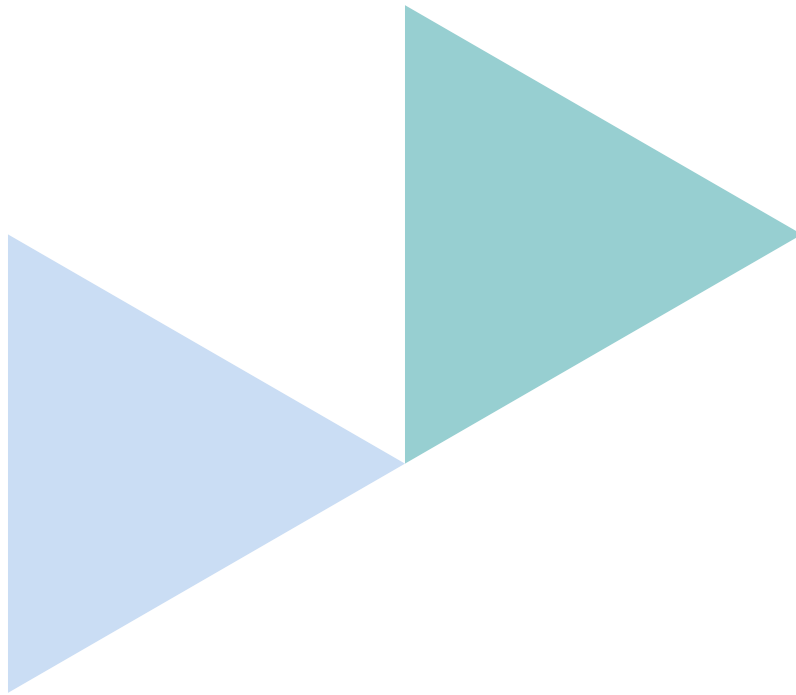# Special analysis

Sector-specific effects of the Covid-19 crisis between now and the end of 2022:
Estimating the "ground lost" with respect to pre-crisis trends

Alexis Loublier

The impact of Covid-19 on GDP in the medium and long term is a subject of great debate among economists. The unusual nature of this crisis has rendered familiar analytical frameworks redundant, and makes it difficult to estimate potential GDP using traditional tools. Nonetheless, the crisis has been defined by significant disparities between sectors which look likely to endure, at least partially, during the recovery. This study presents a simulation for the activity lost by different (sub-) sectors of the economy between now and the end of 2022, calculating the "ground lost" during this period, in terms of overall activity, compared with a scenario extrapolated from pre-crisis trends.

Our analysis divides activities into four main categories:

• Some sectors have been hit particularly hard by the continuing public health restrictions, and could also suffer in the long term from a downturn in demand or potential constraints on their production capacities. These include activities which depend heavily on international tourism and business travel. The sectors affected include aeronautical equipment, air transport, hotels and culture.

• Some other sectors are feeling the lasting effects of the crisis, but to a lesser extent since the collapse in demand has been less spectacular. These sectors include forms of transport other than air travel, motor vehicles and restaurants.

• Other sectors, however, have been less severely affected by the public health restrictions or have been able to more easily adapt their production methods. In the long term, there is no reason why they should endure a serious downturn in activity. These sectors include retail, food and energy.

• Finally, some sectors should be scarcely affected by the crisis in the long term, for example agriculture and construction. Some might even benefit, such as ICT and telecommunications, buoyed by the widespread adoption of remote working and the acceleration of the digital transformation. Chemical and pharmaceutical activities have also flourished.

The impact estimates are calculated with reference to a pre-crisis trend scenario in which GDP would have grown by 1.2% per annum between 2020 and 2022, a scenario which is broken down sector-by-sector on the basis of the trends specific to each activity before the crisis. Our simulated forecasts group the various sectors of activity into four groups on the basis of their resilience, and are partly derived from the results of the DARES Acemo-Covid survey.

When aggregated, these estimates indicate an overall GDP loss of 1.6 points by the end of 2022, in relation to the pre-crisis GDP trend. More than half of this loss should come from sectors which represent only around 15% of total value added. This estimate of the "lost ground" by the economy has been calculated for illustrative purposes only, given the high levels of uncertainty and lack of perspective. It is possible, for example, that those sectors which have been hit hardest by the crisis might bounce back more vigorously than predicted in our model, between the end of 2022 or in the longer term, which would serve to limit the ground lost. Moreover, while the sector-specific approach is well-suited to the unusual nature of this crisis and the recovery now in progress, it is less compatible with the analysis of certain important medium and long-term effects. In particular, the productivity trend for the economy as a whole as it moves past the crisis is shrouded in significant uncertainty, with upside risks such as an acceleration in the adoption of digital technologies, and downside risks such as a weakness of human resources as a result of school closures and the difficulties associated with distance learning. •

Sector-specific effects of the Covid-19 crisis between now and the end of 2022

1. The long-term consequences of the Covid crisis for the economy are particularly difficult to predict

Using traditional tools to estimate the impact of the Covid crisis on the long-term potential of the French economy is a particularly difficult proposition. This crisis is very specific, it is in fact unique in the history of economic recessions, with shocks impacting both supply and demand accompanied by major disparities between sectors. In these conditions, a sector-by-sector approach to estimating the lasting damage to activity levels post-Covid seems particularly germane.

1.1. Generally speaking, the tools traditionally used to estimate GDP in the long term are subject to considerable uncertainty

The concept of potential GDP is usually employed to estimate the volume of economic activity excluding short-term fluctuations. It corresponds to the maximum level of economic activity which can be achieved by an economy in the long term, i.e. without creating inflationary tension, making full use of its factors of production (capital stock, quantity of potential labour) and taking into account the overall productivity of these factors (OPF).

Estimates of potential GDP are subject to considerable uncertainty, especially when estimates are being made in real time. Unlike actual GDP, potential GDP is an unobservable variable which must instead be estimated. Various methods are commonly used, ranging from the purely statistical to techniques involving more structural modelling of the economy (for example, the use of production functions)[1]. In all cases, these methods make use of statistical smoothing techniques intended to identify the components of macroeconomics liable to fluctuate in the short term. This naturally leads them to attach too much significance to the latest available information. The resulting "end of period bias" skews the estimates of potential growth in a highly procyclical manner, and thus requires frequent revisions[2].

The uncertainty surrounding potential GDP is even greater in times of crisis, when the fluctuation of macroeconomic variables is very strong and predictions become more uncertain. The Covid-19 crisis is no exception: we witnessed an 8.0% decline in actual GDP in 2020, followed by a recovery still shrouded in great uncertainty, not least how the savings accumulated since the onset of the crisis will be used[3].

