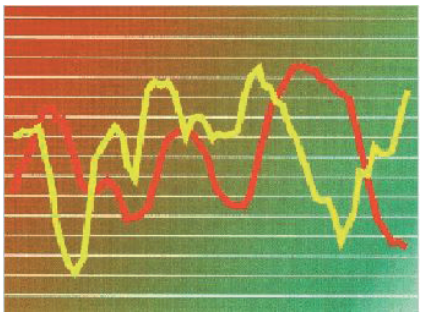
INSEE CONJONCTURE

POINT DE CONJONCTURE



7 May 2020

Table of contents

Introduction

How should the economy be measured in times of crisis? Since the start of lockdown, INSEE has regularly published analyses of the economic outlook in light of the uniqueness of the current crisis: the statistical information usually analysed is sometimes not available; and when it is, it may be less robust or less relevant than usual. This is why our analyses are also based on other types of data,[1] whether direct feedback from businesses and professional federations or high-frequency data available almost in real time.

What, for example, can be learned from recent trends in electricity consumption in France, or those of aggregated bank card transaction amounts? During lockdown, due to a fall in production, enterprises consumed 25% less electricity overall than normal, with a marked drop in transport and to a lesser extent in industry. On the household consumption side, the latest available data on bank card transactions suggest a very gradual recovery for certain expenditures on manufactured goods (household equipment, clothing and footwear), while spending on fuel and accommodation and catering remains extremely low.

Overall, according to the information available on 7 May, our estimate of the loss of economic activity due to the health crisis remains in the order of one third (–33%), quite similar to our previous estimates (–35% on 23 April, –36% on 9 Aril). As 11 May approaches – the date announced for the gradual lifting of the lockdown – a slight upturn appears to be taking shape, most notably in industry and construction, most likely thanks to the introduction of health measures allowing employees to return to their workplace. Household consumption overall is estimated to be down by 32% from its "normal" level (after –33% on 23 April and –35 % on 9 April).

Today, INSEE is also publishing its "Flash" estimate of private-sector salaried employment for Q1 2020; it is doing so after an earlier-than-customary analysis of the nominative social declarations filed by enterprises for March, as well as of the usual surveys. The drop in private-sector salaried employment is estimated at –2.3%, i.e. more than 450,000 net job destructions in one quarter, including almost 300,000 temporary jobs.

Along with the question of how to measure during times of crisis, there is also that of how to compare. This *Point de conjoncture* looks, among other things, at comparisons between the French regions and departments, as well as between countries.

The first exercise consists in applying homogenous hypotheses of lost activity by sector to different territories. A local-level breakdown of national loss-of-activity hypotheses pinpoints the regions that are structurally more exposed than average (Corsica, Île-de-France, Auvergne-Rhône-Alpes, Provence-Alpes-Côte d'Azur), due to the weight in these regions of accommodation and catering and of certain services to businesses. To complete this analysis, certain high-frequency data can be used at department level: this is the case for aggregated bank card transaction amounts, which after study show that the most highly populated departments are those that have seen their transaction amounts slump most heavily. These departments are probably the most affected in relative terms by the enforced closure of establishments open to the public; in parallel, they may also have seen sections of their population leaving the area when lockdown was announced.

Regarding inter-country comparisons, in normal times the national accounting standards ensure the comparability of the main macroeconomic aggregates. During the current health crisis, this comparability is probably not as sound.[2] In particular, the "Flash" estimates from the Q1 national accounts had to be calculated using incomplete information on March, which was the month that saw the start of lockdown in many countries and which therefore conditioned much of the quarterly trend. Most national statistical institutes have been using less conventional indicators and methods, which are thus less immediately comparable than usual. As regards the Eurozone countries, most notably Italy (decline in GDP of –4.7% in Q1), Spain (–5.2%) and France (–5.8%), at this stage it appears difficult to distinguish between genuine differences in activity levels and the effects of any methodological differences.

1. We would like to thank all the partners who have continued to support us in this exercise. For this issue in particular: the CB Bank Card Group, the Directorate-General for Enterprises, SNCF Réseau, RTE, Enedis, France Industrie, Rexecode, and the Medef. The estimates in this document are the sole responsibility of INSEE.

2. The problem is one that more generally affects all statistical production: see the blog published on 6 May by the Director-General of INSEE: "Official statistics put to the test of the health crisis".

Whatever the case may be, these three countries are among those with the strictest lockdowns, in both regulatory and practical terms, as attested to empirically by the high-frequency relative indicators such as human mobility. As things stand, among the main Eurozone countries, only Germany seems to stand apart, by its slightly less strict lockdown measures and a recovery that will probably come a little earlier. These high-frequency data should obviously be closely monitored in the coming weeks: in the forthcoming *Points de conjoncture,* we will be attempting to measure the initial economic effects of the exit from lockdown. ■

Economic activity

According to information available on 7 May 2020, French economic activity is expected to be down 33% compared with a normal situation. This order of magnitude is similar to that given in previous publications, although there seems to be a slight increase in economic activity in industry and construction.
If it were followed by an immediate return to normal, such a decline in economic activity would result in a loss of around 3 points of annual GDP growth per month of lockdown. The result would be that today, almost two months after lockdown was put in place, the loss of economic activity would be close to about 6 points of annual GDP growth. However, the global impact of lockdown will certainly be greater, because economic recovery, both in France and around the world, will in all likelihood only be gradual.

French economic activity appears to have declined by around 33%, but a slight upswing has begun in industry and construction

The estimated loss of economic activity has been revised slightly upwards since the publication of the last *Point de Conjoncture* on 23 April 2020 (*Table 1*). As of 7 May 2020, taking into account available information, economic activity appears to be around 33% below "normal" (against 35% two weeks ago), 39% for the market branches alone (against 41%), and 46% for market branches excluding rents (against 49%).

Thus the slight upturn in economic activity, which was already identified in the previous publication, is continuing slowly. This increase is due to

Table 1 - Estimated loss of activity linked with lockdown measures

Branches	Share of GDP	Loss of activity	Contributions to loss of activity (GDP points)
Agriculture, forestry and fishing	**2**	**–13**	**–0,2**
Industry	**14**	**–38**	**–5**
Manufacture of food products, beverages and tobacco-based products	2	–5	–0,1
Coke and refined petroleum	0	–55	–0,1
Manufacture of electrical, electronic, computer equipment; manufacture of machinery	1	–61	–1
Manufacture of transport equipment	1	–69	–1
Manufacture of other industrial products	6	–43	–3
Extractive industries, energy, water, waste treatment and decontamination	2	–23	–1
Construction	**6**	**–75**	**–4**
Mainly market services	**56**	**–36**	**–20**
Trade; repair of automobiles and motorcycles	10	–47	–5
Transport and storage	5	–59	–3
Accommodation and catering	3	–90	–3
Information and communication	5	–31	–2
Financial and insurance activities	4	0	0
Real estate activities	13	–2	–0,2
Scientific and technical activities; administrative and support services	14	–44	–6
Other service activities	3	–76	–2
Mainly non-market services	22	–14	–3
Total	**100**	**–33**	**–33**
of which mainly market	*78*	–39	*–30*
of which mainly non-market	*22*	–14	–3
Total mainly merchants excluding rents	**65**	**–46**	**–30**

How to read it: as of 7 May 2020, economic activity is expected to have declined by 33% compared with a normal situation. The industry sector, where loss of activity is estimated at 38%, is likely to contribute around 5 percentage points to this decline.
Source: INSEE calculations from various sources

the industry sector, where the loss of activity is estimated at –38% (against –39% on 23 April, and –43% on 9 April) and construction (–75%, after –79% on 23 April and –88% on 9 April). However, the estimated loss of economic activity in services remains unchanged (around 36%). One reason for this difference between branches could be the relative impossibility of remote working in industry and construction during the first days of lockdown, then the beginning of an upturn in some activities in recent weeks, once health and safety measures had been put in place, allowing the employees concerned to return to work.

It is not our intention here to give a quantified scenario of economic recovery after 11 May – the date announced for the gradual lifting of the lockdown measures. However, we can say that the value added generated by those branches which are unlikely to be allowed to resume their "normal" activity straight away (accommodation-catering, cultural and sports activities, some transport etc.) represents about 5% of GDP and 5 points of the estimated 33% loss of activity overall.

The slight increase in rail freight traffic could be a reflection of this slow upturn in activity

Since the beginning of lockdown, INSEE has used daily information on rail freight traffic on the SNCF network, comparing it with a reference situation, or "normal" situation. These data provide an estimate of the loss of rail freight activity but they can also be seen as a more general indicator of loss of activity overall, since the transportation of goods by rail is correlated with the volume of goods traded in the economy.

In the first two weeks of lockdown, rail freight traffic declined rapidly, down to an average of 63% of trains in circulation between 23 March and 23 April (*Graph 1*). Since then, traffic has picked up slightly – on average 67% of traffic compared to a normal situation – in an indirect indication of the slight upturn in economic activity, especially in industry and construction.

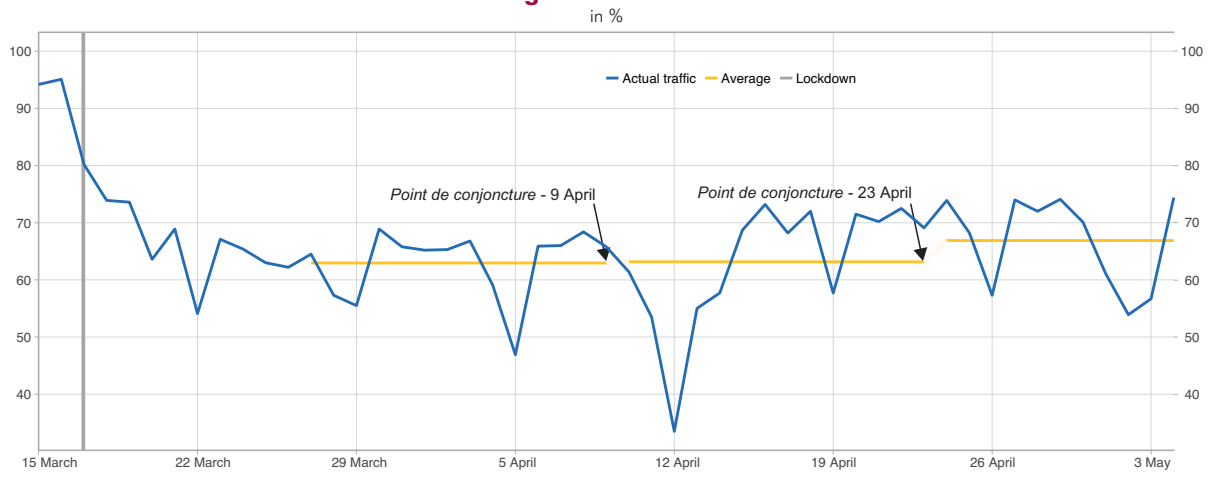
The estimated loss of economic activity by branch is consistent overall with requests for short-time work

Businesses have the possibility of requesting that their employees be put on short-time work, especially when they are facing a loss of activity as a result of the health crisis. The share of payroll employment affected by these requests is therefore correlated, in principle, with the estimated loss of activity in branches (*Graph 2*). Overall, this relationship is verified; however, there are some significant discrepancies. For example, in the agrifood industry, the estimated loss of activity is moderate (around 5%), whereas almost 40% of payroll employment is concerned by short-time work. Conversely, the estimated loss of activity in coke and refined petroleum is considerable (around 55%) whereas few employees are concerned by the short-time measures. One reason for these differences could be differences in the organisation of production: in coke and refined petroleum, for example, a major loss of activity linked to the closure of a site could concern only a small proportion of the workforce in that branch.

The Industrial Production Index for March highlights a very significant drop in activity, albeit slightly less severe than expected

The Industrial Production Index (IPI) for March, published at the same time as this *Point de Conjoncture*, reveals a very significant drop in activity in March, as forecast in the estimates for loss of activity published by INSEE at the end of March and the beginning of April. However, in order to be able to compare the IPI results with these estimates, they need to be adjusted to

1 - Actual rail freight traffic on the SNCF network



How to read it: on 15 March 2020, actual rail freight traffic on the SNCF network was 94% compared to a reference day.
Sources: SNCF Réseau, INSEE calculations

the lockdown period observed in March (from 17 March) since these immediate losses refer to the equivalent of an entire month of lockdown.

