Global and European setting

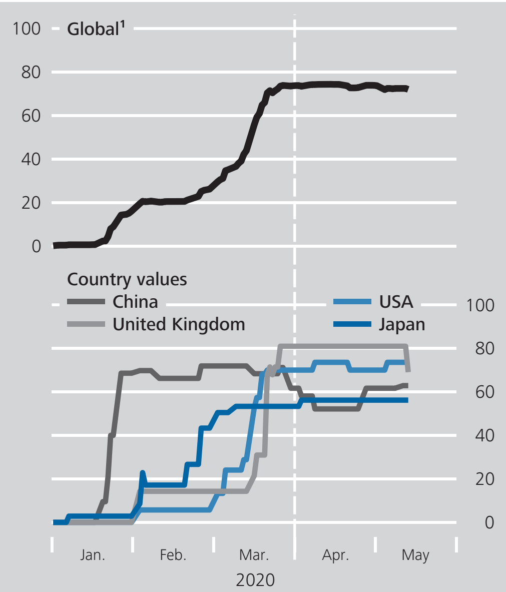
World economic developments

World economy in deep recession

Within just a few weeks, the rapid spread of the novel coronavirus has plunged the world economy into a deep recession. In particular, the far-reaching measures imposed in many places to contain the spread of the virus have weighed heavily on economic activity. In China, where the pandemic originated, economic life largely came to a standstill in the first half of February 2020. After restrictions were eased in March, some parts of the economy returned to normal. Nevertheless, quarterly gross domestic product (GDP) figures for the first quarter are showing a collapse of historical proportions. Similar developments are becoming evident elsewhere – with a certain time lag. Looking at the euro area, real GDP had already fallen sharply in the first quarter. Aggregate output shrank considerably in the United Kingdom and the United States as well, while the contraction evident for Japan will be only slightly milder. However, the main impact of the massive tightening of containment measures in many places over the course of March is not likely to be reflected in the GDP results until the second quarter. The same will also hold for most emerging market economies, which in some cases are suffering from the additional burden of worsened financing terms and the steep drop in commodity prices.

Stringency of government containment measures*

Index values, daily data



Sources: Oxford COVID-19 Government Response Tracker, IMF and Bundesbank calculations. * According to the Oxford COVID-19 Government Response Tracker. A value of 0 denotes no response, while 100 indicates the most stringent containment measures possible. **1** Aggregation of stringency indices for individual countries, weighted by each country's percentage share of global GDP based on market exchange rates.

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Services sector particularly affected

Surveys of purchasing managers confirm the considerable disruption to economic activity. To wit, under the impact of the sharp contraction in China, the global Purchasing Managers' Index in February fell back below the expansion threshold for the first time since the global financial and economic crisis. Despite initial signs of delays in cross-border production chains, the assessment of the situation in the industrial countries initially deteriorated only slightly.[1] However, as COVID-19 spread globally, the downturn picked up momentum here, too. Countries that were quick to impose extensive containment measures took the greatest hit.[2] The services sector, which is typically more resilient during normal economic downturns, was particularly affected. As of late, however, it was precisely the tourism and recreation industry which was suffering under travel restrictions, contact bans and business

1 Details of the Purchasing Managers' Index for global manufacturing indicate such problems, with the delivery times sub-component plummeting between January and March 2020.
2 In this vein, the survey data in April deteriorated drastically for India, Italy, France and Spain. On a monthly average – measured in terms of an index to assess the stringency of government response measures developed at the University of Oxford – these countries deployed the most stringent measures. By contrast, in Japan and the United States, which implemented less stringent intervention measures, business activity was more robust. For a description of the index, see Hale et al. (2020).

closures.[3] Overall, the Purchasing Managers' Index for services dropped in April to by far its lowest level since the survey was introduced in 1998.

First restrictions eased but return to normal not likely any time soon

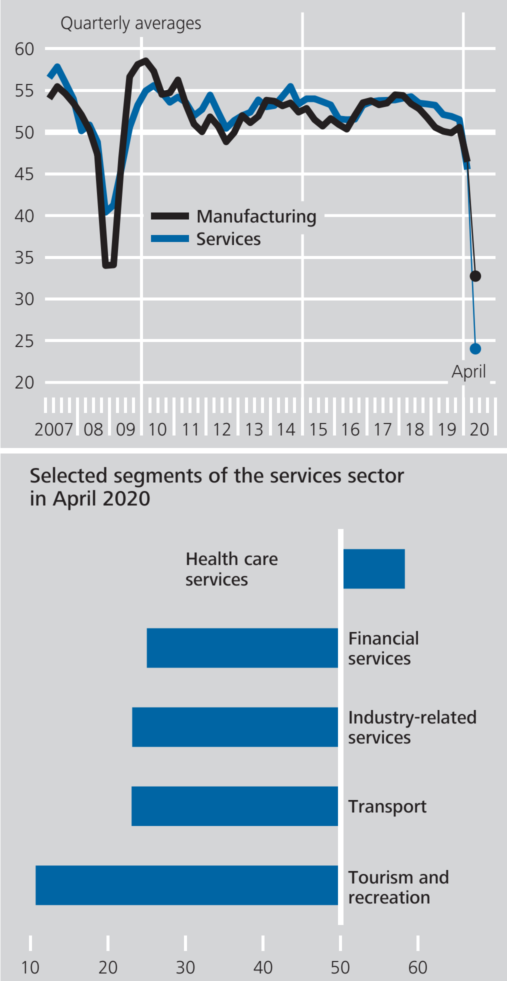
Since the end of April, the first restrictions were relaxed in Europe, but also the United States, meaning that activity could be gradually restarted in some sectors of the economy. Other countries are likely to follow. The world economy's path to recovery will largely depend on the pace at which rules are relaxed and on how the pandemic develops, making it highly uncertain. It is to be expected that at least some economic activities will remain subject to significant restrictions for a long time yet. Cautionary consumer restraint, as can be observed in China, is also likely to impede a swift return to normal. Finally, there is the risk that, despite broad government assistance, the recovery process will extend over a longer period due to weak corporate finances and rigidities on the labour market.[4]