1.2. There is no historical precedent for the Covid shock

Historiquement, les récessions importantes sont généralement accompagnées d'un ralentissement du potentiel de croissance.
Historically, major recessions have generally been accompanied by a slowdown in growth potential. The IMF has demonstrated that recessions are linked to lasting GDP losses, arising largely from permanent damage to the overall productivity of factors of production[4]. Past experience also tends to suggest that financial crises usually lead to greater GDP losses than simple recessions, while the losses associated with the latter are greater than those caused by localised epidemics[5].

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1 For an introduction to the different methodologies, see for example Lequien, M. and Montaut, A. (2014), Insee, Document de travail N° G2014/09, and Guillet, X. et al (2018): 'Supply tensions and the position of the economy in the cycle', Insee Conjoncture in France report December 2018.

2 For context, potential growth for 2018-2019 has been revised downwards by 0.3 points by both the IMF and the Commission since the end of 2019, and this was well before the Covid crisis hit.

3 In spite of the uncertainty, it is nonetheless necessary to calculate a potential growth scenario for the purposes of multi-annual budgetary planning. See for example the Stability Programme for 2021-2027, published in April 2021.

4 See for example Chapter II of the World Economic Outlook for April 2021.

5 See for example Bodnar et al (July 2020): 'The impact of COVID-19 on potential output in the Euro area', ECB Economic Bulletin, Issue 7/2020 or Martin Fuentes, N. and Moder, I.(2020): 'The scarring effects of COVID-19 on the global economy', ECB Economic Bulletin, Issue 8/2020.

France's potential GDP appears to have slowed considerably since the last major crisis in 2008-2009. Potential growth was estimated at around 1.9% for the period 2000-2007, while the estimated average for the period 2020-2022 was around 1.2% before Covid hit (DG Trésor: 1.30%; IMF: 1.4%; European Commission: 1.2%; OECD: 1.3% for 2020; OFCE: 1.2%; Banque de France: approx. 1.2%[6]). bove and beyond certain factors which predate the crisis of 2008-2009 (such as the long-term trend for a slowdown in productivity), the crisis may have impeded investment, which in turn may have reduced the accumulation of capital and probably exacerbated the slowdown of productivity[7].

Nonetheless, the Covid crisis is not comparable to the shocks which have contributed to previous recessions. Strictly speaking, the Covid crisis is neither a "targeted" exogeneous shock (like a localised economic or a sharp change in oil prices, for example), nor a financial crisis, since the public health crisis has not thus far led to significant financial instability. As such, comparisons with previous crises, useful as they may be, are not sufficient when it comes to predicting the long-term consequences of the current upheaval.

1.3. The exceptional nature of the Covid crisis, with shocks impacting both supply and demand accompanied by major disparities between sectors, requires a sector-by-sector analysis of activity levels

The shock caused by the Covid-19 pandemic in 2020 was unusual in that it affected both supply and demand simultaneously[8]. The eruption of the pandemic in March 2020 les to the implementation of public health restrictions and social distancing measures. The shock thus had an impact on supply, with some businesses ordered to close, others forced to reorganise their production activities to maintain social distancing, constraints for parents obliged to look after their children while schools were closed, and disruption to certain supply chains. The shock also affected demand, due to people choosing to avoid social interactions and the general uncertainty generated by the crisis.

The shock of 2020 has also affected different sectors to wildly varying degrees. The constraints placed upon both supply and demand have directly penalised certain sectors (those sectors most dependent upon social interaction), while also indirectly affecting other sectors via propagation effects spreading through production and distribution networks[9].

If they had been merely temporary, the initial constraints placed upon supply and demand would probably not have significantly affected the potential of the economy. Once those constraints had been rapidly removed, activity could have made up for previous losses in a quasi-mechanical fashion, taking into account the efforts by governments to absorb the shock on behalf of households and businesses[10]. In this hypothetical scenario, the production capacities of the economy would simply have been temporarily "paused".

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[6] See for example: Public Finance Act 2018-32 of 22 January 2018 for the period 2018-2022; IMF (2019), World Economic Outlook, October 2019; European Commission (2019), Autumn Forecasts, October 2019; European Commission (2020), Debt Sustainability Monitor 2019, Institutional Paper 120, January 2020; OECD (2019), OECD Economic Survey – France; OFCE (2021), Economic Perspectives 2021-2022, OFCE Policy Brief 89, April 2021; and Banque de France (2019), Macroeconomic Projections for France, December 2019.

[7] See for example Bruneau, C. and P.-L. Girard (2020), «Évolution tendancielle de la productivité du travail en France», 1976-2018, Document de Travail France Stratégie n°2020-18, December 2020.

[8] See Baleyte, J. et al (2021), 'The French economy in 2020: a year of upheaval', Insee Analyses No. 64, May 2021, and Dauvin, M. & R. Sampognaro (2021), 'Le modèle «mixte»: un outil d'évaluation du choc de la COVID-19', OFCE Review, 172 (2021/2).

[9] Ibid.

[10] See for example Carnot N. (2021), 'How has the macroeconomic cost of the crisis been shared?', INSEE Blog, 28 May 2021.

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However, following the relatively swift end to the "severe" lockdown of spring 2020, the shock induced by the pandemic became a long-term prospect. The emergence of new variants and a second wave of infections in the autumn led to the introduction of further public health measures, once again weighing upon both supply and demand, and delaying the return to normality.

From a theoretical perspective, the protracted nature of the pandemic is liable to have a lasting impact on activity in certain sectors via multiple channels. Targeting certain sectors in particular, **public health restrictions** are liable to engender phenomena connected with the reorganisation of production and reallocation between sectors, or simply lead to losses for certain sectors. Furthermore, the crisis is likely to lead to **lasting changes to consumer preferences requiring adaptations to supply** in certain sectors, an effect which may be positive or negative depending on the sector. Finally, a **reduction in the production capacities** of certain sectors could be fuelled by long-term job losses, bankruptcies and under-investment.

These sectoral disparities make it necessary to evaluate the impact of the crisis on a sector-by-sector basis. The rest of our study is devoted to quantifying the sectoral heterogeneity observed in 2020-2021 (▶ **part 2**), and proposing an evaluation of its impact on aggregate GDP in the long term (▶ **part 3**).

2. The present crisis has been defined by significant disparities between sectors which are liable to have lasting consequences for aggregate GDP

In this section we present an overview of the differentials in levels of activity and capacity to bounce back in 2020-2021, branch by branch. The resulting sectoral differentiation table allows us to infer how these sectoral effects could have a more lasting effect on aggregate GDP.