Once this adjustment has been taken into account, it can be seen that the signals are generally consistent between the IPI and the forecasts, with nevertheless some differences: –18% for the IPI for the manufacturing industry against –24%, the monthly transcription of the immediate loss of activity for March, a month where the country was in lockdown for only half the time, in the *Point de Conjoncture* published on 9 April (*Table 2*). While output held up in the agrifood industries (–4% in the IPI against –2% in the estimates), it tumbled in the other main branches: –36% in the manufacture of transport equipment (against –30% in the 9 April estimate), –34% in refineries (against –40%), –21% in capital goods (against –36%) and –17% in other industrial products (against –27%) which group together many major branches of French industry (chemicals, pharmaceuticals, etc.).

A slightly smaller drop was observed by the IPI because resistance was slightly greater than originally anticipated in certain branches of activity (pharmaceuticals, basic chemicals, paper industry, electronics). Conversely, according to the IPI, automobile construction fell even further than originally predicted.

Nevertheless, in spite of an acceptable final response rate (76%, taking into account the weight of the different branches, compared with more than 90% usually), the IPI will need to be revised next month as late responses start to arrive at INSEE. Statistical particularities (e.g. monitoring certain billing series, seasonal and working-day adjustments) may also contribute to the differences observed. Finally, the month of March was so very unusual that it may be difficult to link global activity over the month to the "immediate" activity estimated at the end of March. ■

Table 2 - Comparison of estimated loss of activity in Point de Conjoncture of 9 April and the IPI for March

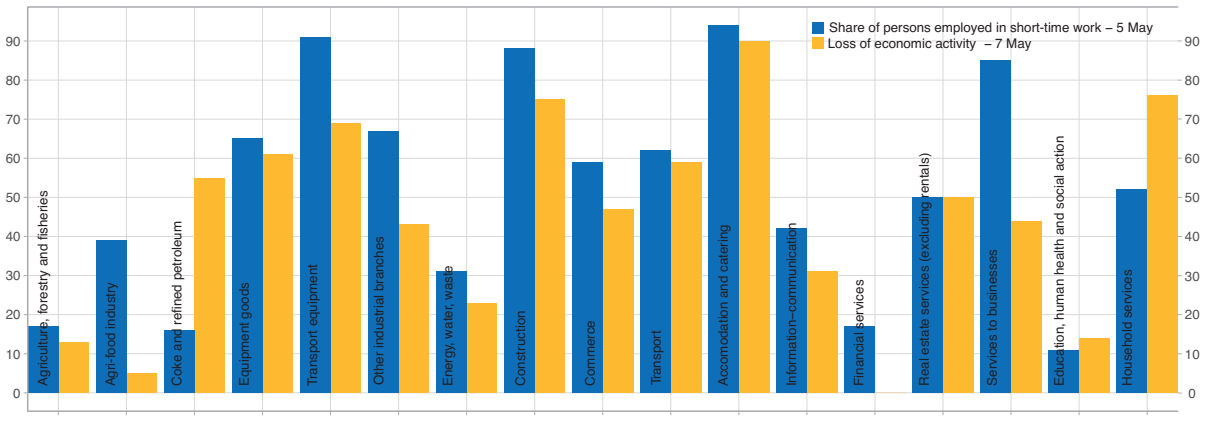
in %

Branches	Loss of economic activity on 9 April	Equivalent impact on March	IPI SA-WDA March 2020	Weighted IPI response rate
Manufacturing industry	–48	–24	–18	76
Manufacture of food, beverage and tobacco products	–5	–2	–4	80
Coking and refining	–80	–40	–34	100
Manufacture of electrical, electronic and computer equipment; manufacture of machinery	–72	–36	–21	72
Manufacture of transport equipment	–61	–30	–36	78
Other Industrial Product Manufacturing	–53	–27	–17	75

How to read it: on 9 April, the estimated loss of economic activity in the *Point de Conjoncture* was 5% in the agrifood industry, i.e. a loss of around 2% over the whole month of March. The change in the IPI for March in this branch was –4% and the weighted response rate in this branch was 80%.
Source: INSEE

2 - Share of payroll employment requesting short-time activity and loss of economic activity by branch

in %



How to read it: on 5 May, requests for short-time activity represented 96% of payroll employment in the accommodation-catering branch. The estimated loss of economic activity in this branch on 7 May is around 90%.
Sources: DARES for short-time activity on 5 May; INSEE, employment estimates for payroll employment at the end of 2019, Point de Conjoncture *7 May, INSEE calculations*

What do electricity production and consumption data tell us about economic activity during lockdown?

Daily electricity production and consumption data for France are a useful source for monitoring changes in business and household activity in real time. Electricity consumption in particular reflects changes in behaviour as a result of the Coronavirus crisis – whether in the decline in production in electricity-intensive sectors, such as transport, or in the transformed lifestyle of households in lockdown.

Since climate and seasonality have a significant effect on electricity production and consumption, time comparisons are made only after adjustment for the effects of variations in temperature, working days and months of the year.

According to data from RTE (Electricity Transmission Network), total consumption for the period from 23 March to 26 April 2020 was 14% less than in a normal period. Electricity consumption by businesses connected directly to RTE (mostly large industrial companies) was down 24%, which is relatively consistent with the order of magnitude of the estimated decline in activity. During the period from 23 March to 3 April, according to data from Enedis, consumption excluding the residential sector (companies –excluding those connected directly to RTE– and the public sector) was about 27% less than normal, whereas consumption by households was about 4% more.

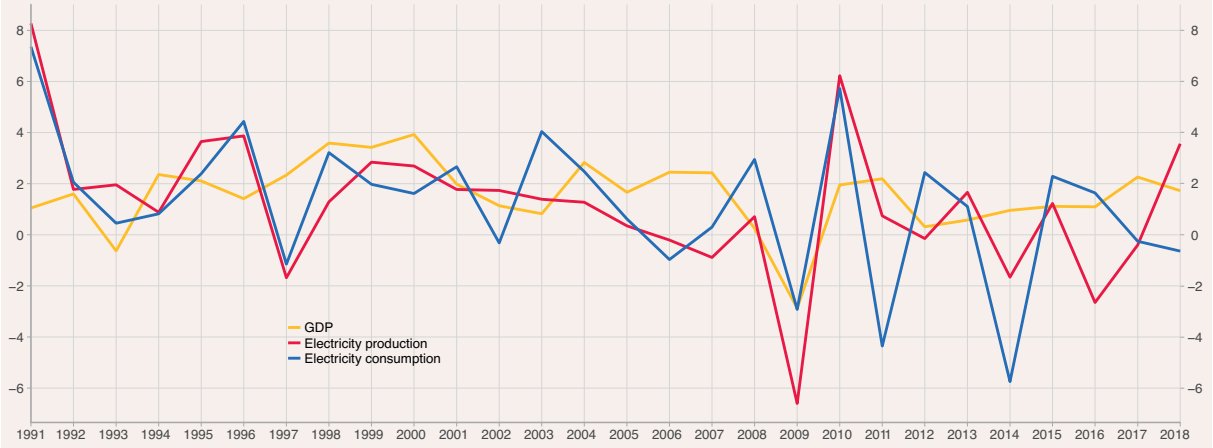
Because of the link between electricity production and GDP, the main activity shocks can be monitored in real time, especially during crises

Electricity data are available in real time and are among the first sources of information to be used to analyse the working of the economy. As electricity is one of the forms of energy that is used most in the production process, variations in its production and consumption reflect major changes in gross domestic product (GDP, *Graph 1*).

The 2008-2009 crisis provides an illustration of the way electricity production or consumption data are able to record changes in activity. Between 2008 and 2009, France's GDP declined by 2.9%. During this period, electricity consumption also fell by 2.9%. In fact, delivery data for high voltage electricity (which cover about 20% of total consumption and concern only the production sector) are available on a daily basis as they are produced directly by the electricity distribution management systems. These data are aggregated monthly and during the crisis they showed a fairly similar dynamic to that of the GDP, which is not available in real time but only several months later (*Graph 2*).

1 - Gross domestic product, electricity production and consumption

annual % change



How to read it: between 2008 and 2009, GDP fell by 2.9%, electricity production by 6.6%

Sources INSEE, RTE, SDES

Box

1. Data

RTE (Electricity Transmission Network) is the French transmission system operator. RTE carries electricity between suppliers (French and European) and consumers, whether they are electricity distributors or industrial companies connected directly to the transmission network. RTE has:

- aggregated data on production and consumption: from January 2012, RTE's aggregated data measure immediate values (in MW) for national electricity production and consumption every 15 or 30 minutes, and thus a daily average can be calculated;

- provisional values for withdrawals by customers with direct connections, which represent about 15% of consumption in Metropolitan France: from 1st January 2020, daily data on the electricity they consume are available according to the different sectors of economic activity. These customers are the largest consumers of electricity, and may not be representative of all businesses in the sector.

These data are freely available at https://opendata.reseaux-energies.fr.

Enedis is the main distributor of electricity (80% of consumption in Metropolitan France). The data used in this focus were provided by Enedis, and cover the period from July 2018 to April 2020. They correspond to the dynamic profiling of consumption by all customers on the Enedis network.

These data estimate the electricity used by three types of user on a daily basis, according to their subscribed power supply:

- residential, less than 36 kVA (residential use), corresponds to about 45% of consumption.

- non-residential with low subscribed power (non-residential contracts for subscribed power <= 36kVA excluding public lighting), corresponds to about 10% of consumption.

- non-residential with high subscribed power (non-residential contracts for subscribed power > 36kVA), corresponds to about 45% of consumption.

In addition, temperature data from Météo France were used to calculate "unified degree-days" (DJU) on a daily basis, using the formula:

$$DJU = \begin{cases} 17°C - average\ temperature\ if > 0 \\ 0\ otherwise \end{cases}$$

where the average daily temperature is the average of the daily minimum and maximum temperatures.

2. Methodology

Using this method, series can be adjusted for the effects of working days, variations in temperature, and months. Aggregated data by sector of customers connected directly to RTE are only available from 1st January 2020: only the working days adjustment is applied to these data.

We first estimate the coefficients of the following regression based on all the data available for the "pre-pandemic" period (before 25 February 2020, start of the variable period depending on the series).

$$\begin{aligned} Y_j &= X_j\beta + \epsilon_j \\ &= \beta_1 + \beta_2.DJU_j + \beta_3.1^{JO}{}_j + \beta_4.1^{MOIS}{}_j + \epsilon_j \end{aligned}$$

Y_j is electricity consumption on day *j*. The explanatory variables (*X*) are the average daily temperatures transformed into unified degree-days (*DJU*), dummies for days of the week (whether working days or not, *JO*) and months (MOIS). For the series by sector, only the working days dummy is kept.

The coefficients are then used to calculate the predicted consumption for each day (including during lockdown). The variations shown on the graphs correspond to the residue of the previous equation (difference between observed value and predicted value) compared to the predicted value. They can therefore be interpreted as a percentage deviation from the value that would have been observed, all else being equal.

The effect of the lockdown is then estimated from the ratio of the sum of these residues to the sum of the predicted values from 23 March 2020[1]. ■

1. The week of 16 March, first week of lockdown, is excluded as it produced behaviour involving a gradual adjustment and is therefore not representative.

Electricity production and consumption have fallen in France since the start of lockdown

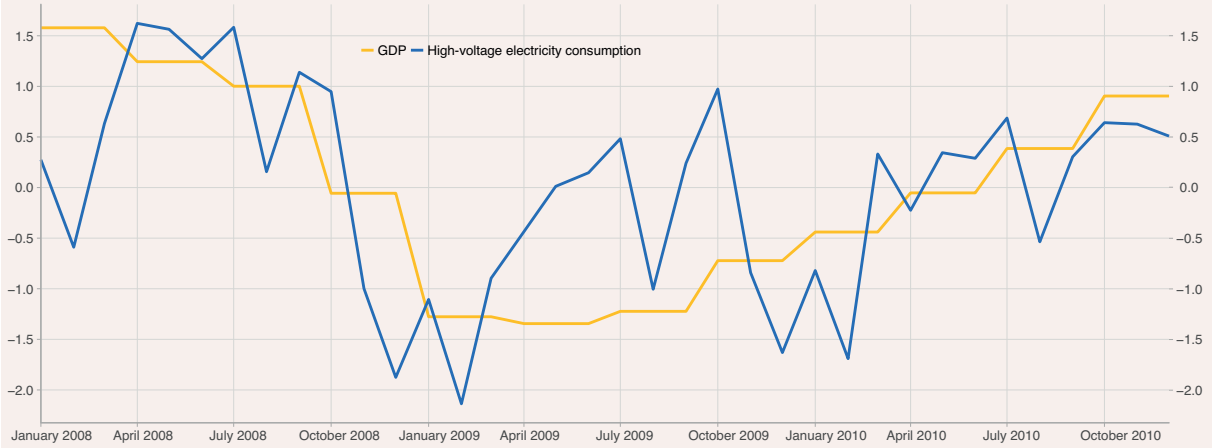
Between 23 March and 26 April, excluding the effect of the climate and working days (*Box*), electricity production was 12% lower on average than in a "normal" period of activity, and electricity consumption by businesses, households and the public sector was 14% lower (*Graph 3*). The drop was greater in consumption because of the possibility of exporting and importing electricity: in fact, national consumption accounted for 87% of production in 2019, with the rest of the electricity output being exported mainly to neighbouring countries (Germany, Belgium, Spain, United Kingdom, etc.).