IMF expecting most severe post-war economic crisis

The International Monetary Fund (IMF) appears to have been guided by similar thinking when preparing its most recent World Economic Outlook. For the current year, even despite a second-half improvement, the IMF is expecting global GDP to contract by 3% (calculated on the basis of purchasing power parity weights).[5] A slump in activity of this magnitude would be unparalleled since the end of the Second World War. Although global GDP is expected to jump by nearly 6% in the coming year, according to the current forecast, in the final quarter of 2021 it would remain some 3% behind the level that had been expected in January. In addition, even regarding this projection, the IMF sees risks as being tilted considerably to the downside, mostly directly related to the further trajectory of the pandemic. Thus, keeping containment measures in force for a protracted period or tightening them in response to a potential fresh outbreak could exacerbate the economic crisis.[6]

Sectoral Purchasing Managers' Indices for the global economy*

Index points, seasonally adjusted

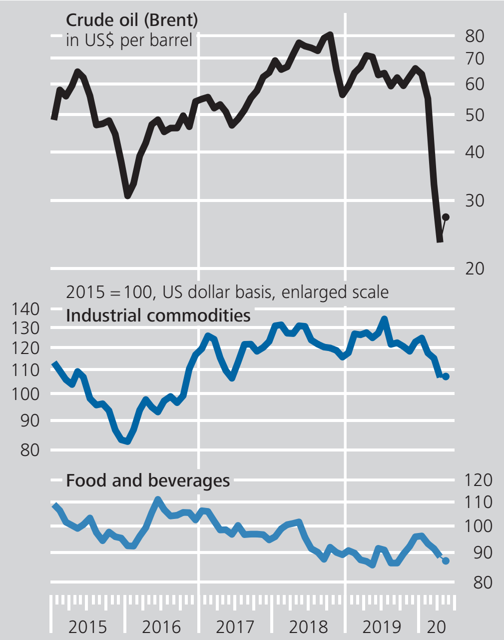


Sources: IHS Markit and JP Morgan. * Output component: values over 50 indicate month-on-month growth, and values under 50 a month-on-month decline, in business activity.
Deutsche Bundesbank

3 The purchasing managers' assessment is corroborated by other indicators of activity, with the OpenTable reservation platform recording a near-total stop to restaurant visits since the last week of March in countries where the company operates. According to information provided by flightradar24, global air traffic fell by nearly two-thirds year-on-year in April.
4 To wit, at the beginning of April the G20 countries had already adopted spending and tax reduction programmes amounting to 3½% of GDP. This sum, which does not include extensive lending programmes or capital injections, has since been topped up further and, according to IMF estimates, has already surpassed the fiscal stimulus packages adopted during the global financial and economic crisis. See International Monetary Fund (2020a).
5 See International Monetary Fund (2020b).
6 In the most unfavourable scenario put forward by the IMF, global GDP in 2021 will undershoot the level assumed in the forecasts by a further 8%. See International Monetary Fund (2020b).

World market prices for crude oil, industrial commodities and food and beverages

Monthly averages, log scale



Sources: Bloomberg Finance L.P. and HWWI. • Latest figures: average of 1 to 8 May 2020, or 1 to 14 May 2020 for crude oil.

Deutsche Bundesbank

Crude oil prices down sharply

The abrupt contraction in economic activity also left a deep mark on the international commodity markets. Crude oil prices, in particular, collapsed. This was due to a severe drop in demand for energy, partly as a result of global restrictions on movement. On the supply side, temporary expansions of production by Saudi Arabia and Russia contributed to the pressure on prices. This price war was settled in the second week of April, at least for the time being, by a renewed agreement between OPEC and its partners on extensive production cuts. Other producers also cut their production volumes given sales prices which were only rarely break-even.[7] Nevertheless, the International Energy Agency is expecting a considerable glut in crude oil markets for the first half of the year.[8] Against this background, expected inventory bottlenecks weighed additionally on prices.[9] As this report went to press, the price of a barrel of Brent crude oil stood at US$30. This was a drop of more than 60% from the previous year's level. While futures prices were significantly higher, the forward curve does not point to a complete price recovery in the near future. The prices of non-energy commodities, as measured by the HWWI price index, likewise declined in the reporting period, albeit to a much lesser extent than crude oil prices. Industrial commodities prices fell more sharply than those of food and beverages.

Upward pressure on consumer prices easing

The global economic slump dampened consumer price inflation in large areas of the world. In the industrial countries, year-on-year energy prices, driven by plunging crude oil prices, went into reverse and dipped well into negative territory in March. Even core inflation, which strips out energy and food, has fallen distinctly to 1.6% since the end of 2019, though this was also abetted by sliding prices for travel services. Headline inflation in the industrial countries shrank from 1.8% in December 2019 to 1.2% in March 2020.