The estimates contained in this study are calculated in *volumes at constant prices*, for simplicity's sake and in order to facilitate evaluations at a detailed sectoral level. As such, they may differ slightly from the estimates found elsewhere in this *Economic Outlook report* which, like the quarterly accounts, are based on *chained volumes*.

2.1. The aggregated level of activity forecast for June 2021 reflects the varying fortunes of different sectors

Across the economy as a whole, activity is currently believed to be more than 2% below its pre-crisis level. For the month of June, the activity shortfall compared with T4 2019 is estimated at –2.2% (estimated in volume terms at constant prices). The continued rebound in activity in H2 should subsequently allow the economy to almost make up for this shortfall by the end of the year.

This aggregate figure conceals considerable heterogeneity among the sectors (▶ **figures 1 and 2**). With a few exceptions, such as agriculture, all sectors saw massive downturns when the initial public health restrictions were introduced (prompting a 30% decline in total activity in April 2020), but the rebound in activity since that first lockdown has varied considerably from one sector to the next.

Some sectors have been barely affected by the crisis, while others have actually benefited (► figure 2). These sectors have already clearly exceeded their 2019 levels, and continue to enjoy sustained growth:

• This is certainly true of ICT and telecommunications (where the predicted activity level for June 2021 was 7% above the level for T4 2019), buoyed by the **widespread adoption of remote working** and, more generally, by the **acceleration of the digital transformation** brought about by the crisis;

• The same applies to chemicals and pharmaceuticals (+2.8% forecast in June), which have performed dynamically as a result of the health crisis.

Certain sectors have withstood the crisis more easily than others, and have already returned to their pre-crisis levels. They include financial services and property services.

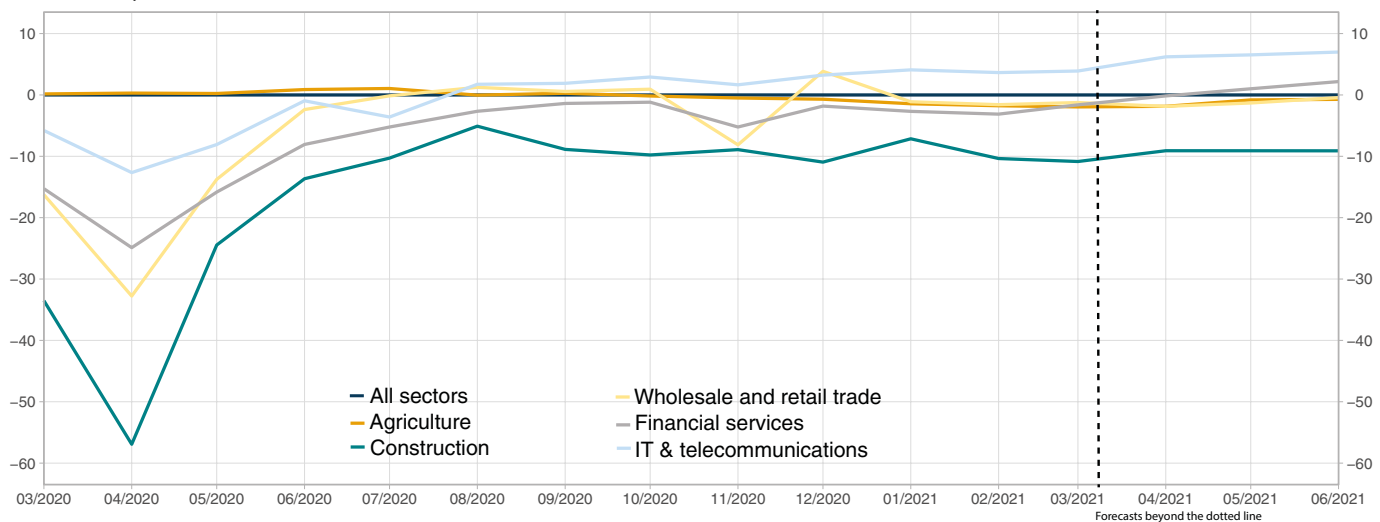### ► 1. Value added lost in the worst-affected sectors
% difference in Q4 2019
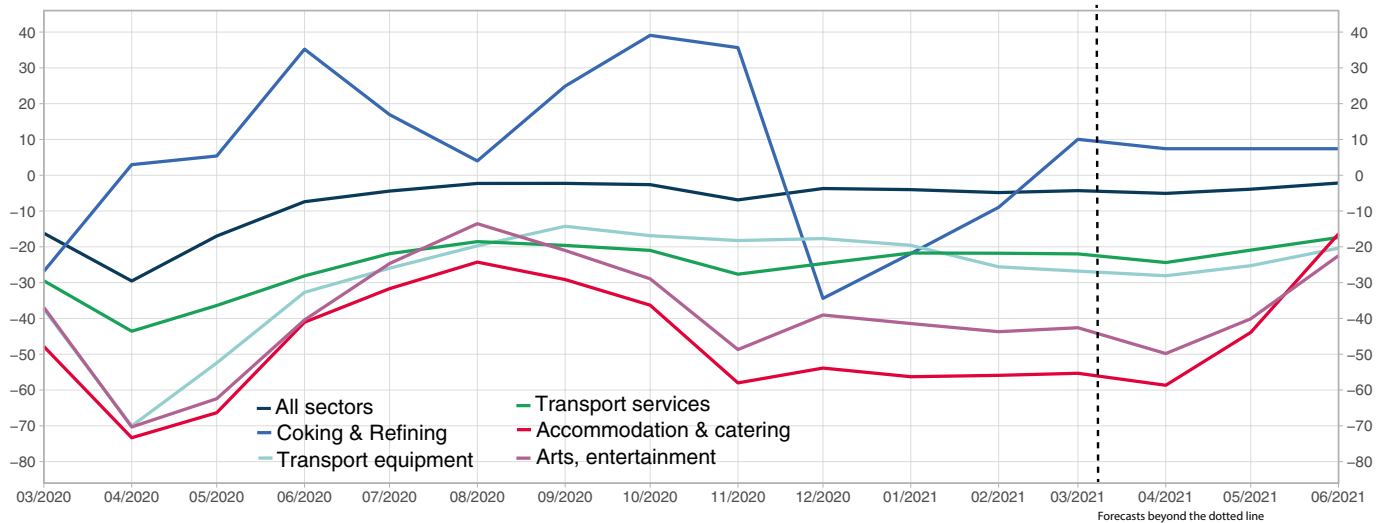
Source: Monthly estimates constructed for the purposes of analysing the economic outlook (underlying this Economic Outlook report*), volumes at constant prices*