Although electricity consumption declined a little more than production, it shows a broadly similar trend: in March especially, after slight growth at the beginning of the month, consumption began to fall sharply on 12 March. It reached a low point at the end of the first week of lockdown, which had begun on 17 March; subsequently, behaviour seemed to stabilise and a small increase was visible in April despite a few occasional dips at the beginning of the week of 20 April.

Production was hampered by a drop in demand, due to the measures taken to combat the epidemic – notably the partial shutdown of activity as a result of the lockdown – and the disruption of global production chains. Meanwhile, consumption behaviour differed between businesses and households.

2 - Consumption of high voltage electricity and GDP during the 2008 crisis

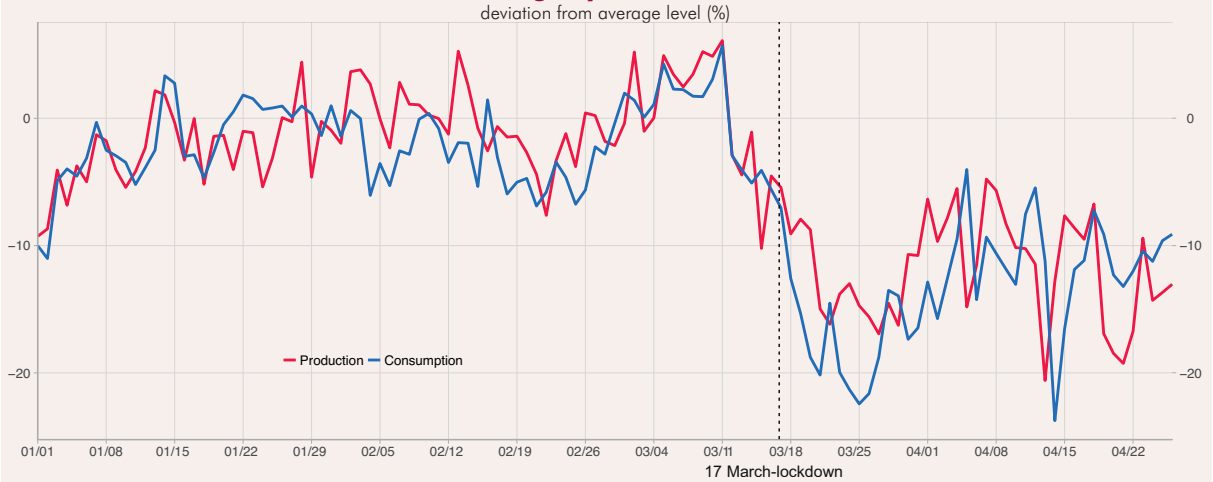
deviation compared with the 2008-2011 average, standard deviation



Electricity consumption not seasonally adjusted, or working day and temperature adjusted; GDP SA-WDA
Note: in February 2009, high voltage electricity consumption was 2.1 standard deviations less compared with its average between 2008 and 2011. In Q1 2009, GDP was 1.3 standard deviations less compared with its average over the period 2008-2011.
Sources : Insee, SDES, RTE, Enedis, calculs Insee

3 - Levels of electricity production and consumption adjusted for temperatures, working days and months

deviation from average level (%)



How to read it: on Wednesday 1st April 2020, electricity production was 6% lower than the average production level for a Tuesday in April with an identical average temperature to that recorded on this day. This average was estimated over a period from 1st January 2012 to 24 February 2020.
Sources: RTE, INSEE caculations

Consumption excluding the residential sector dropped sharply overall (about –27%)

The electricity consumption data published by Enedis cover 80% of electricity consumption in Metropolitan France. They are broken down by type of consumer: non-residential (businesses/public sector) and residential (households). In addition, among the non-residential, the subscribed power level provides an extra analysis criterion, differentiating between non-residential with a high subscribed power level (large entities or where activity is relatively electricity-intense, e.g. industrial sites), and non-residential with a low subscribed power level (smaller entities or where activity is relatively light in electricity).

In general, businesses use electricity as an intermediate consumption to power their machines, and to light and heat their premises. In a normal period of activity, consumption in non-residential businesses with a low subscribed power level is more affected by temperatures than that in non-residential businesses with a high power subscription level, as they use electricity more for industrial output than for occupation of the premises. For all of these businesses, daily consumption is higher on working days than at the weekends – a seasonality that has changed as a result of lockdown (with a smaller increase in consumption being observed on weekdays).

Over the period 23 March to 3 April, electricity consumption for the whole non-residential sector was on average 27% less than in a normal period (*Graph 4*). It fell rapidly after 17 March, then stabilised with fluctuations around a lower level. The non-residential sector with a high subscribed power level was certainly affected mainly by the drop in production activity, and the sector with a low subscribed power level by the cessation of non-essential activities.

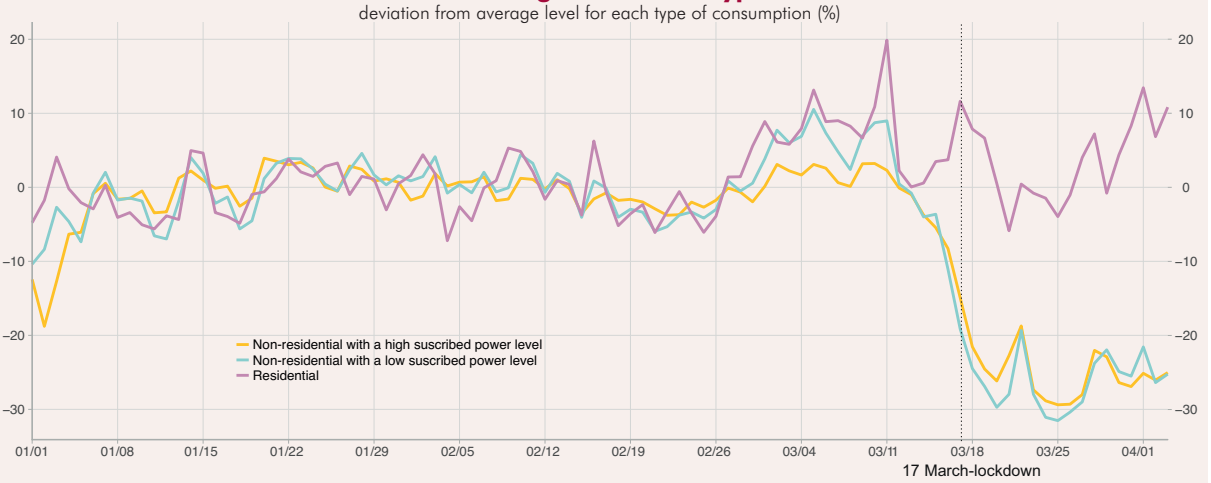
Electricity consumption only of companies connected to RTE shows a sharp drop in transport and, to a lesser degree, in industry

The disparities in consumption by companies according to sector of activity were greater than those observed according to subscribed power level. And more specifically, during lockdown, changes in consumption level differed considerably according to sector.

Using RTE data gives an initial estimate of the effect of lockdown for some sectors of activity (those for which a certain number of companies, which are not necessarily representative, are connected directly to the network). Electricity consumption between 23 March and 26 April, compared with the earlier period, reveals some significant sectoral disparities (*Graph 5*). The drop in consumption is particularly strong in the transport and storage services sector (–58%), for an estimated decline in activity of –59% on 7 May, which can be explained by the strong reduction in activity by SNCF and RATP in particular. The drop in electricity consumption was less than that estimated for activity in the specialised, scientific and technical activities sector (–25% in electricity consumption for an estimated drop in activity of –44%) and in the manufacturing industry (–18% for electricity and –38% for activity). Electricity consumption fell a little less in the water production and distribution sectors (–14%), and the electricity, gas, steam and air conditioning sectors (–10%). Finally, in the extractive industries and the information and communication sector, electricity consumption was virtually stable. Differences between the decline in activity and the decline in electricity consumption were due to the fact that companies connected

4 - Levels of consumption adjusted for temperatures, working days and months according to consumer type

deviation from average level for each type of consumption (%)



How to read it: on Wednesday 1st April 2020, electricity consumption by Enedis customers with the profile of a non-residential consumer with a high subscribed power level was 25% less than the average consumption level for a Tuesday in April with an identical average temperature to that recorded on this day. This average was estimated over a period from 1st July 2018 to 24 February 2020.

Sources: Enedis, INSEE calculations

directly to the network were not representative of the sector, either in the intensity of their electricity use, or in the effect of lockdown on their consumption.

From the intensity of electricity consumption in the branches it is possible to make the link between the decline in activity and the decline in electricity consumption

Sectoral disparities in reductions in electricity consumption are a good reflection, in their scale, of disparities in losses of activity. However, the relationship between activity and electricity consumption can be refined by taking into account the intensity of electricity consumption in companies, which in fact varies strongly depending on the branch. If we assume that at the level of each branch, intermediate consumptions make up a fixed share of production, and that within these consumptions electricity is also a fixed share, a loss of value added results in an identical decline (in relative terms) in electricity consumption. Thus the overall drop in electricity consumption (for all branches) is due to the drop in electricity consumption in each branch, which can be assumed to be equal to the decline in branch activity:

$$\text{Growth rate } IC^{electricity} = \sum_{branches} IC^{electricity}_{branch} / IC^{electricity}_{all\ branches} \times \text{Activity growth rate}_{branch}$$

The total decline is calculated across all branches at a detailed level (138 branches), and gives an estimate of the drop in electricity in the productive sector of –23%. The overall decline in activity (estimated at –33%) is therefore greater than its impact on the consumption of electricity as an intermediary consumption.

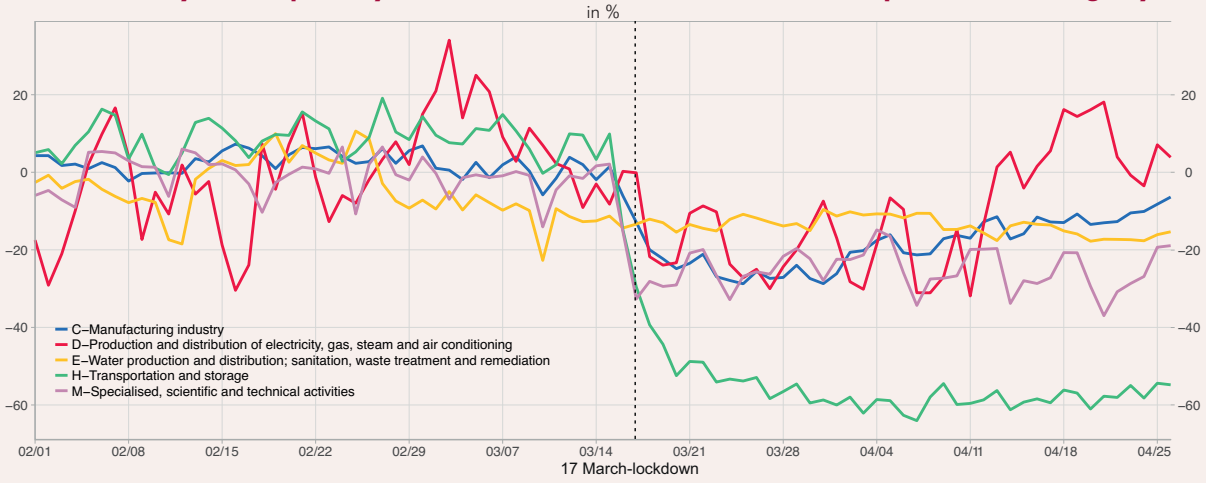
Some very electricity-intensive sectors (manufacture of chemical products – C20A, steel industry – C24A and transport – H49A) have experienced substantial declines in activity. But these effects are more than offset by sectors where activity has also declined but which are not very electricity-intensive and which weigh heavily in value added (construction work – F43Z, human health activities – Q86M and activities linked with employment – N78Z).

This decline in consumption in the productive sector obtained from the decline in activity is consistent with that estimated from electricity data which was –24% over the same comparison period.

Lockdown has altered household behaviour, with electricity consumption up by about 4%

Among Enedis customers, "residential" consumption, with a low subscribed power level, corresponds to electricity consumption by households. It is generally affected by temperature more than consumption by companies, as electricity is mainly used to supply heat and light at the coldest times of day and when there is least sunshine.

