informed reading of this

Table I.3.1:
Assumptions for the simulated scenarios

	Scenario I 'Baseline'	Scenario II 'Longer lasting'	Scenario III '2nd wave'
Duration of containment measures[1]	6 weeks	10 weeks	12 weeks
Sectoral demand shock[2]	4%	9%	8%
Uncertainty[3]	200 bps.	400 bps.	200 bps.
Tourism activity[4]	-50%	-50%	-50%
Precautionary savings[5]	moderate	severe	moderate for longer
Liquidity shortages[6]	high	very high	high for longer
Extended distancing for vulnerable groups[7]	yes	yes	yes
Automatic stabilizers	yes	yes	yes
Discretionary fiscal policy[8]	2.8%	2.8%	2.8%
Liquidity support[9]	26½%	26½%	26½%

(1) In scenario III, the 12 weeks of containment are not consecutive; (2) first-round reduction, measured as a per cent of GDP in 2020; (3) rise in risk premia, basis points (bps.), which in both scenario I and II peaks in Q2 and in scenario III in both Q2 and Q4; (4) reduction in tourism-related exports in Q3 and Q4; (5) in scenario I, 50% of households' increase precautionary savings, with this impact doubled in scenario II, and extended into Q4 in scenario III; (6) proxied by a fall in investment equivalent to 2/3 of the contraction in firms' gross operating surplus through higher risk premia; (7) accounting for a higher demand falls due to prolonged confinment in 2020-H2; (8) per cent of GDP, total discretionary fiscal policy support is assumed to be 3¼% of GDP, increased public spending on health care is assumed to a positive demand shock in this simulation; (9) per cent of GDP, guarantees offset around half of the fallout from liquidity constraints.

impact assessment, as well as its sensitivity to changed assumptions. The first scenario, named 'baseline', served as an anchor to the Spring Economic Forecast. In it, a six-week strict lockdown period was taken as a benchmark. The remaining two scenarios give light to less benign assumptions, either on a more prolonged confinement period and stronger impact ('longer lasting'); or a resurgence of the pandemic in the second half of 2020 ('second wave') necessitating additional confinement measures later in the year. In the following analysis, these assumptions are presented in more detail, with a particular focus on the 'baseline' scenario. An overview can be found in Table I.3.1.

This scenario analysis is based on simulations using DG ECFIN's QUEST model. The model includes the four largest EU Member States (DE, ES, FR, IT), the rest of the euro area, China, and the rest of the world and is based on quarterly data. Both trade and financial linkages connect all countries and regions. (108)

… based on a number of assumptions…

As mentioned before, the distinction between supply and demand forces is difficult in practice, and even more so under the current circumstances. Still, the first assumption, presented in Table I.3.1, defines the supply shock. This relates to the impact of the lockdown on the *workforce* following absenteeism, closedowns of offices, factories and schools, as remote working cannot be generalised. In the 'baseline' scenario, it is assumed that 40% of the *workforce* is in some way unable to carry out most of its work activities for six weeks on average. In the absence of sufficient information on the sectoral breakdown of such work restrictions, this supply shock is evenly distributed across sectors. As mentioned before, in the remaining scenarios a more adverse duration is taken into account.

The second assumption defines the demand shock through changes in *consumption expenditures* on a sector-by-sector basis. For instance, the assumed first-round falls are largest for spending on arts, entertainment and recreation (about ¾ reduction in value added during 2020-Q2) and the smallest for electricity and gas expenditure (about -10%). On aggregate, the 'baseline' scenario factors in a fall of almost 4% in consumer spending as a share of GDP in the first quarter of the year, followed by a fall of close to 14% in the second (or 4%, on average during the year). These are amplified by second round effects, which lead to an even sharper contraction of consumer spending.

Taken together, this set of assumptions about the supply and demand shocks accounts for an adverse effect on activity of almost 10% in the first quarter. In the second quarter, the negative impact is 25%, equivalent to a loss of about half of all activity during the six weeks of lockdown assumed. (109)

(108) Pfeiffer, P., Roeger, W. and in 't Veld, J., (2020), 'The COVID19-pandemic in the EU: Macroeconomic transmission and economic policy response', ECFIN Discussion Paper (forthcoming).