► 2. Value added lost in the most resilient sectors
% difference in Q4 2019

Source: Monthly estimates constructed for the purposes of analysing the economic outlook (underlying this Economic Outlook report*), volumes at constant prices*

Sector-specific effects of the Covid-19 crisis between now and the end of 2022

Furthermore, some sectors which endured particularly heavy losses during the first lockdown have become more resilient in the aftermath, and are now less affected by public health restrictions:

• The construction sector, for example, is expected to be down by around 9% in June 2021 (compared with a drop-off of 60% in April 2020), and is now less affected by anti-Covid restrictions;

• The same can be said of wholesale and retail which have virtually returned to the levels seen in Q4 2019 (after a 33% fall in April 2020), particularly by adapting production processes (e.g. the rise of *click & collect*) in order to keep activity levels stable in spite of the constraints.

However, a number of sectors are still being heavily penalised by the crisis, with activity levels down by more than 10% in June 2021 compared with T4 2019 (► figure 1):

• **These are the sectors which have been hit hardest by the continued presence of health restrictions,** since not only are they more exposed to these restrictions than other sectors, they are also less able to adapt their modes of production. This is particularly true of hotels (a 26% shortfall predicted for June 2021 compared with 2019), culture (down 22% in June) and, to a lesser extent, bars, cafés and restaurants (down 13% in June).

• **Moreover, above and beyond the direct effect of the public health restrictions, some of these sectors have seen their activity compromised by a downturn in demand.** Prominent examples include aeronautical equipment (with a shortfall of 28% predicted for June 2021) and air travel (-27% in June). To a lesser extent, these factors have affected forms of transport other than air travel, which have nonetheless benefited from some of the traffic lost by air travel, and sales of motor vehicles.

• **Production capacities have been reduced by constraints affecting the supply chain** (in the motor vehicle sector for example), which may also be contributing to the slowdown in these sectors.

► 3. Predictions for value added lost in June 2021
% difference in Q4 2019
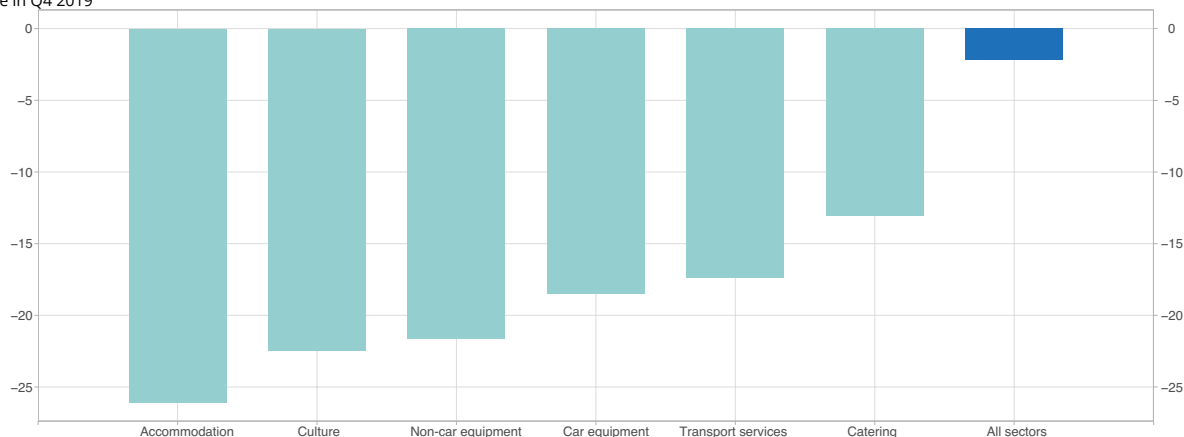
Note: these estimates for volumes at constant prices may differ slightly from the estimates found elsewhere in this Economic Outlook report, which use chained volumes.
Source: Monthly estimates constructed for the purposes of analysing the economic outlook (underlying this Economic Outlook report), volumes at constant prices

2.2. The short-term rebound in aggregate GDP is heavily dependent on the rebound of the worst-affected sectors

Those sectors which are still most affected by the crisis represent around 10% of total value added. In these sectors, the shortfall in relation to T4 2019 should still be greater than 10% in June 2021 (► **figure 3**).

In spite of their relatively small contribution to total value added, these sectors have a significant impact on the trajectory of aggregate GDP (► **figure 4**):

Almost 85% of the value added lost in June 2021 compared with 2019 can be attributed to these sectors.

Looking beyond 2021, the different rates of recovery observed thus far suggest that a degree of sectoral heterogeneity may persist. For example, although they are likely to become increasingly lenient, some public health restrictions could remain in place, particularly limits on the number of people allowed to attend events or enter certain places. Furthermore, the slowdown in demand in certain sectors, particularly those associated with long-distance travel, could become a more structural, long-term phenomenon. If any businesses were to collapse, this could have a more lasting negative impact on the production capacities of certain sectors. On the other hand, certain sectors may continue to enjoy the sort of sustained growth observed over the past year, or else grow more dynamically with the help of government support.

2.3. These sectoral disparities could also have consequences for aggregate GDP in the longer term

The combined effect of these factors, liable to have consequences for aggregate GDP in the medium term, is examined in **part 3**.

3. Assessing the "ground lost" by the end of 2022

In this section we adopt a more long-term approach, seeking to estimate the lasting consequences for economic activity of the sectoral disparities which have characterised the present crisis. The metric used for this purpose is the shortfall in activity in relation to its long-term pre-crisis trend level, not the comparison with T4 2019 which we used in Part 2. Considering the differential with 2019 gives us a clearer idea of the short-term rebound effects in play, whereas considering the differential with the long-term trend, by directly comparing activity levels with the levels we would have expected to see if the crisis had not intervened, allows us to evaluate the more lasting consequences for activity, what we might call the "ground lost" by the economy.