5 - Electricity consumption by sector for customers connected to RTE, adjusted for working days



How to read it: on Tuesday 17 March 2020, the first day of lockdown, electricity consumption by manufacturing industry companies connected directly to the electricity network was 13% lower than the average level of consumption for a Tuesday. Only sectors with a decline of more than 2% are shown on the graph.
Sources: RTE, INSEE calculations

Its weekly profile is the reverse of that for companies, as it is higher during the weekend than during the week. However, once again, this seasonality has been less evident during lockdown.

From 23 March to 3 April, household consumption was slightly higher (about +4%) than during a normal period (*Graph 4*). After an increase at the beginning of March, it peaked in the first week of lockdown, then subsided a little and increased once again at the beginning of April. Different factors can be distinguished, with both upward and downward effects, but the upward effect prevails overall:

- households in lockdown heat and light their homes more (+);
- they eat at home, which results in increased use of electrical appliances, especially for cooking food (+);
- they also use digital technology more in order to work remotely, obtain information or entertain themselves (+);
- family grouping at home, especially with students and young people returning to their parents' home, has led to economies of scale and has reduced the overall need for heating (–);
- lockdown has led to a different distribution of the population across the country: winter ski resorts have closed and some city dwellers have left to go to their second homes, thus increasing the share of the population in regions with milder temperatures and potentially changing the type of heating energy (–). ■

Bibliography

RTE (January 2020), « Bilan électrique 2019 ».

RTE (5 April 2020), « L'impact sur la crise sanitaire (Covid-19) sur le fonctionnement du système électrique ».

RTE (2018) « Rules relating to Scheduling, the Balancing Mechanism and Recovery of balancing charges », Section 2, Chapter F (version applicable au 1st July 2018). English version pending

INSEE, communiqué de presse (8 April 2020), « Population présente sur le territoire avant et après le confinement ».

Commissariat général au développement durable-SDES (January 2020), « Evaluation des degrés-jours unifiés au niveau régional et départemental ». ■

During lockdown, the loss of economic activity in each region appears to depend heavily on its sectoral structure

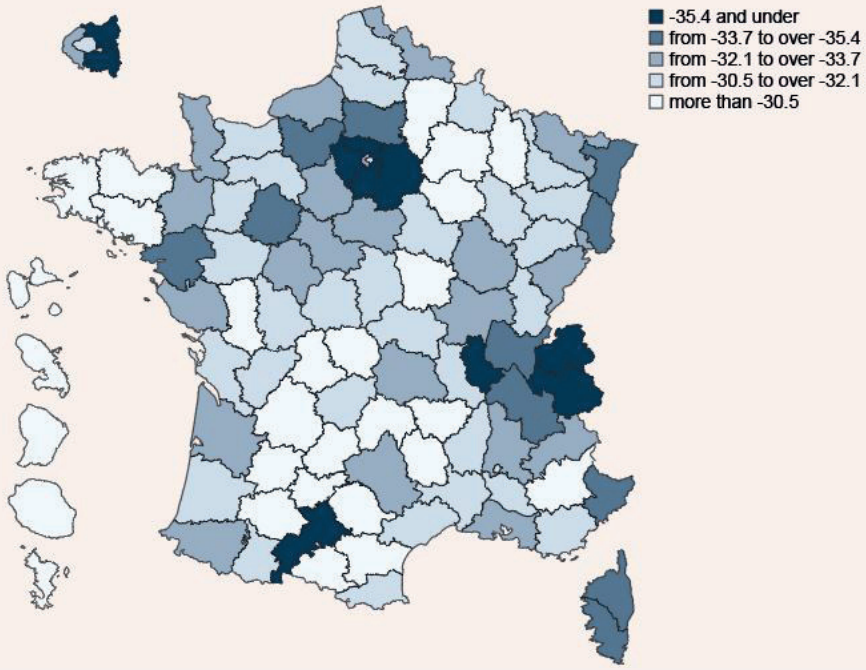
During lockdown, French economic activity overall seems to be down by a third compared with a normal situation. Is it the same at regional and departmental levels? Between regions, and even more so between departments, the sectoral structures of the productive fabric differ. As a result, some regions appear to be more structurally exposed than the country as a whole, like Corsica, Auvergne-Rhône-Alpes, Île-de-France and Provence-Alpes-Côte-d'Azur. These regions are likely to bear the brunt of the loss of activity in accommodation-catering and in some services to businesses (scientific and technical activities and administrative and support services).

In this focus, we examine the exposure of the different regions to the decline in activity caused by the lockdown measures, under the assumption that a branch of activity is affected to the same degree in all areas as at national level (*Methodology box*), since the lockdown measures are similar. The differences estimated here between regions and between departments reflect mainly differences in sectoral structure. For example, the share of agriculture in value added varies from 0.1% in Île-de-France to 4.3% in Nouvelle-Aquitaine and even 4.8% in French Guiana. There are even greater differences at departmental level, between almost no agricultural activity in several departments in Île-de-France and 8.8% of value added in the Gers. Similarly, non-market services account for only about 7.6% of value added in Hauts-de-Seine but as much as 37.8% in Haute-Vienne and even 52.1% in Mayotte.

These differences in sectoral structure generate disparities in the loss of activity in the regions. These disparities are fairly limited given the scale of the shock that all the regions have endured. However, some regions appear to be more affected structurally than the country as a whole, like Corsica, Auvergne-Rhône-Alpes, Île-de-France and Provence-Alpes-Côte-d'Azur; others are affected to a lesser degree, like the overseas departments and regions (DROM), Brittany and Hauts-de-France. Losses of activity vary from –35% in Corsica to –18% in Mayotte. The region of Metropolitan France that is least affected is Brittany (–31%). There is therefore a difference of more than four points between Brittany and Corsica in the metropolitan regions. At departmental level, the economic impact is more dispersed, from –38% in Savoie to –28% in Creuse and Deux-Sèvres, and internal features specific to the regions appear (*Map*).

Estimated loss of departmental activity linked to lockdown measures

in %



How to read it: as of 7 May 2020, economic activity in Alpes-Maritimes is expected to be down by 33.9% compared with a normal situation.
Source: INSEE calculations from various sources

Analysing sectoral contributions gives a better understanding of the regional differences in loss of activity (*Graph 1*). Representing more than half of national economic activity, market services contribute most to the national impact and also to regional differences. In market services, the sectors contributing most to these differences are accommodation and catering (which affects Corsica particularly severely) and scientific and technical activities and administrative and support services (weighing heavily in Île-de-France). The proportion of industry in the economy also varies considerably from one region to another: from 21% in Normandy to 7% in Corsica and even 6% in Reunion Island. The decline in industrial activity is therefore felt more strongly in Bourgogne-Franche-Comté, Occitanie, Auvergne-Rhône-Alpes, Centre Val-de-Loire and Normandy. Conversely, agrifood industries that are working to meet essential needs support activity in the regions where they are widely established: in Brittany, also Pays de la Loire and Grand Est. Regarding construction, since its share is relatively similar from one region to another (around 6%), the heavy loss of activity that the sector has suffered is likely to affect Corsica more, where it weighs more heavily. Finally, non-market services, where activity is less affected[1], help support the overseas economies, Corsica and Hauts-de-France, although not Île-de-France where the share of these services in the economy is less.

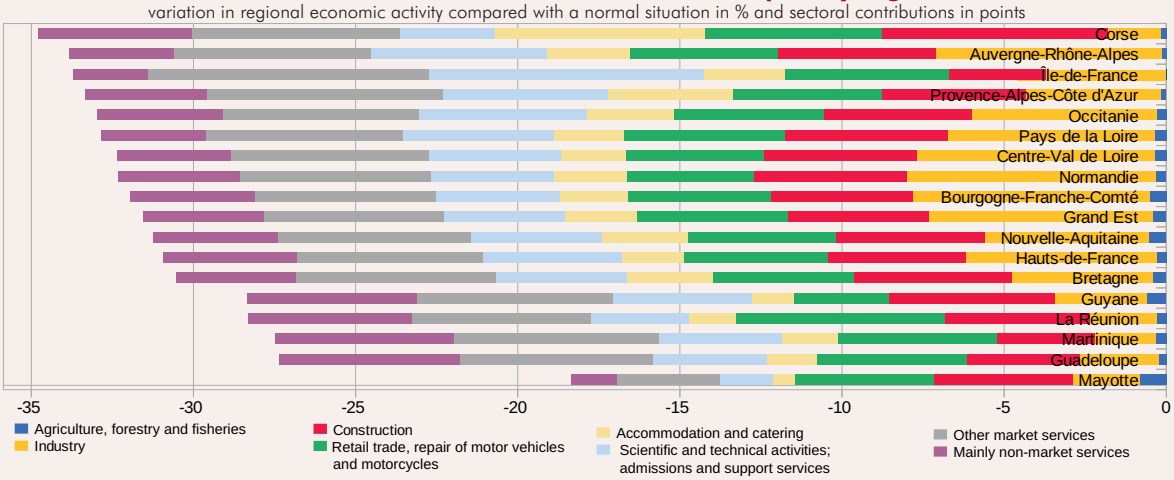
Within the regions, departmental disparities can be considerable. The economy of Haute-Garonne, for example, is likely to bear the brunt of the strong decline in the transport equipment industries, including aeronautics, and in market services, while the other departments in Occitanie have been spared to a greater extent. Such disparities can also be seen in the Grand Est where the two Alsace departments, Bas-Rhin and Haut-Rhin, appear to be more affected than the rest, mainly due to industry, and to a lesser extent to market services.

The loss of economic activity is accompanied by deeply felt shocks in the labour market in all the regions, with huge numbers resorting to the short-time unemployment scheme. It is too soon to know whether all these requests will actually be fully converted into short-term activity. However, at this stage, a relationship can be seen between estimated loss of activity and the rate of requests for short-time unemployment in the regions: it would appear that the greater the economic shock, the higher the rate of requests, although the DROM and Île-de-France differ in this respect (*Graph 2*). This correlation between estimates, based mainly on the departmental sectoral structure, and the recourse to short-time unemployment by companies in the regions tends to confirm the importance of the sectoral structure for the actual economic impact.

1. Activity in non-market services is estimated in the national accounts largely by validation of their production costs, mainly wages. Since the activity of employees in the non-market sector is affected less than in other sectors, the current decline in activity is therefore less severe than in most other sectors. However, certain non-market service activities are expected to drop sharply (e.g. nurseries, child care centres, libraries, sports activities).

1 -Sectoral contributions to the economic impact by region

variation in regional economic activity compared with a normal situation in % and sectoral contributions in points



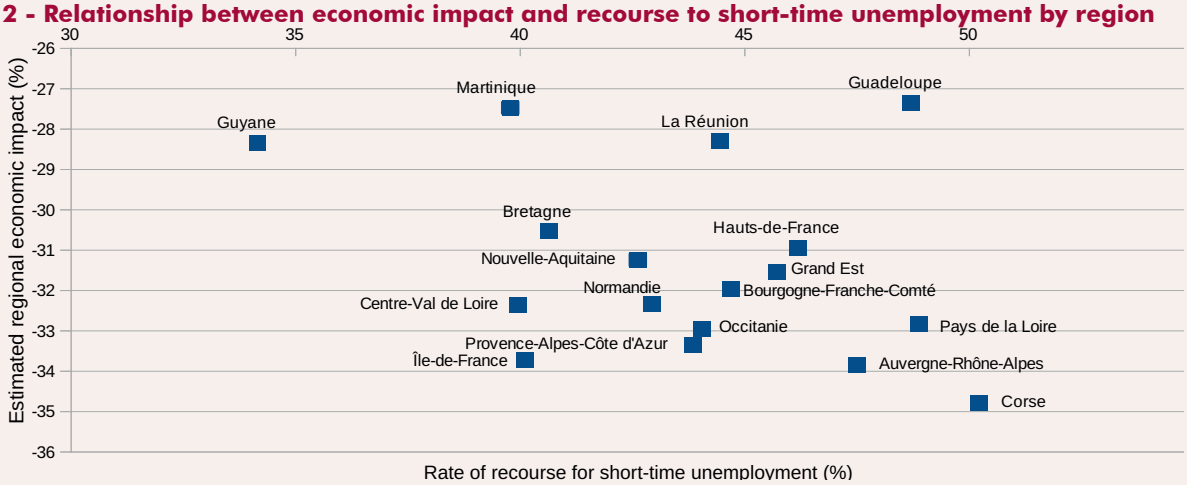
How to read it: as of 7 May 2020, economic activity in Corsica is expected to be down by 35% compared with a normal situation, with the drop in activity in accommodation and catering probably contributing about 7 points.