Selected emerging market economies

Chinese economy first to be severely impaired by impact of virus outbreak …

In China, the country where the pandemic originated, economic activity was already severely impaired in the first quarter as a result of stringent containment measures. Real GDP collapsed by 6.8% on the year. According to the official statistics, this was the first GDP contraction since the introduction of quarterly estimates in 1992. Almost all sectors took a hit in the first quarter. Losses were particularly severe in hotel and restaurant services as well as in wholesale and retail trade. Industrial production fell by nearly 9%, mainly because the plant shutdowns on either side of Chinese New Year, which were originally scheduled to end in late

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7 Particularly in the US states of Texas, New Mexico and Louisiana, almost two-thirds of the surveyed exploring and production firms reported prices per barrel of WTI of US$24 or lower as being insufficient to cover operating costs. See Federal Reserve Bank of Dallas (2020).
8 See International Energy Agency (2020).
9 Futures contracts for a barrel of WTI were even occasionally trading in negative territory just before their expiry date for May delivery.

January, were extended for at least a week by the authorities in large areas of the country. In addition, labour shortages and the absence of supplies made it difficult to subsequently ramp up production. Large-scale losses of production and logistical problems also led to a sharp decline in goods exports, thereby interrupting cross-border supply chains in parts.

… and still far removed from normal at the current end, too

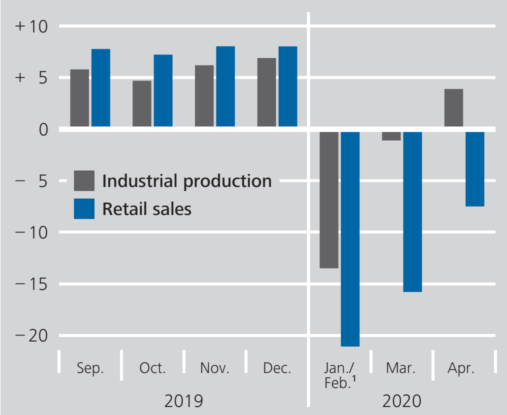
In the meantime, China has considerably eased its containment measures. Nevertheless, the Chinese economy is still far from its normal state. Many services sectors are suffering from consumer restraint. Retail sales were down in April 2020 by as much as 7½% on the year. Supply-side disruptions in industry have now largely been rectified, and exports accordingly rebounded considerably in March and April, but given the massive slump in global economic activity, this recovery is likely to be only temporary.[10] The marked deterioration in the labour market is another sign that the domestic economy will not see a rapid improvement. Not least against this backdrop, it is surprising that the fiscal and monetary policy stance has so far been only moderately expansionary.

India's informal sector hit particularly hard

India was hit only relatively late by the pandemic. Nonetheless, its government already imposed a strict lockdown on 24 March 2020. Given the relatively informal structure of India's economy, the lockdown hit broad segments of the population especially hard. Many day labourers are no longer receiving income. Activity in the services sector appears to have almost ground to a temporary halt. This is the picture being conveyed at any rate by the corresponding Purchasing Managers' Index, which collapsed in April.[11] All in all, there is reason to fear a severe contraction in economic output in the current quarter. The government initiated a rescue package for the needy with a volume amounting to 0.8% of GDP and is currently preparing an even larger economic stimulus programme. The Reserve Bank of India adopted a raft of liquidity and easing measures, including slashing its policy rate by 75 basis points to 4.4%.

China: economic indicators

Year-on-year percentage change



Source: NBS. **1** No data for individual months available owing to the Chinese New Year festival.
Deutsche Bundesbank

Brazil: comparatively lenient containment measures

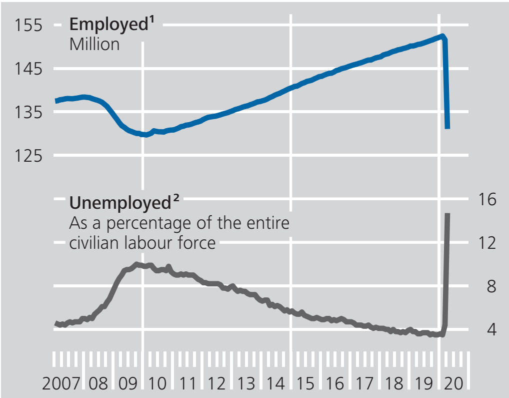
The pandemic arrived in Brazil, too, at a relatively late stage. Moreover, the government has thus far resisted taking far-reaching nationwide containment measures; only some of its constituent states imposed restrictions on public life beginning in March 2020. These measures are already beginning to leave visible footprints in the macroeconomic indicators, with both retail sales and industrial production in March falling distinctly short of their level over the same period a year ago. Real GDP is likely to have already shrunk in the first quarter of the year. Economic output is set to contract sharply in the current quarter. The tightening of external financing conditions is weighing additionally on the Brazilian economy. Yields on sovereign debt have picked up distinctly, and the real has depreciated against the US dollar by just over 30% since the beginning of the year. The central bank has undertaken multiple policy rate cuts; the rate now stands at 3%.

The Russian economy is currently being buffeted both by the direct impact of the pandemic and by the collapse in oil prices. In order

10 In that vein, according to the Markit Purchasing Managers' Index for manufacturing, the component for new export orders in April dropped to its lowest level since the end of 2008.
11 At a paltry 5.4 points, India's index is at the bottom of the standings in a cross-country comparison.