Table I.3.2:
Growth deviation from non-pandemic baseline in 2020

pps.	**Scenario I** 'Baseline'	**Scenario II** 'Longer lasting'	**Scenario III** '2nd wave'
GDP	-8	-15½	-10½
Private consumption	-10½	-18¾	-13
Investment	-20½	-53	-28¾
Employment	-3	-7	-4½
Impact of discretionary fiscal policy support[1]	4¾	6¼	5

(1) On top of automatic stabilisers. Includes discretionary fiscal measures and liquidity support measures.

Additionally, higher *uncertainty* is modelled through an assumption of increased risk aversion among investors and lenders. A stylised increase in investment risk premia is assumed. In size, this increase is close to what was recorded at the height of the Global Financial Crisis.

These three shocks are amplified by *liquidity* constraints, which are assumed to force firms to reduce investment by around half of the estimated fall in their gross operating surplus ('financial accelerator'). Finally, households are expected to see a rise in their *precautionary savings,* thus further reducing their spending.

Two extra assumptions are added to the simulations. First, transport, hospitality and entertainment as well as cultural activities endure a longer lasting hit as they are assumed to be affected by containment measures for longer, but also as lower confidence and income losses are expected to deter non-essential travel. It is therefore assumed that *tourism* activity is still reduced by 50% in the second half of 2020. Second, while containment measures are assumed to be lifted in the second half of the year, the *elderly* (those over 65 years of age) and *vulnerable groups* are assumed to remain subject to more stringent social distancing rules and thus see their demand shortfalls extended into the third and fourth quarters of 2020.

In all scenarios, the role of *automatic stabilisers* (e.g. falling tax revenues and rising unemployment benefits) is taken into account. On top of it, the analysis also offers insights into the role of *discretionary fiscal policies* and *liquidity support*, the latter helping to dampen the more adverse effects from firms' cash flow shortages.

All these assumptions are applied to all countries covered in the model, except for China, where the economic forecast published in chapter 2 is instead used. Given their historically low level, the euro area monetary authority is assumed to be more constrained in using its interest rate policy. In contrast, in the remaining regions, more policy space is assumed to be available and to offer greater stabilisation.

…shedding light on the hit to the economy…

An overview of the results from each scenario is presented in Table I.3.2.

The *baseline* scenario foretells a large drop in output in 2020 followed by a strong, but incomplete, recovery. While the economy's production potential is expected to remain largely unaffected, as policies are assumed to be effective in preventing damage to the capital stock and in limiting a substantial rise in persistent unemployment; a swift return to the pre-crisis output level level is hampered by ongoing partial containment measures in the second half of 2020 and a continued shortfall in demand. While the model baseline scenario was used as an anchor for the spring forecast, the country-by-country forecasts presented in the country chapter and the statistical annex capture country specificities and offers more granularity.

Excluding policy measures beyond the normal workings of automatic stabilisers, GDP growth would be expected to take a hit in the baseline scenario of about -12 pps. in 2020, compared to a situation without the pandemic. The largest negative effect stems from demand shortfalls, which account for about half of the hit. Liquidity constraints also play an important role, contributing to about one quarter of the decline.

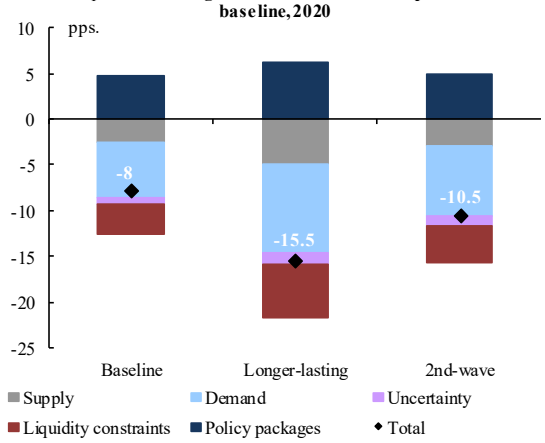
(109) For a related approach, see Jonung, L. and Roeger, W. (2006), 'The macroeconomic effects of a pandemic in Europe – A model-based assessment', European Commission, Economic Papers N° 251.