► 4. Breaking down the loss of value added
% difference in Q4 2019
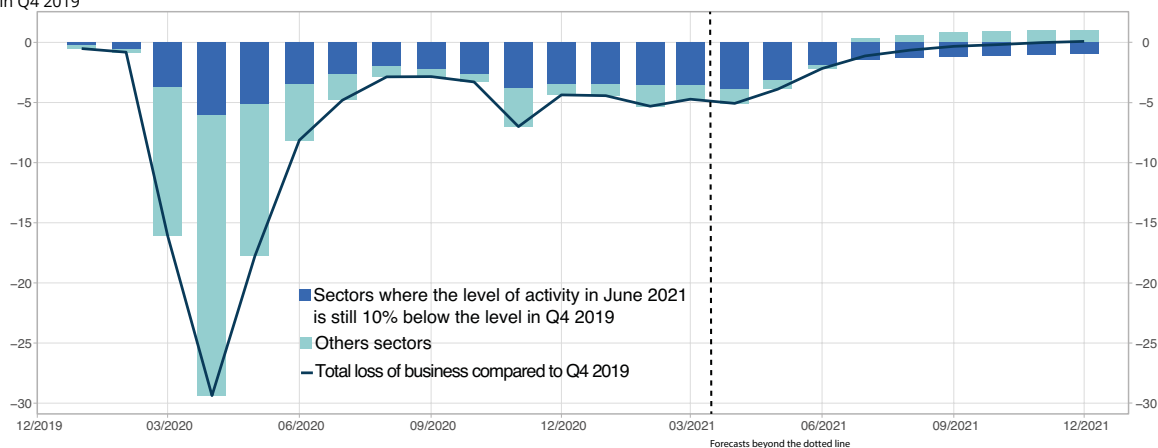
Note: these estimates for volumes at constant prices may differ slightly from the estimates found elsewhere in this Economic Outlook report, which use chained volumes.
Source: Monthly estimates constructed for the purposes of analysing the economic outlook (underlying this Economic Outlook report), volumes at constant prices

Sector-specific effects of the Covid-19 crisis between now and the end of 2022

Definition of "ground lost" by the end of 2022

We should perhaps begin by defining what we mean by the "ground lost" by the end of 2022.

The ground lost is defined as the differential in December 2022 between actual value added (in volume) and the trend or counterfactual forecasts for value added, *i.e.* the level it should have achieved if the crisis had not occurred.

This allows us to define and calculate the ground lost by the economy as a whole, and branch by branch.

Counterfactual scenarios

Our counterfactual scenario is based on a hypothetical trend for total value added to increase by 1.2% per annum in 2020, 2021 and 2022. This trend should not be mistaken for a new, INSEE-approved estimate of potential growth; it simply corresponds to the mean annual growth of total value added over the period 2012-2018. It also coincides with the mean value of the pre-crisis estimates for potential growth (**part 1.2**).

This trend is broken down branch by branch (at Level A17 of the classification of activity), extrapolating on recently-observed trends for the division of value added between the sectors.

Construction of the branch-by-branch scenarios for the period to end of 2022

The scenarios for value added up to December 2022 are constructed branch by branch in several steps. The classification of activity used for the sectoral aggregations is A17, but for certain branches calculations are made at a more detailed level of analysis (A48 or A129).

The quarterly accounts (detailed results, DR) for Q1 2021 provide the starting point for this exercise.

For the period to December 2021, value added figures for the various sectors are calibrated using the underlying forecasts which inform the *Economic Outlook report* for July 2021.

For those branches which are not expected to have returned to their 2019 levels by December 2021, the results of the Acemo-Covid survey on the prospects for a return to "normal levels" of activity are used to estimate a date at which they will match their late-2019 levels. The Acemo-Covid survey[11] poses the following question: "When do you think the economic activity of your organisation will return to its normal level?" Assuming that the "normal level" alluded to in the survey corresponds to the level recorded in late 2019, it is possible to calculate a theoretical data at which this level will be achieved. Naturally, this data is only used for those branches for which the underlying forecasts of the *Economic Outlook report* do not predict a return to normality by December 2021.

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11 Dares (2021), "Activity and employment conditions during the Covid-19 crisis," results of the April 2021 survey

Finally, in order to construct sector-specific scenarios for 2022, the resilience of the branches is assessed on a scale of 1 to 4, with the sectors in the 1st category being the least resilient (► Table 1). The purpose of dividing the branches into 4 categories based on their resilience is to mirror the sectoral differentiation table featured in Part 2, which classifies sectors on the basis of their sensitivity to public health restrictions, the demand for their output and any constraints affecting their production capacities.

We then assign a fixed estimate to each branch, reflecting the hypothesis of a more or less rapid return to trend levels of activity by December 2022. This quantification relies (i) on the differentiation and sector-specific dynamics observed in 2020-2021, (ii) where relevant, on information derived from the Acemo Covid survey, and (iii) on a degree of subjective judgement.

► Table 1. Classification of sectors based on their resilience, and stylised scenarios

in %

Classification	Sub-sector	A17 Code	Difference in Dec. 2022 compared to Q4 2019	Difference in Dec. 2022 compared to trend VA
Sectors 1	Transport equipment except automobile (CL2)	C4	–6	–10
	Air transport (H51Z)	HZ	–21	–20
	Accommodation (IZ1)	IZ	–3	–8
	Film production (J59Z, J60Z)	JZ	–1	–8
	Travel agencies (N79Z)	MN	–2	–8
	Trade fairs and exhibitions	MN	–2	–8
	Arts and entertainment (RZ0)	RU	–2	–8
Sectors 2	Transport other than air travel	HZ	–4	–3.5
	Automotive transport equipment (CL1)	C4	0	–5
	Coking refining	C2	9	–4
	Other industrial products (except pharmaceuticals and chemicals)	C5	2	–3.5
	Automobile trade and repair (GZ1)	GZ	3	–3.5
	Catering (IZ2)	IZ	0	–5
Secteors 3	Energy	DE	6	–1
	Food	C1	4	–1.5
	Electrical equipment	C3	5	–2
	Trade except automobile (GZ2, GZ3)	GZ	4	–2
	Real estate activities	LZ	4	–1.5
	Scientific activities (excluding R&D, travel agencies and exhibitions & fairs)	MN	3	–2.5
	Other services (except arts and culture)	RU	4	–1.5
Sectors 4	Agriculture	AZ	1	0
	Chemistry, pharmacy	C5	7	1.5
	Construction	FZ	5	0
	Financial activities	KZ	10	0
	R&D (M72M, M72N)	MN	6	0
	IT, telecommunications	JZ	20	1.5
	Public administration	OQ	–1	0
Total			3	–1.6

Note: the sector-specific scenarios for 2022 should not be considered as forecasts, strictly speaking, but rather as stylised scenarios illustrating the sectoral differentiation inferred from (i) the differentiation and dynamics observed in 2020-2021, (ii) some information derived from the Acemo Covid survey, and (iii) a degree of subjective judgement.
Source: author's calculations