US labour market indicators

Seasonally adjusted, monthly data



Source: Bureau of Labor Statistics. **1** According to the business survey; excluding agriculture. **2** According to the household survey.

Deutsche Bundesbank

Economic output in Russia severely impaired since March

to contain the contagion, the government ordered employees to stay home from work between the end of March 2020 and the middle of May. Massive aggregate losses are therefore on the cards for the second quarter. In order to cushion the impact of the economic slump, the government has initiated an assistance programme for businesses and households amounting to around 3% of GDP. To prop up the government budget, which, owing to high oil price-related revenue losses, is facing severe distress, the government can also access the reserves of the National Welfare Fund, which as at end-April amounted to just shy of 10% of GDP. Since March, the central bank has reduced the policy rate by 50 basis points to 5.5%.

United States

GDP plummeted in first quarter

In the United States, as from mid-March 2020 the authorities began to respond to skyrocketing infection and death counts. The initially locally confined containment measures were already enough to weigh quite considerably on economic life. According to an initial estimate, even despite a solid start to the year, first-quarter GDP was down by 1¼% on the quarter. Services, which are usually relatively impervious to volatility, suffered particularly under the curfews and business closures. Although spending on consumer durables and business investment was likewise reduced significantly, and US products found fewer buyers globally, the losses in this area have to date been lower than during the financial and economic crisis. Households' consumer spending on food and some drugstore products was even up considerably.[12] Imports, on the other hand, plunged sharply. Against the background of international travel warnings and bans, it was especially spending on overseas tourism which fell. The interruption of supplies from China owing to factory closures in that country in the first-quarter months appears to have been a factor as well.[13]

Crisis having severe impact on labour market

As the containment measures were tightened and regionally expanded, the economic crisis intensified at the beginning of the second quarter. This was reflected especially on the labour market, where, in April alone, just under 21 million workers were laid off. This meant that it took only a single month for nearly as many jobs to be lost as had been created during the preceding boom, which had lasted more than a decade. The unemployment rate accordingly rose to 14.7% in April, the highest figure since measurement began in 1948.[14] The government responded to early signs of a drastic deterioration in the labour market situation by significantly expanding unemployment benefits as a temporary measure. One-off pay-

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12 Investment in private housing construction, which typically already begins to flag in the run-up to economic slowdowns, even picked up sharply. At the end of the quarter, though, new construction was likewise constrained severely by the containment measures.
13 US imports of goods from China were down in the first quarter by one-fifth from the previous quarter's level in terms of value. Imports from other countries even saw a slight uptick.
14 The historically unparalleled rise in the number of first-time applications for unemployment assistance had suggested an even more dramatic increase in unemployment. Indeed, many workers unable to show up for work owing to business closures were erroneously listed as remaining employed. Absent such erroneous classifications, the unemployment rate would probably have risen to around 20%. In addition, many recipients of benefits were, by their own account, not available for the labour market in April, pushing the employment rate down considerably. Additional family responsibilities owing to the closure of schools and childcare facilities may have been an important factor here.

ments were made as well. Other measures envisage tax relief, lending programmes and direct financial aid to enterprises. All in all, according to estimates by the Congressional Budget Office, the federal budget deficit could balloon this year to just under 18% of GDP.[15] The US Federal Reserve responded to the crisis by cutting its policy rate to nearly zero and launching extensive liquidity programmes. All these actions are set to support the economic recovery process set in motion by the latest easing of containment measures.

Japan

Less restrictive containment measures but underlying trend dynamics previously already weak

For a long while, Japan's experience of the coronavirus pandemic tended to be mild by international standards. Against this background, the government felt less compelled than other countries to take drastic containment measures, instead, in particular, appealing to the public to engage in social distancing. However, schools were closed throughout the country and large events – including the Olympic Games scheduled for this summer – cancelled. Real GDP is likely to have gone down once again in the first quarter already, not least owing to persistent consumer restraint. Prior to the outbreak of the pandemic, a slight recovery had actually been expected following the severe damper in the final quarter of 2019 caused by a VAT hike. In April, following a rapid rise in infection and death counts, the Japanese government saw the need to respond by declaring a national emergency. The attendant restrictions are set to have weighed additionally on economic activity. In the same month, Japan's cabinet approved an extensive economic stimulus package in order to counteract recessionary tendencies. In addition, the Bank of Japan intensified its already expansionary monetary policy stance.

United Kingdom

Deep recession expected

The United Kingdom is one of the countries that has been most severely affected by the pandemic around the globe thus far. The UK government responded with wide-ranging containment measures from the end of March 2020, including contact bans and closures of schools and businesses. Due to the higher level of uncertainty caused by the virus's spread, economic output had already fallen sharply in this month. Monthly gross value added contracted by just under 6%. The hotel and restaurant sectors and other services sectors such as trade, education, art, entertainment and recreation were particularly hard hit. Manufacturing output also shrank markedly. According to an initial estimate, there was a quarter-on-quarter decline of 2% in real GDP in the first quarter after seasonal adjustment. The second quarter is likely to see a much sharper dip in activity, given the prolonged restrictions.[16] The Composite Purchasing Managers' Index, which had already seen an enormous decline in March, fell to an all-time low in April. The situation on the labour market also deteriorated considerably within a very short period of time.[17] UK government data show that applications for the government's new scheme to continue the payment of wages and salaries were made for 7.5 million employees, and new welfare applications have risen by 2.5 million since mid-March. In response to the crisis, the government launched a sizeable package of fiscal measures.[18] The Bank of England succes-