...and pointing to the virtuous role of timely policy action.

To mitigate the depth of the economic recession and to sustain public welfare, governments have already announced or adopted comprehensive economic packages, which have been complemented by EU support and significant easing from monetary authorities. The fiscal measures announced by Member States consist of discretionary polices with a direct impact on the budget, as well as liquidity measures without direct budgetary impact. Examples include targeted tax relief policies, short-time work schemes and lending guarantees for banks. These measures should help cushion employment and income losses, prevent a complete reversal of investment plans as well as limit widespread bankruptcies.

According to the model results, the policy measures [110] announced and or adopted by the EU and its Member States up to the cut-off date of the forecast mitigate about one third of the fall in activity, but cannot prevent a severe recession this year. The positive impact on GDP growth is estimated at more than 4 ¾ pps., around half of it from the increase in both national and EU transfers, government consumption and investment; and the remainder from liquidity support measures.

Graph I.3.2: **GDP growth deviation from non-pandemic baseline, 2020**

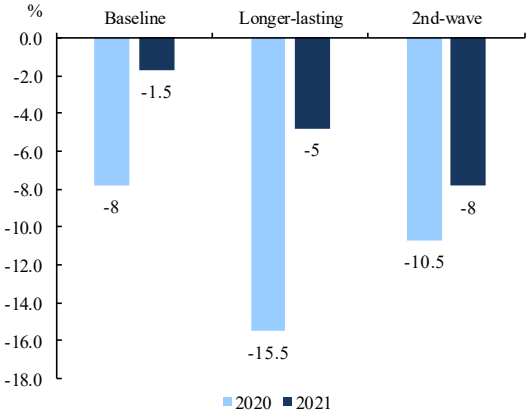


[110] At the national level, liquidity support amounts to approximately 22% of GDP, and discretionary measures of about 2½ % of GDP (excluding increased expenditure on health care), mostly as spending increases (incl. transfers) and less as tax relief measures. EU budgetary support is estimated to amount to around 0.5% of GDP, while EU liquidity measures add around 4½% of GDP (without liquidity measures by the ECB). Public guarantees are assumed to offset about half of the amplification coming from liquidity constraints.

Another important insight concerns the impact of the crisis on the labour market. Importantly, in the absence of discretionary policy action, the baseline scenario previews a 6 pps. loss in employment growth (compared to a non-pandemic scenario). However, this loss is expected to be halved by the positive impulse from government measures.

Overall, including policy packages, the 'baseline' scenario is consistent with GDP growth decreasing by about -8 pps. in 2020 and recovering by around 6 pps. in 2021 compared to a non-pandemic scenario. Yet, despite the high growth rate reported in 2021, GDP level remains below its pre-crisis growth path by about 1 ½%.

Graph I.3.3: **Output loss, GDP level deviation from non-pandemic baseline**



As expected, the two alternative scenarios are gloomier. Should more extended lockdowns be required and result in higher uncertainty and more severe and long-lasting liquidity shortages, the fall in economic activity in 2020, compared to a non-pandemic scenario would be estimated to range from between -15 1/2% and -10 ½%, under the 'longer lasting' and 'second wave' scenarios, respectively. In these scenarios, the already unprecedented severity of the recession is aggravated and the economy remains further below its pre-crisis level next year.

3.1.3. Alternative modelling approaches

The tightening of financial conditions and uncertainty more generally may be the most pervasive forces hindering the economy's restarting and post-crisis recovery.