Source: INSEE calculations from various sources

Requests for short-time unemployment are not the only effect of the decline in activity on employment: there may also be "deadweight" losses in payroll employment, especially when contracts come to an end; hiring may be deferred or cancelled; self-employment may also be severely affected.

Finally, in some departments, the trade and personal services sectors may have experienced a greater shock than elsewhere. At least this is what is suggested by the changes in the amounts from bank card transactions in Paris and Savoie (*Focus*). ■

2 - Relationship between economic impact and recourse to short-time unemployment by region



How to read it: as of 7 May 2020, economic activity in Auvergne-Rhône-Alpes is expected to be down by about 34% compared with a normal situation, while requests for short-time unemployment represent a little over 48% of the region's payroll employment. The economy of Mayotte (not shown in the graph) has a loss of activity of more than 18% and a rate of requests for short-time unemployment of around 21%

Sources : INSEE calculations from various sources and DARES.

Methodology box

The method consists in applying the reductions in national sectoral activity to the structure of each region and department, as this was the structure of their value added in 2015 (17-item level in the French classification of activities, NAF17). According to this method, if an area has a high level of an activity that has seen a significant reduction, this results in a high impact on its economy. From the sum of the contributions from all sectors the global impact on the regional or departmental economy can be estimated. However, this approach has several limitations. The first is the level of sectoral aggregation used, which could mask some of the finer detail in specific sectoral features. For example, operating at the level of the whole construction sector would not distinguish the specific dynamics of building construction and civil engineering. The second limitation is that regional differences in activity between companies in the same sector are often difficult to estimate and are not taken into account. A third limitation is that this method does not take account of local variations in demand. Yet the crisis may have a greater impact on the income of some workers who are not spread uniformly across the area, as in the case of the self-employed, for example (business leaders, artisan workers, professional people), who are more numerous in the south of France. Finally, refining the analysis would mean going beyond the regional scope of a national model, by incorporating specific local information. In fact, the assessments of the decline in activity in Reunion Island and Mayotte included in this study incorporated more detailed information and some additional details specific to these areas. In addition, regional economic analyses will be able to provide information about certain specific local features that could affect the regional decline in activity calculated here. ■

Household consumption

According to information available on 7 May 2020, final household consumption expenditure is likely to be about 32% lower than the corresponding level in a "normal" period of activity (Table 1). This decline is slightly less than that estimated at the end of March (–35%): this change, which is in line with that announced in the previous Point de Conjoncture, *mainly reflects the very gradual recovery of spending on manufactured goods. Unsurprisingly, however, other types of spending remain at very low levels (fuel, accommodation, catering and leisure services).*

This estimate, like those published in previous editions of the *Point de Conjoncture*, is based on consumption loss (or gain) assumptions, item by item at the level of 138 products. These assumptions are based on the analysis of data from various sources (bank card transactions, scanner data and electricity consumption data for 53% of consumption amounts) and external information (for 6% of amounts). For 41% of consumption, the assumptions also reflect the consequences of the regulatory measures to combat the spread of Covid-19 (business closures, etc.) and specific consumption behaviours (constant need for certain types of service, etc.).

This estimate is still of the same order of magnitude as those published on 23 April (–33%), and at a more aggregated level on 26 March (–35%). Compared with the 23 April estimate, the differences are due mainly to the fact that more recent bank card transaction data were used. Thus the reference period for lockdown is 6 to 26 April (instead of 30 March to 12 April in the *Point de Conjoncture* of 23 April). Overall bank card transaction amounts confirm the slight rebound observed during the first

1 - Estimated loss of final household consumption linked to lockdown measures

Products	Share of consumption* (%)	Loss of consumption (%)	Contribution to loss of consumption (percentage points)
Agriculture, forestry and fishing	**3**	**3**	**0**
Industry	**44**	**–33**	**–15**
Manufacture of food products, beverages and tobacco-based products	15	5	1
Coke and refined petroleum	4	–72	–3
Manufacture of electrical, electronic, computer equipment; manufacture of machinery	3	–35	–1
Manufacture of transport equipment	6	–89	–5
Manufacture of other industrial products	13	–54	–7
Extractive industries, energy, water, waste treatment and decontamination	5	3	0
Construction	**2**	**–75**	**–1**
Mainly market services	**46**	**–31**	**–14**
Trade; repair of automobiles and motorcycles	1	–68	–1
Transport and storage	3	–80	–3
Accommodation and catering	7	–87	–6
Information and communication	3	–9	0
Financial and insurance activities	6	0	0
Real estate activities	19	0	0
Scientific and technical activities; administrative and support services	2	–52	–1
Other service activities	4	–77	–3
Mainly non-market services	**5**	**–37**	**–2**
Total	**100**	**–32**	**–32**

* weight in final household consumption spending (excluding territorial correction)

How to read it: he level of household consumption of products derived from coke and refined petroleum (or agrifood industries) is currently 72% lower (or 5% higher) than that usually seen in a normal period of economic activity, contributing a 3 percentage point decline (or a 1 percentage point increase) to household consumption overall.

Source: INSEE calculations from various sources

weeks of April: they tend to ease the drop in household consumption compared with the previous estimate (*Focus*). The estimate also incorporates scanner data[1] into the analysis, making it possible to refine the estimate for household spending on food products (*Box 1*). This increase in spending seems to be less than the estimate in the first weeks of lockdown based on external information (3% increase against 10% in the previous *Points de Conjoncture*). The result of this adjustment, all else being equal, is therefore a greater decline in consumption compared with the previous estimate. Finally, concerning electricity consumption, the estimate includes analysis of electricity consumption data for the residential sector, resulting in an estimated increase in consumption of around 4% (*Focus on electricity consumption*). When compared with the assumption of constant energy requirements proposed in the previous *Points de Conjoncture*, this estimate has contributed to a reduction in the loss of consumption overall[2]. ■

1. Scanner data are data collected by the major retail outlets when consumers go through checkout.

2. The hypothesis for gas consumption by households is identical to the estimated increase in electricity consumption.

What do bank card transaction data tell us about the recent change in household consumption?

Among the "high frequency" indicators providing information on changes in household consumption during the period of lockdown, bank card transaction data are an essential source (*Point de Conjoncture* of 9 April). This is because they illustrate the purchasing behaviour of households on a day-to-day basis, both at the level of all products and at a more detailed level, enabling us to identify those product categories where the consumption profile is less sluggish than others. While there has been no change in spending on fuel or accommodation-catering, spending on some manufactured goods (household equipment, clothing-footwear) is picking up very gradually. Online sales, as one would expect, continue to increase.

According to the latest data available, which go up to 26 April, the consumption of household equipment (electrical appliances, household appliances, paint, etc.) has gradually increased compared with the first days of lockdown (*Figure 1*). This is also the case, although to a lesser extent, for consumption of clothing-footwear: bank card transactions remain at a very low level compared with the period before lockdown, but the weeks in April show a slight rebound. The seasonality that emerges in these two profiles, with notably a regular high point on Sundays and a low point on Saturdays, shows the extent to which lockdown has changed consumption practices: compared to a "normal" week, when consumption reached a peak on Saturday then dipped on Sunday, consumption during lockdown has been much more stable from one day to the next, partly due to online sales (see below). The loss of consumption is therefore much greater on Saturdays, compared to a normal period of activity, and less on Sundays.

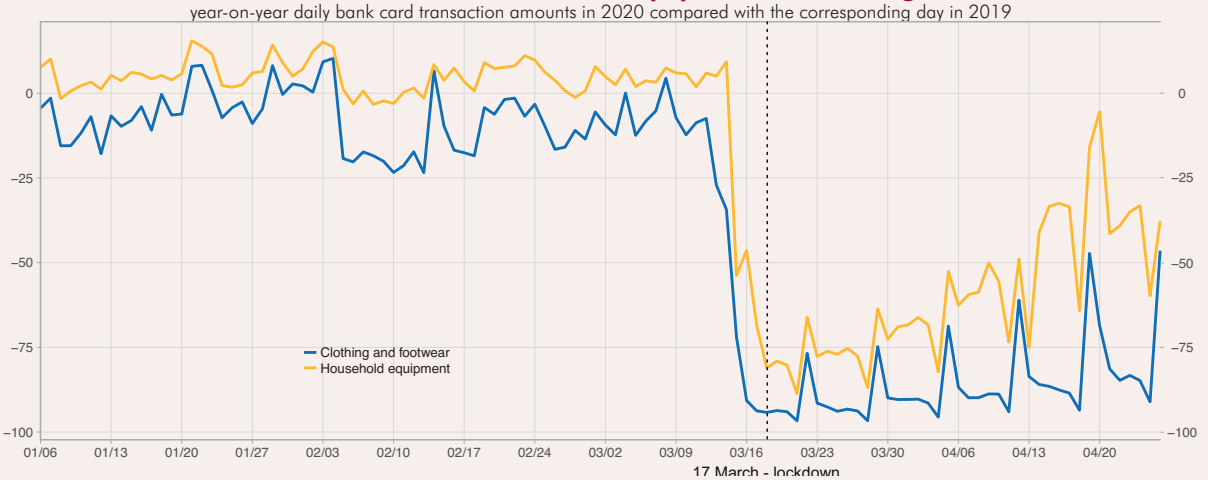
Despite the closure of retail outlets, clothing-footwear and household equipment goods can still be bought online. The increase in bank card transactions in this sales channel, compared to physical sales, confirms this phenomenon for all purchases made by households[1] (*Figure 2*). In general, online sales declined much less than physical sales at the start of the lockdown.

However, other products remain at very low levels of consumption, with no notable increase. This is the case for fuel, with consumption since the beginning of lockdown remaining at around 75% less than in 2019 for the same period (*Figure 3*). This trend is even more marked in the case of accommodation and catering which, due to compulsory closures, have experienced a near-total collapse in consumption since the start of lockdown. ■

1. The year-on-year peak observed on Monday 20 April 2020 in both physical sales and online sales is linked to the fact that the corresponding day in 2019 was Easter Monday, a public holiday and hence one of low consumption.

1 - Bank card transactions in the household equipment and clothing-footwear sector

year-on-year daily bank card transaction amounts in 2020 compared with the corresponding day in 2019

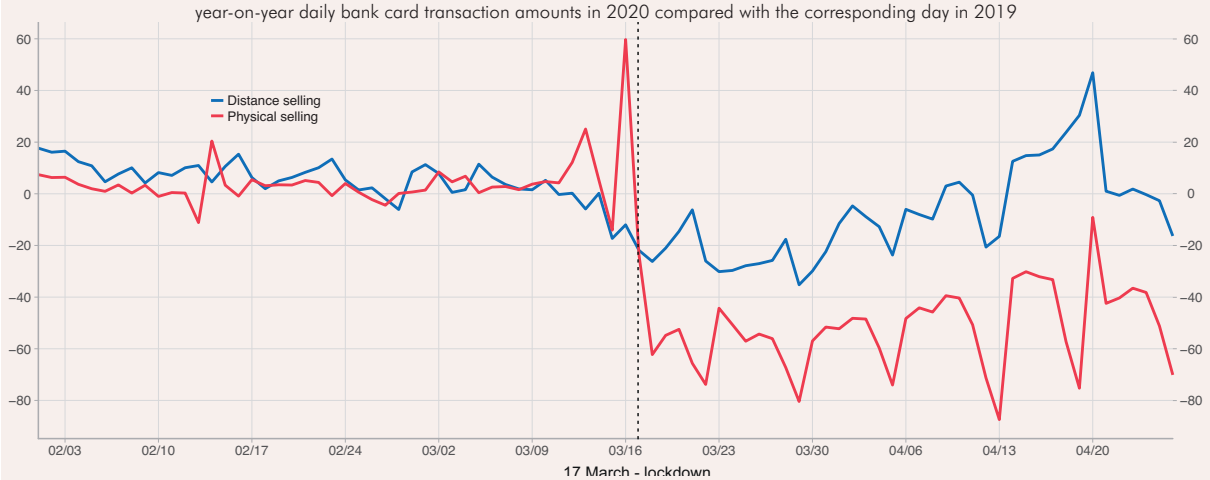


How to read it: the amount in bank card transactions for purchases of clothing-footwear on Sunday 19 April 2020 was 47% less than the amount on Sunday 21 April 2019.