Sector-specific effects of the Covid-19 crisis between now and the end of 2022

The sector-specific scenarios for 2022 should not be considered as forecasts, strictly speaking, but rather as stylised or illustrative scenarios for potential future developments:

• **Sectors in Cat. 1:** These sectors are presently **severely affected by public health restrictions** (sectors in which the health restrictions are particularly strict, or where adapting production methods is difficult), and may also endure **a lasting downturn in demand** or enduring constraints on their production capacities. This includes branches which are particularly dependent upon international tourism and business travel. At the end of 2022, the differential between predicted activity levels and their pre-crisis trend should stand at **over 8%**. *This category includes: aeronautical equipment, air travel, hotel, travel agencies, culture, trade fairs and salons;*

• **Sectors in Cat. 2:** These sectors should still sustain losses compared with their pre-crisis trends, but to a lesser extent than those in Sector 1 because the **decline in demand will be less significant**. At the end of 2022, the differential between predicted activity levels and their pre-crisis trend should stand at <u>around **3-5%.**</u> *This category includes: transport other than air travel, motor vehicle manufacturing and sales, restaurants, manufacture of coke, refining, certain industrial products;*

• **Sectors in Cat. 3:** Unlike Sectors 1 and 2, these sectors have had greater latitude to adapt their production methods to the Covid-induced restrictions, and should not be overly affected by a downturn in demand. At the end of 2022, the differential between predicted activity levels and their pre-crisis trend is expected to stand at <u>**around 1-2.5%, which is broadly in keeping with the decline in total activity**</u>. *This category includes: energy, food, retail, property, some services;*

• **Sectors in Cat. 4:** These are the sectors which, in theory, should be least affected by the crisis in the long term. They are expected to have **totally caught up to their pre-crisis trend level by the end of 2022, or even to have surpassed it.** *This category includes: agriculture, financial activities, construction, ICT, R&D, chemicals, pharmaceuticals.*

Total value added is thus attained by aggregating the value added figures calculated for each branch.

► 5. Monthly figures for total value added
volume at constant prices in € bn
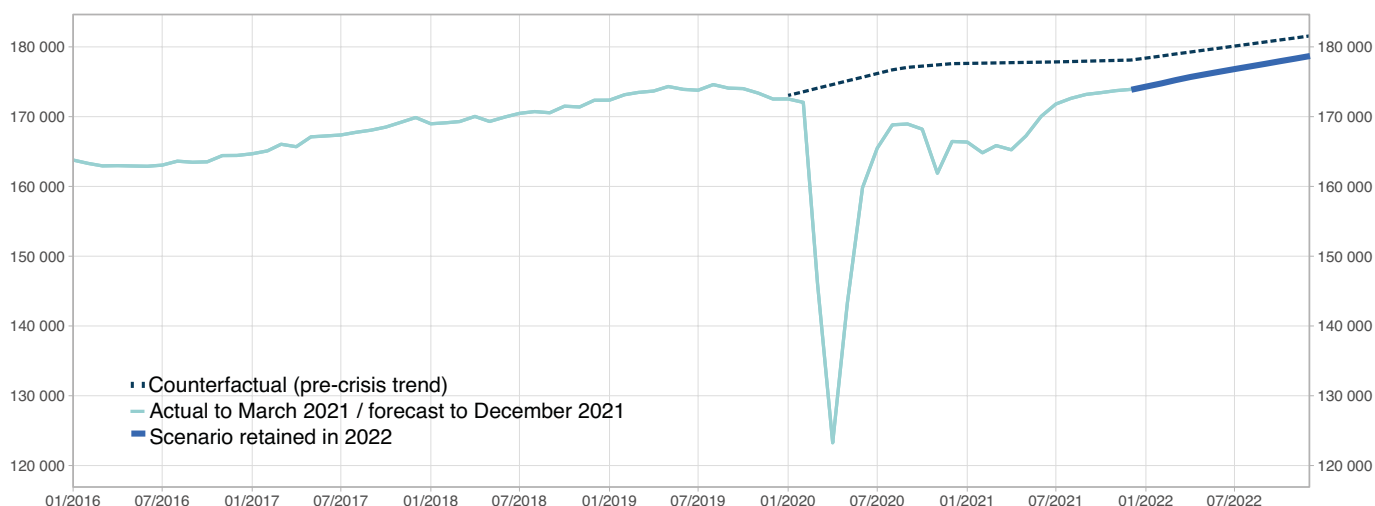
Source: Until Decembre 2021, Monthly estimates constructed for the purposes of analysing the economic outlook (underlying this Economic Outlook report), volumes at constant prices.

The data used here are calibrated with the monthly estimates constructed for the purposes of analysing the economic outlook (underlying the Quarterly Accounts for April 2021). The data series used are given in volumes at constant prices, not chained volumes, in keeping with the approach adopted in the *Economic Outlook report* for October 2020[12].

3.2. Results

The simulations indicate that the "ground lost," *i.e.* the differential between total value added and the pre-crisis trend for value added, will be equivalent to around 1.6 points by the end of 2022 (► **figure 5**). This figure is obtained by aggregating the different sectoral scenarios defined in Part 3.1. Considering the forecasts for 2021-2022, economic activity should return to its level of Q4 2019 by the end of 2021.

The sectoral heterogeneity of exposure to the crisis accounts for more than half of this lost ground (► **figure 6**). The sectors most heavily affected by the crisis (Categories 1 and 2), although they represent barely 15% of total value added, are expected to account for almost 60% of the GDP gap with pre-crisis trend levels at the end of 2022. Other sectors, *i.e.* those in Cat. 3 whose activity has seen only a modest decrease and those in Cat. 4 which are expected to regain or exceed their pre-crisis trend levels, represent just below 85% of total value added, and account for 42% of lost GDP.

There are two major lessons to be taken from these simulations:

• The heterogeneity of sectoral exposure to the crisis is likely to lead to a significant loss of GDP at the aggregate level. The exact extent of that loss will ultimately depend on the actual losses sustained by each sector, but the contribution of the losses sustained by the sectors in Categories 1 and 2,

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[12] See Marquis, J. (2020), "Sectors most affected by the lasting impacts of the health crisis are likely to represent about 9% of value added," Economic Outlook report, October 2020.