Due to geopolitical concerns and moves towards more protectionist trade policy initiatives, the role of uncertainty in shaping household and company spending decisions has been discussed frequently

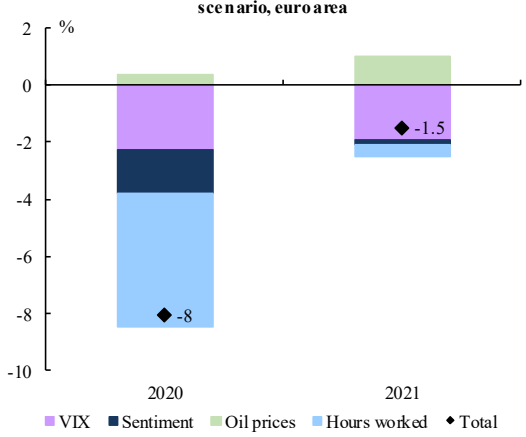
in recent years. But by many measures [111] the spike in uncertainty witnessed in recent months exceeds its highest level in the global financial crisis.

To highlight this particular channel and grasp the magnitude of the impact of uncertainty on economic activity, the COVID-19 induced rise in the volatility index VIX [112] since the start of the year is fed to a Bayesian Vector Autoregression (BVAR) model. [113] [114] Financial data such as the VIX are available at a daily frequency and therefore reflect the speed at which recent events unfolded better than official output measures that are of much lower frequency and available only with a delay. The uncertainty and financial shock is augmented with the latest readings of economic sentiment and oil prices. [115]

The results, ultimately derived from historical relations between the variables in the model, highlight how negative, protracted and persistent the impact of the selected shocks can be. Even without the direct hit to demand from the shutdown, the euro area economy would be expected to see a recession of a magnitude similar to that experienced in 2009. While the recession would be concentrated in the second and third quarters of 2020, a swift recovery would not be on the cards and the level of GDP would remain depressed still in 2021 (see Graph I.3.4). [116]

The most salient feature of the measures introduced to contain the pandemic are the stringent restrictions to business operations and labour mobility. In a next step, the simulation is therefore further conditioned on the same reduction in working hours as assumed in the QUEST-based 'baseline' scenario. As a reference, this is equivalent to a fall in total hours worked of about 10% in the first half of 2020, assumed to revert subsequently in the third and fourth quarter of this year.

Graph I.3.4: **GDP deviation from non-pandemic scenario, euro area**



All in all, compared to a no-pandemic scenario, both the uncertainty shocks and the supply disruptions would suffice to push the euro area economy to its deepest recession on record. While the policy-driven confinement measures impacting the labour supply can be expected to shape the profile of economic activity this year, drags from uncertainty will persist well into 2021.

While these BVAR simulations highlight only selected transmission channels, their results are of a similar order of magnitude to the QUEST baseline for the uncertainty and supply channels.

In a second crosscheck of the baseline, the effect of social distancing and temporary business closures on economic activity is assessed from a different angle. The previous analysis is complemented with the assessment of the impact of demand shortfall due to confinement measures across sectors [117] and countries. These effects are best analysed in the input-output framework as the economic fabric is highly intertwined and shocks propagate between sectors and countries both upstream and downstream following value and supply chain linkages. For that purpose, the Trade-SCAN model [118] is used to illustrate the impact of

[111] Baker, S., Bloom, N., Davis, S., Terry, S. (2020). 'COVID-induced economic uncertainty and its consequences'. VoxEU.org.

[112] Implied volatility (over the next month) on the S&P500 index, available on a daily basis.

[113] Simulations performed in the ECB's BEAR toolbox. See Dieppe, A. Legrand, R., and B. van Roye (2016). 'The BEAR toolbox'. ECB *Working Paper* 1934.

[114] The model includes the VIX, CPB world trade in goods, euro area GDP, gross fixed capital formation, total hours worked, unemployment rate, economic sentiment, oil prices, the HICP and the 3-month EURIBOR.

[115] All conditioned variables are set equal to the actual level in Q1 and to 10-day average of the most recent available data points in Q2.

[116] The contribution of each variable is computed by conditioning the model sequentially by each of the variables displayed in the graph. As a result, this contribution is best interpreted as a 'surprise' compared to what would be the model's median estimation.