Source: Cartes Bancaires CB, INSEE calculations

2 -Bank card transactions in store and online

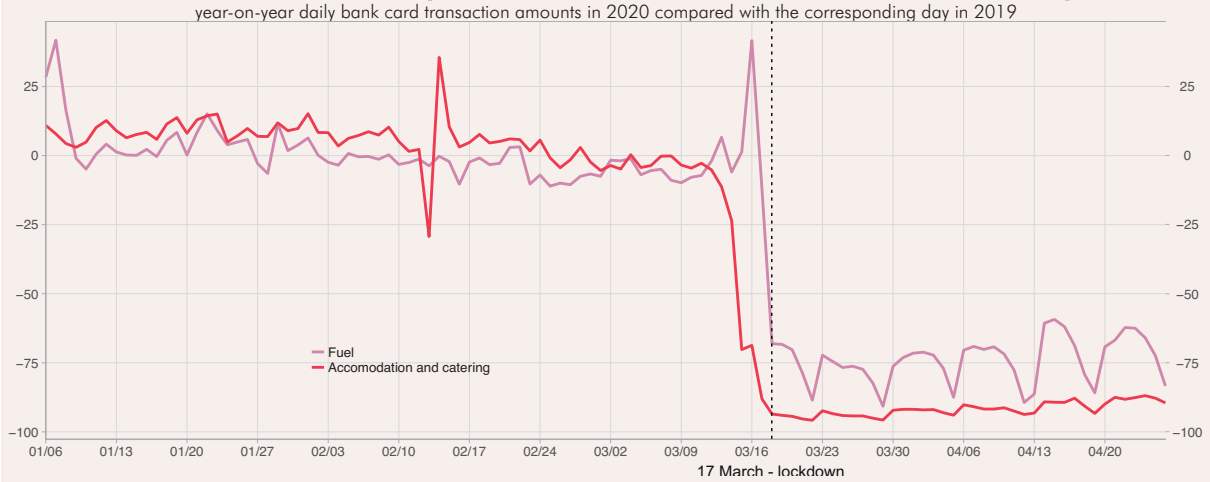
year-on-year daily bank card transaction amounts in 2020 compared with the corresponding day in 2019



How to read it: on Sunday 19 April 2020, online sales by bank card were 30% higher than on Sunday 21 April 2019.
Source: Cartes Bancaires CB, INSEE calculations

3 - Bank card transactions for purchases of fuel and in the accommodation-catering sector

year-on-year daily bank card transaction amounts in 2020 compared with the corresponding day in 2019



How to read it: the amount in bank card transactions for purchases of fuel on Sunday 19 April 2020 was 85% less than on Sunday 21 April 2019.
Source: Cartes Bancaires CB, INSEE calculations

Regional disparities in consumption: what do bank card transaction data tell us?

The aggregated data used in this sheet were provided by Cartes Bancaires CB and cover the majority of bank card transactions. They consist of data extracted from anonymised transactions aggregated at departmental level so that confidentiality requirements are respected. This information does have some limitations. The data used here concern any holder of a CB bank card on French territory, and this can be households but also businesses. These data do not include transactions using other payment methods (cash, cheque, luncheon vouchers, etc.). In addition, unlike the data used at national level, in particular for estimating the loss of household consumption, departmental data include certain transactions that cannot be assimilated to consumption (donations to associations, purchase of tax stamps, etc.). Finally, remote transactions (especially online transactions) are not taken into account.

A general decline in all areas of the country

All regions of Metropolitan France experienced a sharp decline in their bank card transactions when lockdown was imposed. Île-de-France is the metropolitan region that was most affected with a 65% decrease in bank card transactions during the week of 23 to 29 March (first full week of lockdown) compared with the same week in 2019. In the other regions the number of transactions during this week declined by between 59% and 52%. Since then, bank card transactions have picked up slightly. The week of 20 to 26 April was notable for decreases ranging from 35% to 51% compared with the same week in 2019.

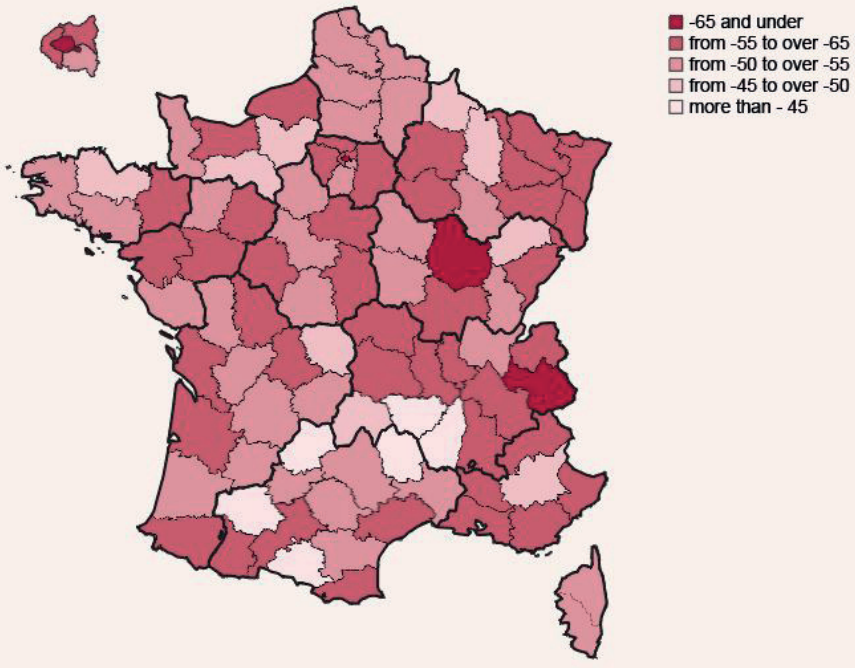
Although these regional disparities remain fairly small, they hide more significant local differences (*Figure 1*). The overall amount of transactions carried out in Paris during the week of 23 to 29 March was down 78% compared to last year and in Côte-d'Or this amount was down 66%. Conversely, the Ariège, Lozère and Gers departments saw their overall amount of transactions decline by 40% to 43% compared with the same week last year.

Regional factors of resistance

In the most sparsely populated departments, the overall amount of bank card transactions seems to have held up rather better (*Figure 2-A*). In the most densely populated departments, transaction amounts tumbled by 60% between the week of 2 to 8 March and the week of 23 to 29 March, for example, while this slump in the most sparsely populated departments was around 50%. In the departments of Paris, Savoie, Hautes-Alpes and Hautes-Pyrénées, there were some significant and atypical variations in bank card transactions, probably due to the early closures of winter sports resorts, the drop in tourist numbers, as well as the population movements observed when lockdown was announced.

Figure 1 - Bank card transaction amounts by department during the week of 23 to 29 March

year-on-year weekly bank card transaction amounts in 2020 compared with those of the corresponding week in 2019, %



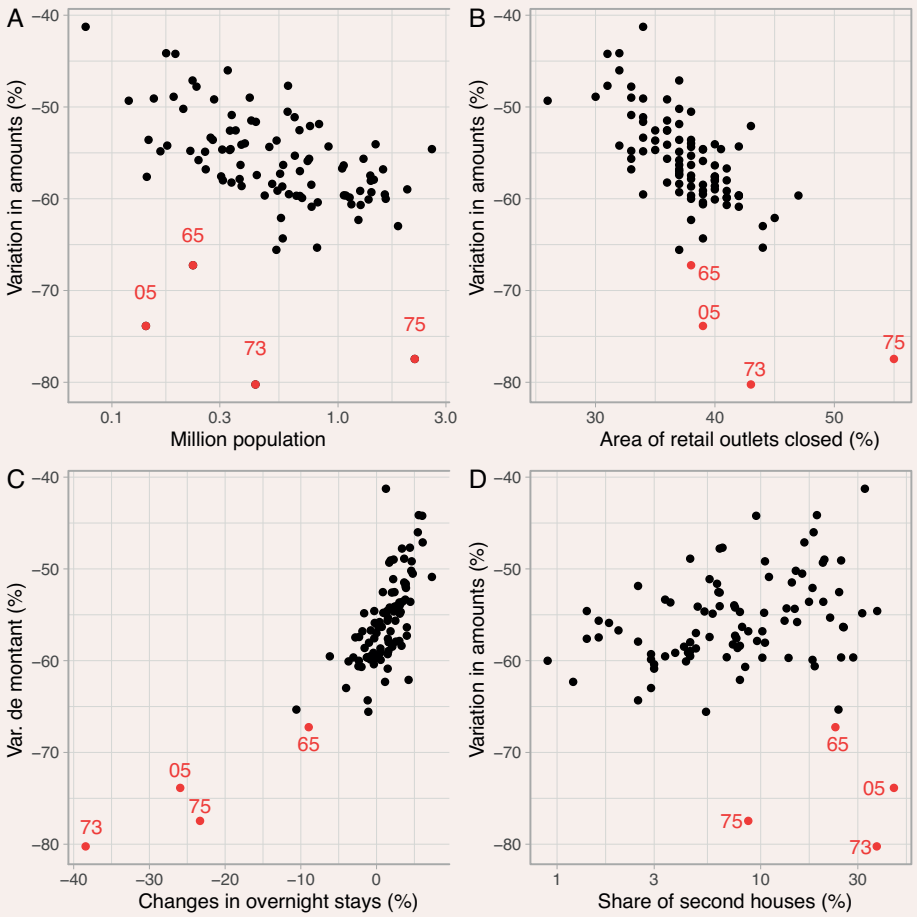
How to read it: During the week of 23 to 29 March, the departmental transaction amount in Côte-d'Or declined by 66% compared with the same week in 2019

Sources: Cartes Bancaires CB , INSEE calculations

In fact, this departmental variability can be explained in part by supply shocks. The obligation to close all establishments open to the public did not affect all departments in the same way. The most populous are also the ones that contain proportionally more retail space allocated to businesses supplying personal and household equipment. These businesses were obliged to close their stores, while food shops were exempt from closure. The correlation between retail space and variations in amounts was therefore very negative (*Figure 2-B*).

There are other explanatory factors to be found on the side of demand shocks. The correlation between variations in aggregated bank card transaction amounts and variations in overnight stays observed by INSEE from anonymised aggregated data from Orange was also very high. Transaction amounts declined further in departments where there was a decrease in overnight stays (*Figure 2-C*). Lastly, departments with the most second homes experienced, for the most part, a smaller drop in spending (*Figure 2-D*). ■

Figure 2 - Some explanatory factors for departmental disparities in variations in transaction amounts before and during lockdown



How to read it: The Côte-d'Or department experienced a 66% decline in the amount of transactions between week 13 and week 10 of 2020. The population of the department is the municipal population for 2017. The area of retail outlets closed is calculated mainly from the real estate contribution paid by businesses (CFE) (see Box 1 of INSEE Focus n°188 https://www.insee.fr/fr/statistiques/4474959). Changes in overnight stays correspond to scenario 1 from the Press Release of 8 April 2020 in collaboration with Orange. The share of second homes (including occasional dwellings) in the total number of dwellings 2016 is based on the population census.

Sources: INSEE, Cartes Bancaires CB, INSEE calculations

International developments

The first institutional data available for Q1 2020 testify to a severe drop in activity in the advanced economies, all affected by the lockdowns imposed in March. This decline in activity resulted in several hundreds of thousands of job losses in March 2020 in the European countries and the United States. High-frequency indicators are a source of information on the drop in activity that continued into April and on the modest recovery accompanying the end of lockdown in some countries.

Caution is recommended when comparing GDP flash estimates for different countries in Q1

In the first half of March, the main Eurozone economies adopted measures restricting economic activity, the first being introduced on 11 March in Italy, on 14 March in Spain and 15 March in France, to stem the spread of the coronavirus. On 23 March, the United Kingdom also adopted measures to contain the epidemic, with the United States following on from 19 March, although to varying degrees in different States. The same happened in Japan, which declared a state of emergency on 7 April.

The first estimates from the accounts for Q1 2020 published by the national statistical institutes indicate a severe drop in economic activity. In France, activity shrank by 5.8% in Q1 2020 due to a sharp decline in all demand items, especially investment (–11.8%). In Spain and Italy, the fall was of a similar order of magnitude, i.e. –5.2% and –4.7% respectively. Although national statistical institutes followed Eurostat's recommendations for the GDP flash estimate, the differences in growth rate between countries must be interpreted with caution. Estimates produced in this unprecedented context have relied on less conventional methods and indicators which are therefore less comparable than usual. These estimates are therefore liable to be revised more substantially than usual. However, estimates for the Spanish and French GDPs, for example, appear to be similar in various methodological aspects: alternative sources used for completing missing information in March 2020 (e.g. bank card data) and the adjustment of models to better take into account the downward shock in the indicators.

In the United States, lockdown was imposed in the second half of March, although to differing degrees in the different States, and GDP fell back 1.2% in Q1 2020, particularly badly penalised by the drop in consumption (–1.9%), especially consumption of services (–2.5%) and durable goods (–4%). Consumption of non-durable goods increased (+1.7%). According to the US Congress, GDP could fall dramatically by 12% in Q2.