15 See Congressional Budget Office (2020).
16 In its scenario analysis, the Office for Budget Responsibility considers the possibility of a dramatic decline in GDP of 35% in the second quarter compared with the first quarter. The unemployment rate could reportedly soar to 10%. See Office for Budget Responsibility (2020).
17 This is also indicated by business surveys conducted by the UK's Office for National Statistics (ONS). According to these surveys, over 40% of the surveyed businesses continuing to trade stated that they had laid off employees temporarily between 23 March and 5 April 2020 due to the coronavirus pandemic, while only 7% of companies had recruited new staff. Another survey conducted between 6 and 19 April 2020 produced similar results. See Office for National Statistics (2020).
18 Credit lines provided as part of the Corporate Financing Facility and the Coronavirus Business Interruption Loan Scheme account for a significant proportion of these. Furthermore, additional funds were made available for the National Health Service (NHS) and for direct support to businesses and households.

sively lowered its base rate by 65 basis points to 0.1% and announced bond purchases.

Poland

Policy rate cuts and economic stimulus package to limit recession

Once the pandemic had also reached Poland at the beginning of March, the government immediately enacted a series of measures, which were subsequently extended and tightened. The impact of this could be observed in certain services sectors in particular. For example, retail sales in March fell by 13% on the previous month after seasonal adjustment. Industrial output decreased by 7.3% during the same period, with passenger car production experiencing a major setback. This will have been partly due to European manufacturers closing their plants. Overall, first-quarter real GDP shrank by 0.5% on the quarter. An even stronger decline in GDP is expected for the second quarter. This is suggested by the fact that sentiment in the industrial and services sectors fell to an all-time low in April. Against this backdrop, the Polish central bank lowered its policy rate by a total of 100 basis points to 0.5%, despite the recent very strong rise in consumer prices by 4.6% on the year. Furthermore, it adopted measures to strengthen liquidity in the banking system and a purchase programme for government bonds. These measures accompany the Polish government's comprehensive economic stimulus package.

Macroeconomic trends in the euro area

Sharp decline in economic activity towards end of Q1

The spread of the novel coronavirus in Europe and the measures taken to contain it had a very negative impact on economic activity in the euro area towards the end of the first quarter of 2020. In the quarter as a whole, real GDP fell by a seasonally adjusted 3.8% on the preceding period according to Eurostat's flash estimate. Taking into account the fact that the restrictions on economic life largely came into effect in the second half of March, economic output may have decreased by around one-fifth within a short space of time (for more information on this, see the box on p. 21).

Spread of coronavirus sparked drastic measures

The pandemic spread across the euro area from mid-February; first in northern Italy and then in other regions. Besides Italy, Spain and France were also severely affected. As a result, these three large euro area countries felt compelled to take drastic measures in light of the rapidly increasing case numbers and the subsequent strain on their health sectors. These measures included curfews, the closure of businesses, restaurants and hotels, cultural institutions, sports facilities, schools and universities as well as restrictions on international transport and travel. In some cases, non-essential production activities were even shut down temporarily. Public life largely came to a standstill in these countries. Other Member States followed suit with similarly far-reaching, albeit often less strict interventions as a precaution. All in all, governments placed heavy restrictions on economic activity in the euro area over the course of March, with most Member States once more tightening measures considerably around the middle of the month in particular.[19]

Private precautions also important

Aside from the official order to close businesses, the precautions taken by households and companies were also important. Even before the official restrictions came into force, many households had already begun to reduce their social contact and forgo mobility. Travel and visits to restaurants were limited in particular.[20] Businesses also made efforts to prevent infections.

The various containment and precautionary measures taken restricted economic activity in

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19 This picture is confirmed by the Oxford COVID-19 Government Response Tracker.
20 For example, according to data provided by the booking platform OpenTable, some countries already saw a trend decline in visits to restaurants in the first half of March compared to the same period in 2019. The figures for air traffic according to flightradar24 also indicate a downward trend in the number of daily flight departures from major European airports at the beginning of March.

Only limited mitigation possible for major, direct restrictions

a variety of ways. Business closures and bans on events immediately brought about reductions in activity. Furthermore, businesses felt compelled to pause production in order to adapt their operations to stricter hygiene requirements. The closure of education facilities tended to narrow the labour supply as parents had to reduce their working hours because of a lack of childcare. Some of these losses could be covered by changes in the way that services were provided. For instance, restaurants increasingly offered takeaway services. Teleworking and flexible working time models replaced set hours in offices. Face-to-face meetings were replaced by digital communication, and in-store shopping by mail order purchases. These alternatives were not available everywhere, however, and were only able to reduce the fallout slightly. In some cases, they were probably also accompanied by productivity losses. Finally, there were disruptions in supply chains on account of the border closures.