[117] NACE breakdown of 45 sectors across 38 countries (Euro area, non-Euro area, Brazil, Canada, China, Switzerland, India, Japan, Russia, Turkey, United Kingdom and United States) and a Rest of the World region.

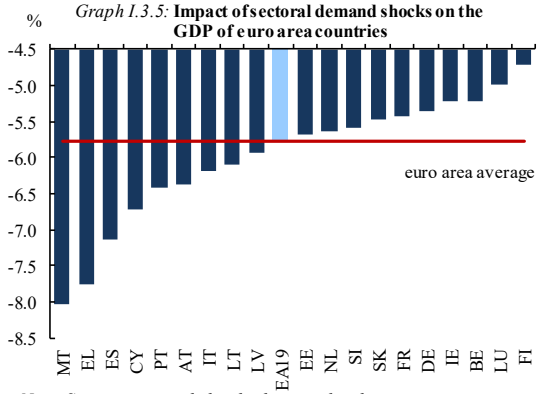
[118] Trade-SCAN is a multi-country input-output model toolbox developed by the European Commission's Joint Research Centre based on the OECD inter-country input-output (ICIO) tables, gathering input-output linkages for 64 countries and 36 sectors as recorded in 2015. For the

shocks to final demand on the European economy taking into account the spillovers across sectors and economies, both within and outside the euro area.

For this purpose the set of uniform and simultaneous shocks to sectoral demand analogous to those assumed in the QUEST model was applied to both the EU and rest of the world. The shocks, affecting both consumption and investment, amount to roughly 5% and yield significant GDP losses across all EU Member States, with an average contraction in the euro area of about -5 ¾%. Output losses range from around -5% in Finland to -8% in Malta and Greece. Given that the demand shortfall was assumed to be particularly severe in tourism, and reflecting the fact that input-output spillovers are very significant in this sector, it is no surprise that countries with the highest exposure to this sector appear to be the most impacted (see Graph I.3.5). The Graph also confirms a high degree of propagation of demand shocks across sectors and countries, with the final effect on output significantly higher than the 'static' effect of a direct hit to sectoral final demand.

Taken together, and examined without any policy responses, the uncertainty and hours-worked shocks simulated with the BVAR model, together with the demand shortfall and its spillovers worked through input-output tables, signal the possibility of double-digit GDP contractions in the euro area in 2020.

Graph I.3.5: **Impact of sectoral demand shocks on the GDP of euro area countries**



Note: Static impact including both sectoral and cross-country spillovers. Initial demand shock of about 5%, on average, equivalent to that assumed in the QUEST simulation.

methodology, see: Arto, I., Dietzenbacher, E. and J.M. Rueda-Cantuche (2019). 'Measuring bilateral trade in value added terms'. EUR 29751 EN, Publications Office of the European Union, Luxembourg.

3.1.4. Closing remarks

This chapter aims to shed light on the multifaceted uncertainty surrounding the outlook for the European economy. By putting forward and highlighting the variety of channels through which the pandemic is impacting private spending, and businesses operations, it strives to offer a benchmark and provide references against which incoming information will be checked. These scenarios have worked as goalposts in guiding this Spring Economic Forecast.

The variety of estimation strategies, the number of assumptions taken, and the large magnitude of the fallout are all testament of the uncertainty surrounding any point estimates at this point in time. Key assumptions included the dynamics of the pandemic (broadly under control, no further exponential growth); the related containment measures (strict lockdowns to be gradually lifted; only targeted containment measures in the second half of 2020); and the effectiveness of policy measures to protect the economic tissue (no widespread bankruptcies, no mass unemployment, no financial crisis).

Overall, the euro area economy is likely to experience a severe recession this year. Government measures and EU support are shown to be instrumental in cushioning the blow and paving the way for a strong rebound. Once the confinement is relaxed, activity should recover swiftly, but remaining restrictions (e.g. in tourism, recreational services), high uncertainty and a shortfall of demand due to increased precautionary savings are likely to restrain the strength on the recovery. The economy is not expected to return to its pre-crisis level in 2021.