► 6. Breaking down the "ground lost," estimated at 1.6% of total value added by the end of 2022
in %
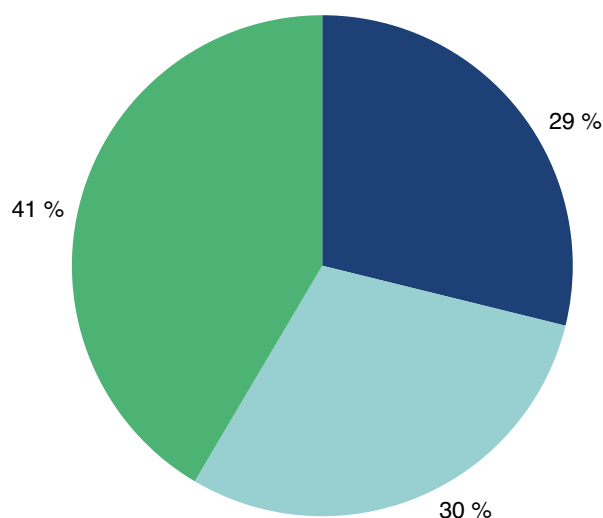
■ Sectors 1: sustained decline in demand, loss of more than 8%
■ Sectors 2: sustained decline in demand, 3-5% loss
■ Sectors 3 and 4: small drop in demand, adaptability, losses of 1-2.5% (sectors 3) and none or with gain (sectors 4)

Source: author's calculations

in relation to their pre-crisis trends, should have a significant impact at the macroeconomic level;

• **A significant loss of activity could persist beyond 2022**. The worst-affected sectors (Cats. 1 and 2) are those whose production and growth models could be threatened in the long term by the present crisis. They could thus contribute to a significant and lasting decline in economic activity, well beyond 2022. However, Categories 3 and 4 could compensate for their losses after 2022.

Of course, these simulations are subject to numerous uncertainties:

• The losses forecast for the worst-affected sectors (Categories 1 and 2) could be even more substantial, for example if public health constraints are tightened again or if the pandemic drags on to varying degrees internationally, continuing to penalise activities related to business travel and intercontinental tourism.

• At the other extreme, a rapid and total lifting of public health restrictions could allow some badly-affected sectors to catch up more quickly, particularly hotels, restaurants and culture.

• Furthermore, some of the sectors identified in these simulations as being relatively unscathed by the crisis could see more sustained growth and temporarily surpass their pre-crisis trend levels. This might include the retail sector, particularly if households decide to spend more of their accumulated savings. Similarly, there is an upside risk associated with those sectors which have benefited from the acceleration of the digital transformation (ICT and telecommunications, in particular) and the healthcare sector, which could exceed their pre-crisis trend projections by more than anticipated.

Whatever the case may be, the estimates for ground lost produced by this forecasting exercise should be considered as illustrative only, in light of the high levels of uncertainty and lack of perspective. While the sector-by-sector approach used in this study is pertinent given the nature of the present crisis, it is not intended to detect and quantify all medium-term effects. **In particular, the impact of the crisis on the productivity trend of the economy as a whole is a major source of uncertainty with both upside and downside risks:**

• **On the upside, productivity after the crisis could be bolstered by the acceleration of the digital transformation engendered by the crisis.** This increased uptake of new technologies should, in theory, have consequences for activity across all sectors. This effect cannot be detected by the simulations contained in this study (above and beyond the impact on activity level in the digital sectors).

• **On the downside, the damage to human capital caused by school closures and the difficulties associated with distance learning could have lasting consequences for productivity,** and thus for activity. The magnitude of any such effect would probably be limited, and it is not taken into consideration in this exercise.

• Furthermore, if businesses were to maintain a significant amount of remote working this could affect the dynamics of certain sectors. At the present juncture, this effect could potentially be positive or negative, and in any case is far from certain[13].

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[13] See for example: Batut, C. & Y. Tabet (2020), «Que savons-nous aujourd'hui des effets économiques du télétravail?», Trésor-Eco n°270, November 2020.

· Finally, a sectoral reallocation phenomenon could theoretically boost long-term productivity and, ultimately, overall activity, particularly if those sectors which feel the lasting effects of the crisis are also among the least productive. No such effect is explicitly taken into account in these simulations[14] : above and beyond the difficulties involved in attempting to quantify such an effect, the process of sectoral reallocation would take time, since it requires a readjustment of skills which would have consequences for potential activity in the meantime. ●

[14] In this forecasting exercise, the surplus activity of those sectors surpassing their pre-crisis counterfactual forecasts by the end of 2022 is small and does not carry any great risk in terms of reallocation.

► **Value added by sector in monthly terms (selected sectors)**

volume at constant prices in € m

Common legend

- ·· Counterfactual (pre-crisis trend)
- – Actual to March 2021 / forecast to Dec 2021
- – Scenario retained in 2022

Manufacture of transport equipment (C4)
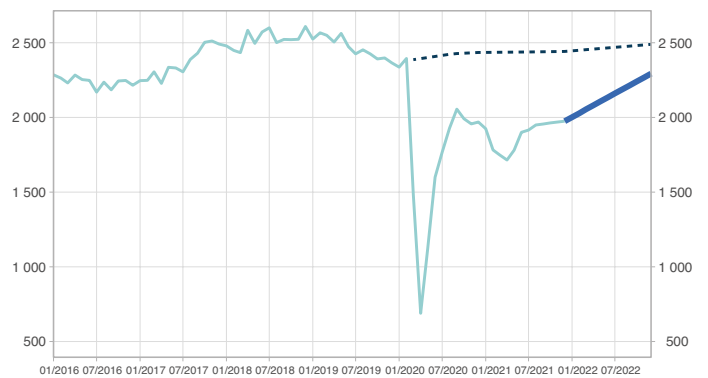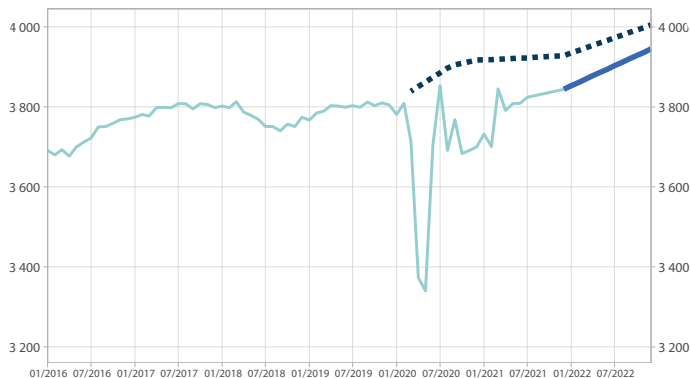