The economic consequences of the lockdown measures, which were already visible in March, were also felt in April, especially in the IHS Markit business surveys. Thus the composite PMIs, advance indicators for all economic activity, fell again in April in all the advanced countries, after a drastic fall in March (*Graph 1*). In the Eurozone, the index lost 16 points in April after a drop of 22 points in March. In Germany, the index lost almost 18 points after plummeting by 16 points in March (against –23 then –18 points in France). The index tumbled by 14 points in the United States (after a drop of 9 points in March) and plummeted by 22 points in the United Kingdom, reaching some very low levels (after a drop of 17 points in March). In April, in all these countries, the index reached a particularly low level, well below 50, the threshold below which activity falls back.

The decline in activity resulted in heavy job losses in the advanced countries

This sharp drop in activity also resulted in net job losses in the advanced economies. In Spain, the Ministry of Labour recorded an increase of just over 300,000 jobseekers in March 2020, or +9% compared with February 2020 and March 2019. The Spanish statistical institute also estimated the decline in employment, in terms of hours worked, at –5.0% compared with the previous quarter and at –1.8% in full-time equivalents. In France, according to Pôle Emploi, the number of Category A jobseekers grew by 243,000 in March 2020, a 7.5% increase compared with February. At the end of Q1 2020, payroll employment in the private sector in France fell by 2.3%, or more than 450,000 net job destructions in one quarter. In addition, companies have applied for the short-time working scheme for more than half of private sector employees. In Germany, according to the IAB (research centre for the German employment office), the number of jobseekers is expected to increase by 520,000 across the whole of 2020 and according to a survey by the University of Mannheim, the proportion of jobs turned over to short-time working increased from 3.4% to 10.8% between mid-March and mid-April.

In the United Kingdom, between 16 March and 13 April, about 1.8 million people applied for Universal Credit, a single allowance combining several of the social benefits that existed previously. This allowance is conditional upon job search or training and workers on low salaries can also receive it. According to a survey by the *Office for National Statistics*, it appears that 27% of employees were put on leave between 23 March and 5 April. 40% of companies reduced their workforce and 29% reduced working hours.

In the United States, new requests for unemployment benefits between 15 March and 25 April exceeded 30 million (more than 18% of the labour force and almost 19% of the population in employment). Faced with this sharp increase in numbers registering for unemployment insurance and the paralysis of a large proportion of economic activity, some States relaxed lockdown measures, and allowed non-essential businesses to reopen. According to the *Congressional Budget Office*, the nonpartisan economic agency of economic and budgetary analysis of the US Congress, the unemployment rate is likely to peak at 16% in Q3 2020. A drop in the participation rate to 59.8% in Q3 (after 63.2% in Q1) is expected to absorb part of the job losses; without this fall in the participation rate, the unemployment rate could be even higher. Job losses are very high in accommodation-catering, retail trade and services to businesses, sectors that have been particularly badly affected by the drastic drop in activity.

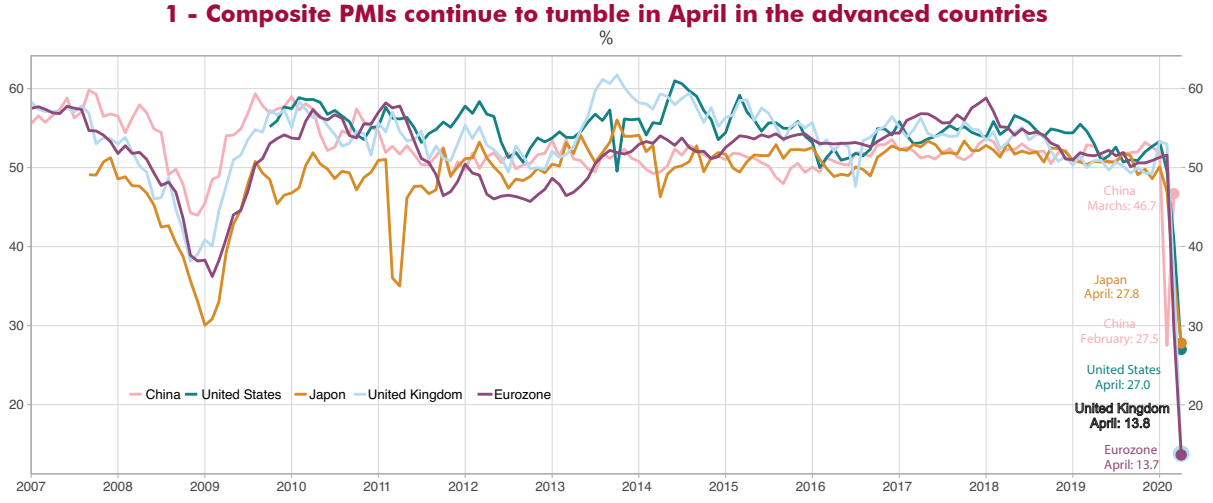
It should be noted that these points relate to the period of lockdown experienced by these countries until at least mid-April and therefore do not include lockdown exit measures initiated at the end of the month, both in Europe and the United States. However, by using high-frequency indicators their first effects can be measured.

A slight recovery in activity started in late April in some European countries, as the high-frequency indicators show

Towards the end of April, some countries were already starting the process of bringing the population out of lockdown and were lifting restrictions on activity (*Graph 2*). The Stringency Index of restrictions produced by the University of Oxford's *Blavatnik School of Government* identifies and combines in a single measurement all lockdown health measures and closures of businesses, administrations and schools in around a hundred countries. According to this index, lockdown remains very restrictive in France, Italy and Spain, but is easing in Germany and the United States. In Germany in particular, the first phase of a lockdown exit began at federal level on 20 April with the reopening of businesses with a surface area of up to 800 m², and also car dealers, bicycle shops and bookshops, with no surface area requirements; a second phase began on 4 May with the gradual reopening of schools and hairdressers. However, the lifting of lockdown also depends on the Länder: whereas in North Rhine-Westphalia, even local non-food shops have been welcoming customers since 20 April, in Bavaria and Hamburg, they remained closed until 27 April. In Italy, only strategic businesses and exporting companies were able to resume their activities on 27 April (e.g. some factories in the Fiat-Chrysler group or Valentino), and then only after inspection and approval by the Prefecture. On 4 May, the chemicals, plastic materials, metallurgy, machine tools, construction and telecommunications branches were also allowed to resume their activities.

In Spain, from 11 April, productive activities were able to start up again gradually, but the population remained in lockdown until 9 May. In France, phase 1 of the lifting of lockdown is set

1 - Composite PMIs continue to tumble in April in the advanced countries



Source: IHS Markit

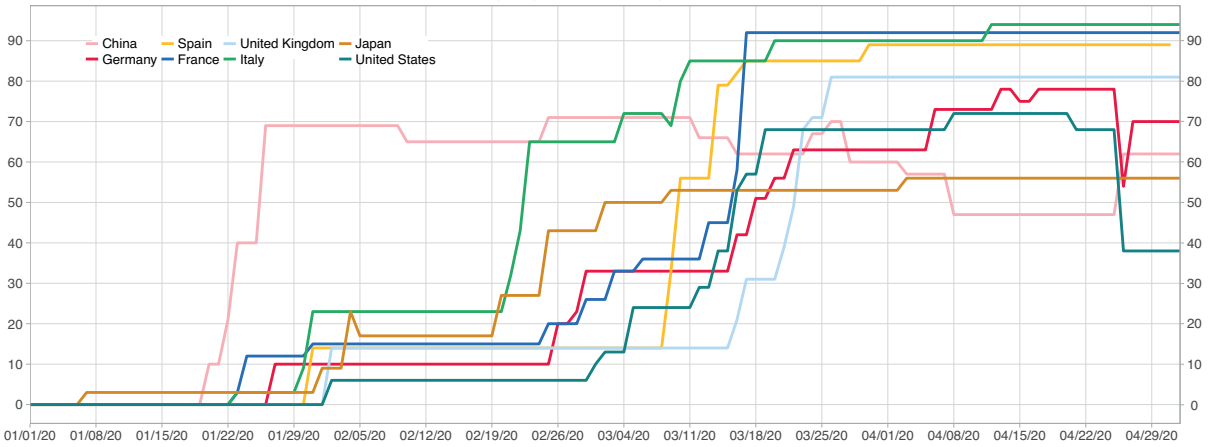
to begin on 11 May. In the United States, some States, mainly those in the South and in the Great Plains (Alaska, Alabama, Colorado, Georgia, Tennessee, South Carolina, etc.) decided to reopen non-essential businesses, some on 21 April.

The effect of opening some businesses on 20 April in Germany, ahead of the other European countries, is reflected particularly in the Google search queries relating to shopping centres (*Graph 3*), which give an indication of retail sales and household consumption. The number of search queries in the week of 20 April for German shopping centres was "only" 35% lower than the same period in 2019, against 70% the previous week. In the other three major Eurozone economies, and in the United Kingdom and the United States, this indicator remains very low indeed, 70% to 80% lower than in 2019 for the same week.

Another index that is representative of activity overall is electricity consumption. This indicator reveals the same type of difference between Germany on the one hand and France, Italy and Spain on the other. The drop in electricity consumption that started in mid-March was greater in Italy, Spain and to a lesser extent in France, than it had been in Germany (*Graph 4*). As the lockdown began to be lifted, on 20 April in Germany and 11 April in terms of resuming productive activity in Spain, the loss of electricity consumption compared with 2019 was 12% and 34% respectively in these two countries. The gradual recovery of activity was then accompanied by an increase in consumption. Thus, in Germany, electricity consumption in the

2 - Lockdown eases a little in Germany

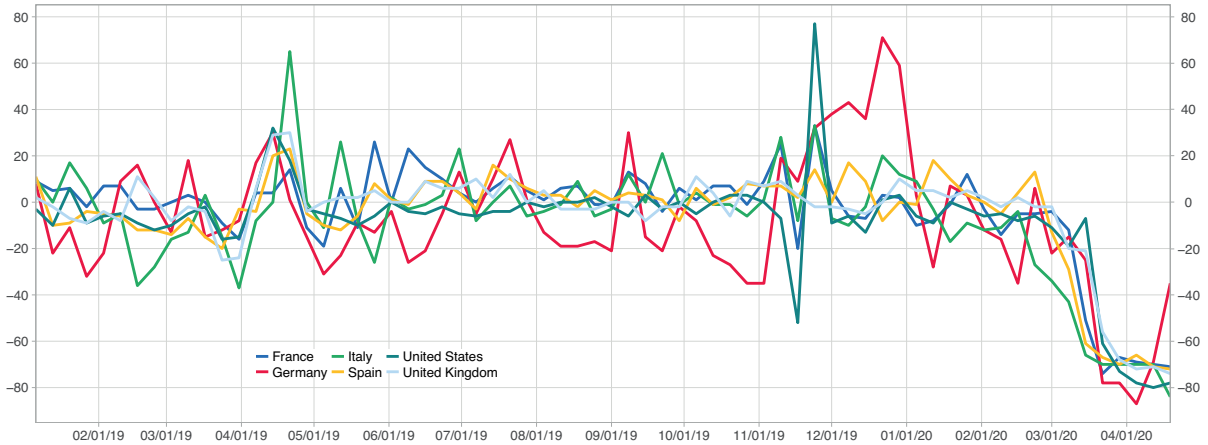
Stringency Index University of Oxford



Source: Hale, T., Webster, S., Petherick, A., Phillips, T., et Kira, B. (2020). Oxford COVID-19 Government Response Tracker, Blavatnik School of Government

3 - Google Trends search queries for shopping centres suggest an upswing in activity in Germany

Google searches for shopping centres (year-on-year weekly data)



Note: search volumes are the average number of searches for different shopping centres in the largest cities in the countries.
Source: Google Trends, calculs Insee

week of 22 to 26 April was only 6% lower than its 2019 level over the same period, and 17% for Spain. In France, whereas electricity consumption in the week before lockdown was a little over 2% more than in 2019 over the same period, at the end of April 2020 it was 16% less than in 2019. With lockdown still in force, electricity consumption in France stabilised at a low level. In any case, monitoring electricity consumption gives an initial indication of economic activity and production, as businesses and factories are the primary consumers of electricity (see *Focus on electricity in the case of France*). However, in most countries, it has not been possible to differentiate electricity consumption according to institutional sector.