Indirect effects

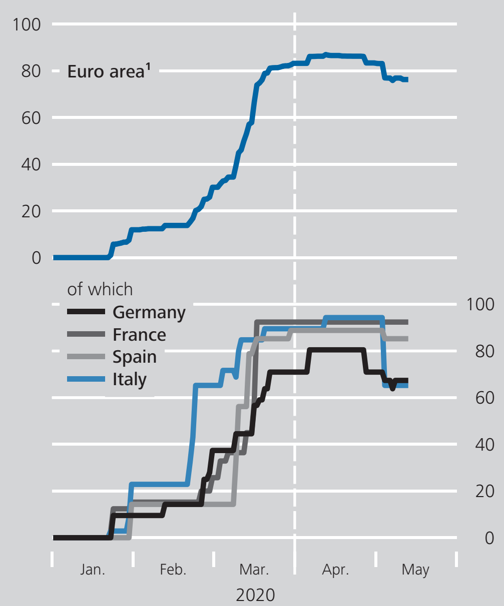
There were further indirect effects in addition to these direct effects. Demand from households and enterprises is likely to have suffered due to the expectation of income losses and a lack of planning certainty. According to European Commission surveys, households' expectations regarding their financial situation in April deteriorated drastically, and they clearly refrained from planning larger purchases. Enterprises acted similarly with their recruitment and investment plans.

Services particularly hard hit

Broken down by economic sector, some services sectors were immediately hit hardest by the restrictions. This is especially true for retail outlets, the hotel and catering trade and personal services. The heavier losses in services set the current economic downturn apart from previous cyclical downturns in which the economic slowdown was typically seen chiefly in the manufacturing sector. While mail order trade and postal and courier services may have benefited from the situation, this did not come close to offsetting the revenue losses in other sectors. Subsequently, the Purchasing Managers' Index for the services sector had already reached its lowest position on record in March. In April it declined strongly again.

Stringency of government containment measures in the euro area*

Index values, daily data



Sources: Oxford COVID-19 Government Response Tracker, Eurostat and Bundesbank calculations. * According to the Oxford COVID-19 Government Response Tracker. A value of 0 denotes no response, while 100 indicates the most stringent containment measures possible. **1** Stringency index for 16 euro area Member States, weighted by nominal GDP.

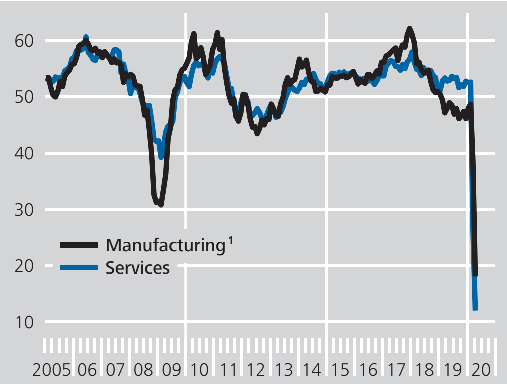
Deutsche Bundesbank

Losses in manufacturing considerable, too

Manufacturing suffered greatly as well, although the official restrictions imposed on the sector were less strict in most countries. Industrial output in March fell by 11% on the previous month after seasonal adjustment. A host of sectors recorded significant declines, including the manufacture of machinery and equipment and the textile and clothing industry. The production of motor vehicles saw a particularly steep drop. Across Europe, production has been suspended in a great many factories and ancillary industries since mid-March following disruptions in cross-border supply chains and a lack of sales opportunities given the closure of motor vehicle traders. By contrast, the production of food recorded comparatively small losses in March, whilst output even increased in the pharmaceutical industry. The further decline in the production component of the Pur-

Sectoral Purchasing Managers' Indices for the euro area*

Index values, seasonally adjusted, monthly data



Source: IHS Markit. * Values over 50 indicate period-on-period growth in business activity. 1 Output component.
Deutsche Bundesbank

chasing Managers' Index for manufacturing in April indicates that in this sector, too, the downturn during the month of March was even sharper than the monthly average. This is also suggested by the steep drop in capacity utilisation from 81% in January to 70% in April.

Construction activity down as well

In addition, substantial restrictions were imposed on construction. Consequently, the Purchasing Managers' Index for construction in April fell to a new all-time low after having already declined significantly in the previous month. Nevertheless, output in the construction sector probably was not scaled back as sharply as in services and industry. This was probably because the rules in certain euro area countries were less restrictive for this sector. Moreover, the real estate markets and construction activity in several countries had been very buoyant beforehand. Despite considerable losses, the order books still remained distinctly above their long-term average in April according to European Commission surveys.

Massive declines also apparent on expenditure side

The economic crisis triggered by the pandemic can also be seen very clearly in expenditure-side indicators. Retail sales fell by 11% from February to March, although food trade and mail orders increased. However, this was not nearly enough to offset the steep declines in other sectors. Overall, the first quarter was down 3% on the previous quarter. The number of new motor vehicle registrations decreased by just under 60% in March, and fell by one-third in the first quarter.[21] The reduction in construction activity had a direct dampening effect on the volume of investment. Exports and imports were also down markedly due to production restrictions in some countries as well as weaker demand, and to more difficult transport conditions and the lack of tourism activity.

Massive GDP losses in the large Member States

Although no euro area country was spared the effects of the COVID-19 pandemic, so far the economic slump has hit France, Italy and Spain particularly hard.[22] In France, seasonally adjusted real GDP dropped by almost 6% in the first quarter according to an initial official estimate. The decline was spread broadly across sectors, although the government containment measures primarily affected certain services. The fact that employees could be given sick leave in order to care for children and whenever the possibility of working from home was not available is likely to have been a factor. This reduced the available labour force markedly. According to a survey by the French labour ministry, over 10% of employees in the private sector were absent due to illness at the end of March.[23] In Italy, while preventative measures were taken early, they were initially limited to certain regions only. These measures were subsequently extended to the whole country, and production in sectors deemed to be non-essential was suspended for a time by official decree. As a consequence, economic output contracted by almost 5% on the previous quarter according to a provisional estimate by the Italian statistical office. However, the extremely sharp drop in industrial output in March suggests that the decline could have been even

21 The roadmap to gradually reduce the CO_2 limits for motor vehicles in the EU announced at the beginning of the year is likely to have played a role too, however.
22 It should be noted that the work of statistical offices has similarly been impaired by the pandemic, and statistical reports and surveys did not have the usual coverage in all cases. The official figures on GDP growth in the first quarter are likely to be of an even more provisional nature than is otherwise the case.
23 See Dares (2020).