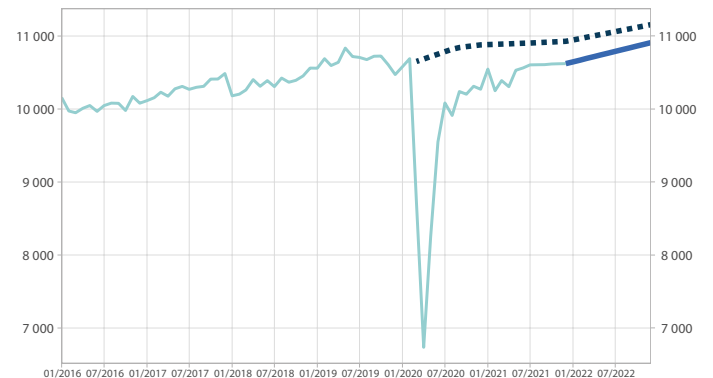**Transport and storage (HZ)**
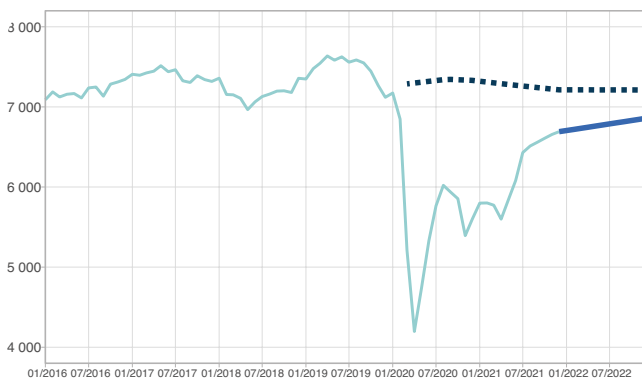
Accommodation and catering (IZ)
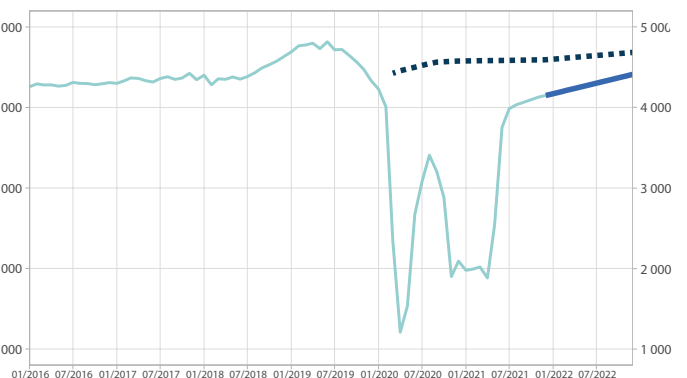
Sector-specific effects of the Covid-19 crisis between now and the end of 2022

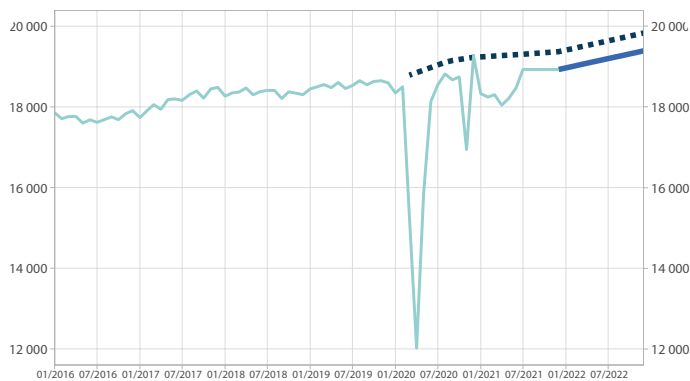► **Value added by sector in monthly terms (selected sectors)**

Manufacture of food products, beverages and tobacco products (C1)
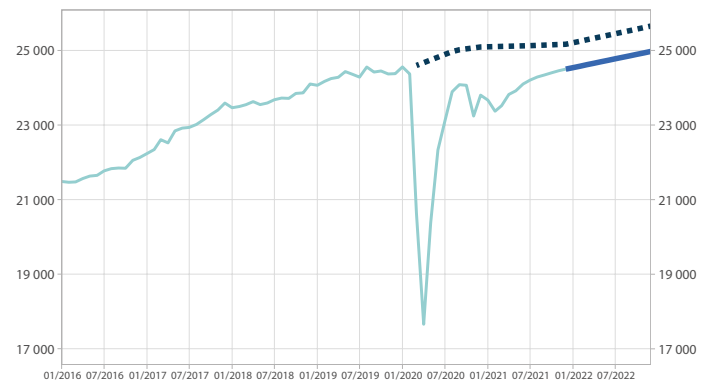

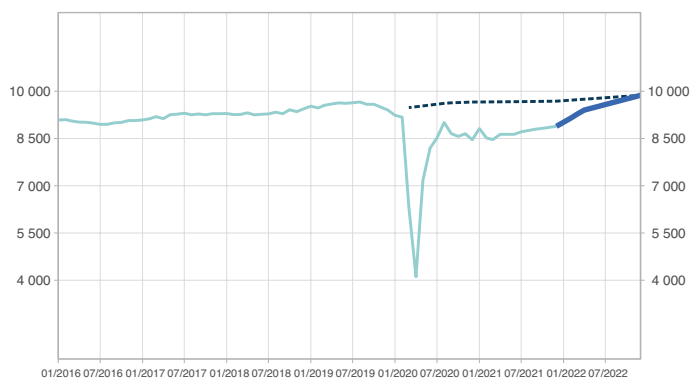### Manufacture of other industrial products (C5)
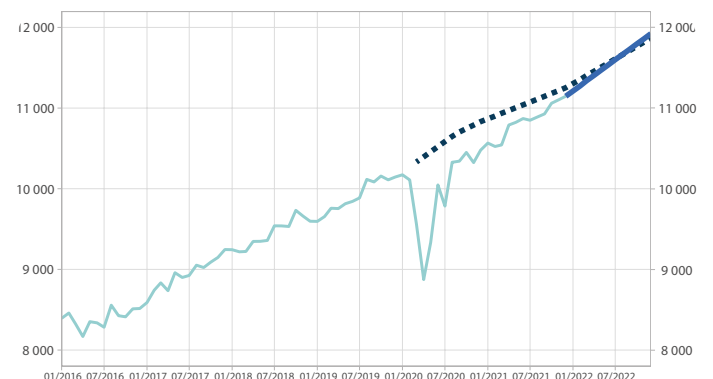

Trade; repair of motor vehicles and motorbikes (GZ)

Scientific and technical activities; administrative and support services (MN)

Construction (FZ)

Information and communication (JZ)

Source: Until Decembre 2021, Monthly estimates constructed for the purposes of analysing the economic outlook (underlying this Economic Outlook report), volumes at constant prices.