The numbers of people frequenting public places is a third high-frequency indicator of the collapse then the gradual upswing in activity, especially in transport services and shops, but also in the economy as a whole, via the movements of workers and/or consumers. In this respect, Germany once again stands out, even during lockdown: here, the numbers frequenting public places, both shops and public transport, seem to be much less affected than in the other European countries. For example, the decline in numbers on public transport was 49% in Germany against around 80% in the other three largest Eurozone countries (*Table 1*). However, although the numbers in public places showed some variation during April, there was no significant rebound, either in Germany or in the other countries.

This difference between Germany and the other three major Eurozone economies is also reflected in the daily air pollution data determined by measuring concentrations of nitrogen dioxide (*Graph 5*). Nitrogen dioxide emissions are due mainly to combustion phenomena occurring in road transport and the heating of buildings. Thus its concentration can reflect road transport activity, and hence economic activity in general. At the end of April 2020, nitrogen dioxide levels in Germany were 29% lower than for the same period in 2019, against 45% in France, two countries that had previously seen only small changes in climate conditions over a year.

1 – Indicator of people frequenting public places in April in the advanced countries

in %

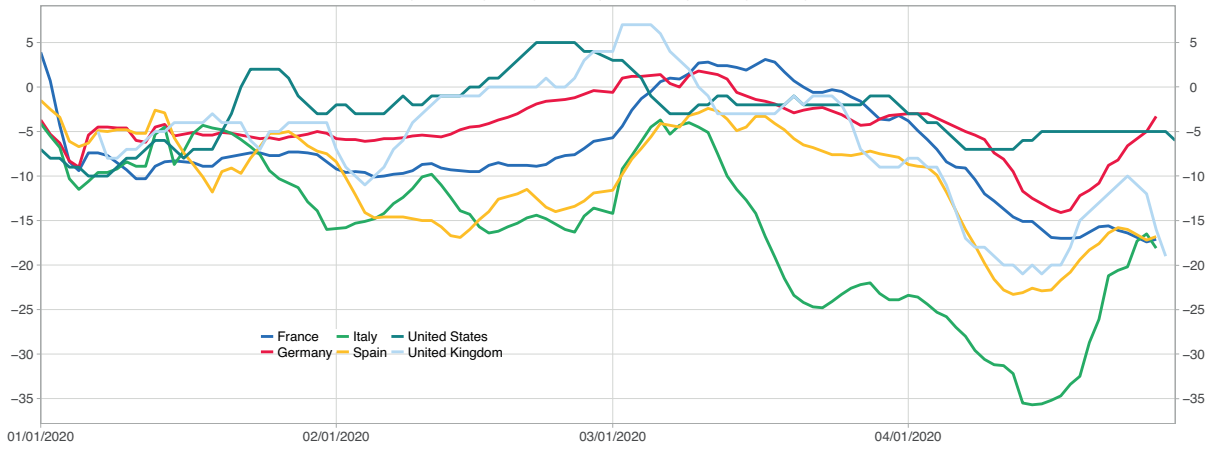
Indicators	Google Maps Mobility: retail trade and entertainment			Google Maps Mobility: food shops and pharmacies			Google Maps Mobility: public transport		
	6 apr.	17 apr.	26 apr.	6 apr.	17 apr.	26 apr.	6 apr.	17 apr.0	26 apr.
Germany	–56	–55	–52	0	–4	3	–48	–49	–39
France	–86	–81	–83	–39	–33	–58	–79	–79	–77
Italy	–86	–79	–92	–42	–34	–74	–78	–76	–81
Spain	–92	–89	–92	–44	–45	–66	–84	–81	–82
United States	–45		–42	–7		–16	–49		–48
United Kingdom	–82	–75	–78	–41	–30	–37	–70	–71	–64
Japan	–30	–31	–45	4	4	–9	–48	–46	–58

Notet: Comparison of numbers of people frequenting different places on a given date compared with a reference situation. For the most recent data, this situation is given by the median number of people visiting these places each Tuesday (corresponds to Tuesday of the week of 25 April).

Source: Google Maps Mobility

4 - Change in electricity consumption in the main advanced countries

electricity consumption (year-on-year moving average 7 days, in %)



Note: Each point represents the difference between average daily electricity consumption in 2020 compared to the corresponding day in 2019 (2015-2019 average for the United States). Data for the Eurozone are adjusted for effects of temperature.

Source: Data from the ENTSO-E transparency platform for electricity consumption in EU countries, website of the US Energy Information Administration (EIA) for electricity consumption in the United States

Comparisons monitoring the effect of changes in meteorological situations have been proposed by CREA (*Centre for Research on Energy and Clean Air*), a Finnish independent research body: after excluding the effects of meteorological conditions, the concentration of nitrogen dioxide appears to have decreased by almost 45% in France and Italy in April, against a drop of 51% in Spain and 21% in Germany.

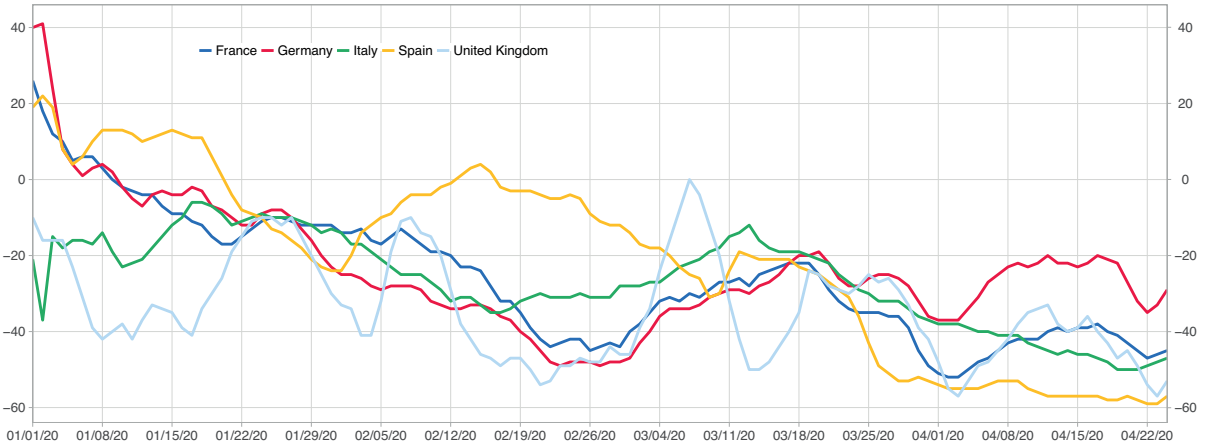
Outside the Eurozone, in the United Kingdom, with the exception of the peak in temperature from 24 to 26 April (–10% in electricity consumption), the drop in electricity consumption compared with 2019 has varied between –15% and –20% since 7 April and the concentration of nitrogen dioxide in the air is down to almost half of the average for the same period in 2016-2019. According to CREA, the concentration of nitrogen dioxide in the United Kingdom declined by 36% in April compared with previous years, once meteorological factors are taken into account. In the United States, between the end of March and 28 April, electricity consumption fell by only 6% compared with its daily average from 2015 to 2019. However, by late March, after containment measures were introduced in the States concerned, pollution on the north-east coast of the United States was 30% below its 2015-2019 average. Finally, in Japan, electricity consumption was about 10% lower than in 2019.

The recovery can also be monitored using road traffic indicators. Road traffic in major German cities seems to have picked up in the week of 20 April, as shown by the road congestion levels published in the TomTom Traffic Index (*Table 2*). The index is only 2% lower than the average index for 2019 between 20 and 27 April, whereas it was almost 34% lower between 13 and 19 April. In France, Italy and Spain, traffic conditions have changed only very slightly. At the end of April, the congestion index was still between 60% and 75% lower than the average index for 2019 compared with a drop of between 66% and 80% in the preceding week. The same scenario emerges from data on car journey searches with Apple Maps (*Graph 6*). In the United Kingdom, road traffic seems to have increased slightly but was still far below 2019 levels. This was also the case in the United States.

Finally, air traffic is an indicator of recovery in trade between countries. At this time, commercial passenger air traffic is still at a standstill in most European countries, with the exception once again of Germany. It is also at a standstill in the United Kingdom and the United States and is still very much below normal levels in China.■

5 - Change in air pollution in the main European countries

difference (in %) in concentration of nitrogen dioxide measured in the air in 2020 compared with 2016-2019 average



Note: Each point represents the difference between the average weekly concentration (moving average 7 days of daily data) of nitrogen dioxide (NO2) measured in the air at monitoring stations across the entire country in 2020 compared with the average of this concentration in the same week in the years 2016-2019. The calculated average is the simple average, without adjustment for meteorological variations or demographic weighting. From 18 to 24 April, the concentration of nitrogen dioxide in the air in the United Kingdom was on average 53% lower than the average for 2016-2019.

Source: European Environment Agency, INSEE calculations

Table 2 - Indicator of road traffic conditions in major cities and air traffic

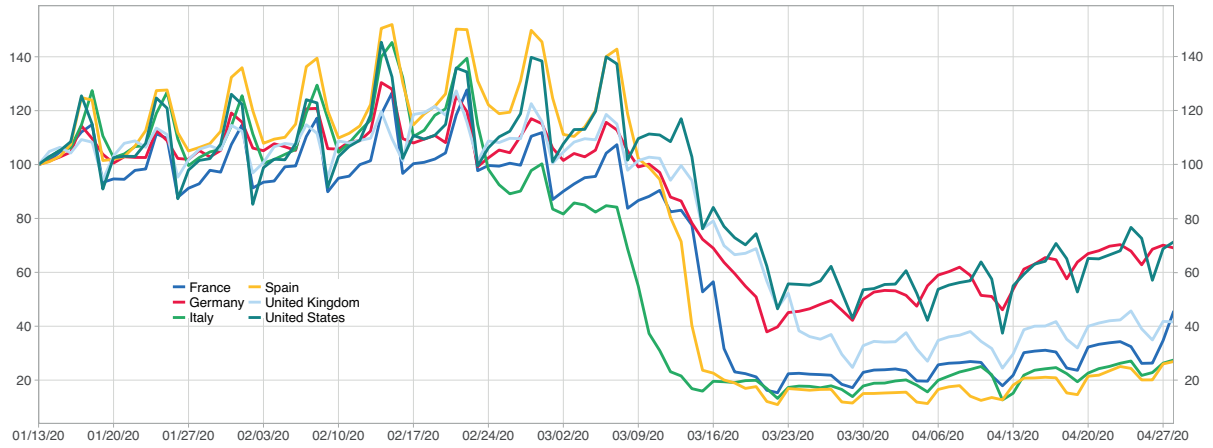
in %

Indicators	Road traffic (congestion index)		Air traffic	
	week of 13 April	week of 20 April	week of 13 April	week of 20 April
Germany	–34	–2	–40	–52
France	–80	–75	–74	–79
Italy	–75	–70	–75	–80
Spain	–66	–61	–77	–84
United States	–85	–80	–70	–75
United Kingdom	–80	–70	–92	–91
Japan	–48	–60	–60	–75
China	–7	–5	–58	–58

Source : TomTom website for road traffic in major cities, difference between daily average of traffic congestion index from 20 to 27 April and average of the index in 2019; Flightradar24 website for air traffic, ratio of the number of flights cancelled to the number of flights usually scheduled in the country's 3 largest airports between 27 March and 20 April.

6 - Change in searches for journeys on Apple Maps since 13 January 2020

in %



Note: This is the number of searches for car journeys on Apple Maps, as a proportion of the level on 13 January 2020. In the United States on 28 April, the number of searches was down 29% (100-71) compared with its level on 13 January

Source: Apple Maps

Bibliography

Contact restriction extended,(2020) Chancellerie allemande, 15 avril 2020, https://www.bundeskanzlerin.de/bkin-en/news/fahrplan-corona-pandemie-1744276

CBO's Current Projections of Output, Employment, and Interest Rates and a Preliminary Look at Federal Deficits (for 2020 and 2021), Congressional Budget Office (CBO), 24 avril 2020

Hale, T., Angrist, N., Webster, S., Petherick, A., Phillips, T., et Kira, B (29 avril 2020), "Variation in Government Responses to COVID-19", Version 5.0., Blavatnik School of Government Working Paper.

Hale T., Webster S., Petherick A., Phillips T., et Kira B. (2020). Oxford COVID-19 Government Response Tracker, Blavatnik School of Government

Short-term data development of economy and Labor Market, IAB (Centre de recherches de l'Office pour l'emploi), avril 2020.

https://www.iab.de/en/daten/arbeitsmarktentwicklung.aspx

Myllyvirta L. et Thieriot H.,(2020) 11,000 air-pollution related deaths avoided in Europe as coal, oil consumption plummet, Centre for Research on Energy and Clean Air, 30 avril 2020.

https://energyandcleanair.org/air-pollution-deaths-avoided-in-europe-as-coal-oil-plummet/ ■

French economic outlook

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