The monthly development of aggregate output in the euro area

At the end of the first quarter, aggregate economic activity in the euro area experienced a sudden and unexpected collapse as a result of the COVID-19 pandemic and the measures taken to contain it. Key monthly economic indicators, such as industrial output and real retail sales, fell sharply in March. The extent to which aggregate output dropped in that month is, of course, a matter of discussion. Most statistical offices, including Eurostat, publish figures for real gross domestic product (GDP) on a quarterly basis only.

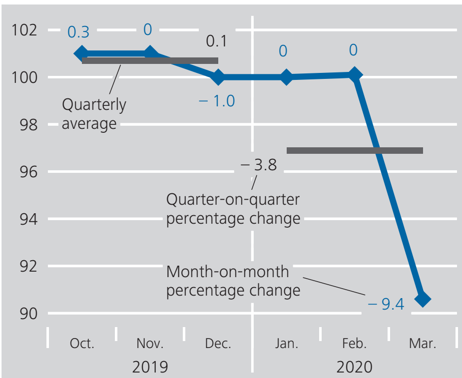
In order to obtain a picture of monthly GDP development, we can apply a statistical estimation procedure that breaks down the quarterly GDP series into monthly data by means of other indicator variables.[1] In this context, industrial output, price-adjusted retail sales, and goods exports[2] are used as indicator variables.

The estimate shows that, following weak final figures for 2019, the euro area economy was unable to recover in the first two months of 2020, with economic activity remaining essentially unchanged in both January and February. Sentiment indicators suggested that there would be an upturn in the subsequent months. According to model outputs, economic output instead plummeted by more than 9% in March.[3] This sequence of monthly growth rates corresponds to the GDP change rate of -3.8% for the first quarter as reported by Eurostat.

When interpreting the estimation results, it should be noted that the measures taken to contain the pandemic were tightened significantly as of mid-March. There is thus good reason to assume that economic activity was impacted particularly severely in the second half of the month. From this, it can be inferred that economic output in the euro area could have fallen by around one-fifth by the end of March. It is likely to have remained largely at this level through April, as the first, tentative relaxations of containment measures were only implemented towards the end of that month.

Estimated monthly path for aggregate output in the euro area

December 2019 = 100, price and seasonally adjusted



Source: Bundesbank calculations on the basis of Eurostat data.
Deutsche Bundesbank

1 Specifically, the unobserved monthly real GDP series is regressed on monthly indicator variables within a state space model. In addition, the quarterly GDP series is linked to the monthly series to be estimated. This ensures that the quarterly averages of the estimated monthly series correspond to the observed quarterly GDP. This regression-based interpolation procedure can be traced back to Chow and Lin (1971) and was used, amongst others, by Bernanke et al. (1997) as well as Mönch and Uhlig (2005).
2 For this purpose, the export values according to the external trade statistics were adjusted using the price index for foreign sales of industrial goods.
3 This was by far the largest drop in monthly GDP ever recorded. The previous sharpest monthly decline based on estimation results – in January 2009 during the global financial and economic crisis – only amounted to just under 2%.

greater. In Spain, GDP also fell by just over 5% in the first quarter. Services in trade, transport and hotels and catering in particular, but also in the art and entertainment sectors, suffered severe losses due to administrative restrictions and the absence of the important tourism business. Non-essential production plants were ordered to close temporarily at the end of March. Very sharp GDP declines were also observed in Belgium, Portugal and Slovakia. Real GDP narrowed less strongly in Austria and the Netherlands, and in some euro area countries activity even remained largely unchanged on average over the quarter (e.g. in Lithuania and Finland).

Labour market situation deteriorated

The crisis has left its first traces on the labour markets as well. The number of persons employed fell by 0.2% in the first quarter according to Eurostat's flash estimate. The measures taken to protect jobs, including the instrument of government-assisted short-time working, have probably mitigated the effects of the economic slump on employment. It is likely that recruitment has been cut drastically, however. The recent strong reduction in labour shortages in manufacturing and the services sector, according to survey results, also suggests this. The number of unemployed persons, which had fallen up to February in seasonally adjusted terms, rose by 197,000 in March, and the standardised unemployment rate went up slightly to 7.4%. As a quarterly average, it was still marginally below the level of the preceding quarter. However, it should be noted that this statistic excludes unemployed persons not actively looking for a job and that in many cases job-seeking was not possible once the strict containment measures had been introduced. The unemployment rate therefore probably does not provide an adequate picture of the current labour market situation.

Slowdown in euro area consumer price inflation at start of year

Euro area consumer price inflation weakened slightly in the first quarter after seasonal adjustment. This was primarily attributable to the lower energy prices as a result of declining crude oil prices. However, the rise in services prices also slowed, whereas food prices increased more strongly. Inflationary pressures remained moderate for non-energy industrial goods. Overall, the inflation rate, measured by the annual increase in the Harmonised Index of Consumer Prices (HICP), rose slightly to 1.1% in the first quarter. By contrast, the rate excluding energy and food went down by 0.1 percentage point to 1.1% as well.

Pandemic impairs inflation measurement and obstructs identification of inflation trend

The restrictions associated with the pandemic have increasingly hampered the measurement of inflation since March. Precautionary measures taken when deploying price collectors and the closure of businesses led to gaps in the price data, and online surveys were only able to partially plug these gaps. For this reason, prices were increasingly extrapolated in a variety of ways.[24] While this affected just 5% of the price observations underlying the HICP in March (mostly in Italy), this percentage increased to 35% in April.[25] The price observations for non-energy industrial goods were worst hit at 45%, followed by the observations for services.

Further slowdown in inflationary pressures in April, mainly due to energy

Amidst a correspondingly higher level of uncertainty, the Eurostat flash estimate for the HICP in April suggests that inflation is flagging. Annual HICP inflation fell from 0.7% to 0.4% in March, which was chiefly attributable to the further steep decline in energy prices. This more than offset the surge in unprocessed food prices. Core inflation excluding energy and food decreased slightly to 0.9%. The euro area inflation rate is likely to remain low in the next few months due to the energy component.

24 According to recommendations from Eurostat (2020a), missing data can be replaced, for example, by the preceding month's index figure or by the index figures of a comparable aggregate for which there are still price observations. For goods with strongly seasonal prices, for instance, the previous year's monthly inflation rates can be employed for extrapolation purposes.
25 The share of extrapolated prices varies significantly between Member States, from just 5% in Lithuania and Finland, to 50% in France and 70% in Slovakia. See Eurostat (2020b).

Expectation of another strong GDP decline in current quarter, yet improvement for rest of year

The restrictions on economic activity introduced in the euro area countries in March initially remained mostly in force in April. Only towards the end of the month were some restrictions eased, with other relaxations in the pipeline. Because the restrictions have now been in place in the second quarter for longer than in the first quarter, this alone will cause the euro area to see another significant contraction in GDP on a quarterly average despite the gradual easing of restrictions and resultant improvement in economic conditions. On top of this, there are clear signs that external demand for products from the euro area has suffered. According to European Commission surveys, the assessment of orders from abroad deteriorated dramatically in April.

Government support measures expected to counteract negative second round effects

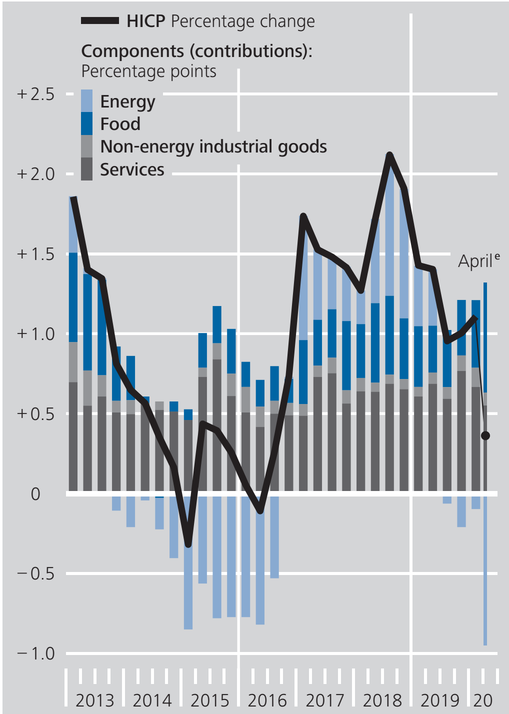
Nevertheless, there is a justified hope for a recovery if restrictions can be gradually lifted, and enterprises and households better adapt to the changed circumstances. There may also be some catch-up effects. This is all expected to be seen in the GDP growth rates of the second half of the year. It should also be taken into account that euro area countries took extensive support measures to which the European level is also set to contribute. The measures mainly aim at protecting jobs and keeping businesses afloat. They include, in particular, liquidity assistance and loan guarantees for enterprises, tax and social contribution deferrals, and expanded short-time working regulations and income substitution schemes for the self-employed. These measures should help to prevent the economic crisis from becoming entrenched due to second round effects.

Requirements for a sustainable and comprehensive recovery

A sustainable, comprehensive recovery of the euro area's economy presupposes, however, that the pandemic will be contained not only in the euro area but also around the globe and that confidence will return as a result. Without a medical solution in the form of a vaccine or treatment, the recovery process could end up being a drawn-out affair. Until that point, various government measures will remain in effect, and households and enterprises will continue to proceed with caution. This means that certain activities will not be undertaken in full for a time, such as holiday and business travel, and that the existing capacities in some sectors, such as transport and hotels and catering, will no longer be able to be fully utilised on account of stricter hygiene requirements. External demand, too, will probably see only a gradual recovery. Ultimately, second round effects resulting from households' income losses and a poorer financial situation for enterprises cannot be completely avoided either, despite the extensive measures that governments have taken.[26]

Consumer prices in the euro area by component

Year-on-year change



Sources: Eurostat and ECB.
Deutsche Bundesbank

26 This makes it very difficult to estimate the duration and intensity of the current economic crisis. Economists from the European Central Bank have therefore drafted several scenarios on the potential future course of economy activity, which differ from each other primarily in terms of how the pandemic and the containment measures pan out. See also European Central Bank (2020).

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