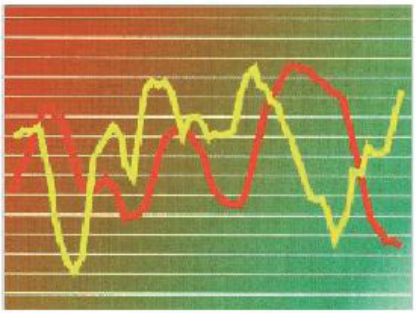
INSEE CONJONCTURE

POINT DE CONJONCTURE



9 APRIL 2020

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Introduction

On 26 March, 9 days after lockdown measures were imposed on the French population to fight the spread of the Covid-19 virus, INSEE's first estimate of the immediate loss of economic activity was around one third, as a result of an entire section of the French economy being placed on standby.

Two weeks later, as announced, this real-time estimate has been updated and clarified in a new Point de Conjoncture. On 9 April 2020, taking into account the information that INSEE has been able to collect, the order of magnitude of this loss of activity is confirmed. It stands at over a third of GDP (–36%). In the mainly market sectors (which represent 78% of GDP), the loss of activity is estimated at –42%, with nevertheless some strong contrasts: some services are at a virtual standstill (accommodation and catering), as are some branches of industry; if we take the example of agrifood industries, on the other hand, they are operating at a level fairly similar to normal. Household consumption has also dropped by around a third (–35%). Within the scope of the market sector, the decline in household consumption is on the face of it slightly less than that in economic activity, probably the result of a strong destocking trend. Compared with the Point de Conjoncture published on 26 March, this second edition provides a more detailed breakdown of the sectors of activity, and the methodology used is further developed.

These estimates place less reliance than usual on the results of INSEE's business tendency surveys. Although these surveys provide valuable information, collecting them has become difficult as a result of the current health crisis. In addition, the surveys for March mainly reflect the opinions of business leaders surveyed in the first half of the month (opinions that were already tinged with a great deal of anxiety), hence before the lockdown. It is likely that the April surveys, to be published in two weeks' time, will show an even greater slump in the business climate.

To measure the strength of the current crisis, the method adopted by INSEE is very different from the more traditional method used during the 2008-2009 crisis, which was on a lesser scale. Our estimates are based on less conventional sources: qualitative feedback, and high-frequency data such as information from bank card transactions and search engine statistics, for instance. Once again, we would like to thank the wide variety of bodies that provided us with information: CB Bank Card Group, SNCF Réseau, RTE, the Directorate General for Enterprises, France Industrie and various professional federations. We also had productive discussions with our colleagues at Rexecode, OFCE (French Economic Observatory) and Banque de France. Of course, INSEE is solely responsible for these estimates.

As well as French bodies, some international bodies have also produced estimates of loss of activity for various countries, including France. For example, our colleagues at the OECD and also the ifo Institute (German institute for economic research) recently published estimates based on the assumption of uniform decline in activity in all sectors in the different countries studied. Differences between countries then mainly reflect sectoral differences. Our approach, focusing only on France, is based more on the data that were available to us, drawn from a very wide variety of sources.

Our estimate seems compatible with the first available global statistics, for instance on electricity consumption and the functioning of the labour market.

According to RTE France, the lockdown has led to a reduction in electricity consumption of around 15 to 20%, all other things being equal (equivalent meteorological conditions), with a significant decline in the major manufacturing industries (–27% in the second week of lockdown compared with the pre-crisis period) and rail transport (–57%), whereas residential consumption has tended to increase.

Regarding the labour market, our colleagues at DARES have published a weekly dashboard tracking, among other things, the figures for people on short-time working schemes. It is likely that by 7 April 2020, there will be 6.3 million employees on these schemes, or almost one third of all private sector employees. This figure could increase further in the short term, as companies have 30 days from the middle of March to submit their applications, with retroactive effect.

Next, we will carry out more in-depth analyses to link these statistics to the estimated drop in activity sector by sector.

Alongside these global assessments, we were also able to use bank card data to analyse consumer behaviour at a more detailed level, both before and during the lockdown. There was large-scale panic-buying just before the lockdown: for example, food spending on Monday 16 March 2020 was more than three times that of the corresponding Monday in 2019. Household consumption has since stabilised and is in sharp decline compared with normal, but in different ways depending on the sector. Distance selling has declined less than "physical" selling. But even in sectors where transaction amounts are maintained, purchase frequency is decreasing, although there is a tendency for the average basket to increase.

Finally, as in the 26 March Point de Conjoncture, we are not seeking to forecast quarterly GDP growth in this new edition, much less growth for the year. If it proves possible, INSEE's national accountants will

publish the first estimated accounts for Q1 2020 at the end of April. GDP growth is likely to be strongly negative in Q1 and probably even more so in Q2, depending on the duration of the lockdown and how it is lifted.

We retain the estimate of an accounting loss of 3 annual GDP points for one month of lockdown. The effective loss will in all probability be greater because, as many economists have already pointed out, it is very unlikely that the lifting of the lockdown will be followed by an immediate return to normal economic activity: it will be a gradual process; the reopening of businesses that have been closed and the return to normal consumer habits will not happen immediately; workers with children to look after will not necessarily become available straight away. In addition, the longer the lockdown lasts, the more time the value chains in some sectors will need in order to reorganise, and the more adversely affected activity in some services to businesses will be in the long term.

Beyond their immediate impact, estimated here, the effects of the measures taken to contain the epidemic will cast a shadow over the weeks and months to come, especially as the lockdown is going to be long. ■

Measurements and forecasting in times of crisis: a comparison with 2008-2009

A look back at the period 2008-2009 serves to demonstrate the totally unprecedented nature of the current shock. It is a reminder of the difficulties in measuring and forecasting in times of crisis, difficulties which are exacerbated in the current context. In 2008-2009 quarterly estimates and forecasts continued to be produced every three months following the usual calendar for Conjoncture in France, based on the usual tools for monitoring activity. It was only gradually that the extent of the shock was revealed. The exceptional nature of the crisis we are currently experiencing has forced INSEE to focus on measuring immediate activity, on a twice-monthly basis, and using new sources. It is on the basis of these data that forecasting work can once again be envisioned, when details of the lifting of the lockdown are known..

In INSEE's first post-lockdown Point de Conjoncture, published on 26 March 2020, the Institute estimated that the immediate loss of activity stood at around –35% and showed that, if extended for one month, such a loss of activity must mechanically result in a 12% decline in quarterly GDP and a 3% decline in annual GDP. This new Point de Conjoncture confirms these orders of magnitude. However, these two figures, –12% and –3%, were not and are still not forecasts. The aim is merely to translate the immediate slump into the more familiar language of quarterly and annual growth rates, under the implicit assumption that there will be a strong rebound in growth as soon as the lockdown is lifted, mirroring the negative shock recorded when the lockdown started. These are therefore the lower bounds of the ultimate scale of the shock, given that the lockdown will probably continue and depending on the time it takes to return to normal activity.

The decision to focus on measuring immediate activity contrasts with what was done during the 2008-2009 crisis, when forecasts continued to be produced according to the usual calendars. A look back over this period highlights the totally unprecedented nature of the current shock and serves as a reminder of the difficulties involved in taking measurements and making forecasts in times of crisis; this is true even when the usual information can still be collected, which is no longer the case at present, forcing us to use new sources.

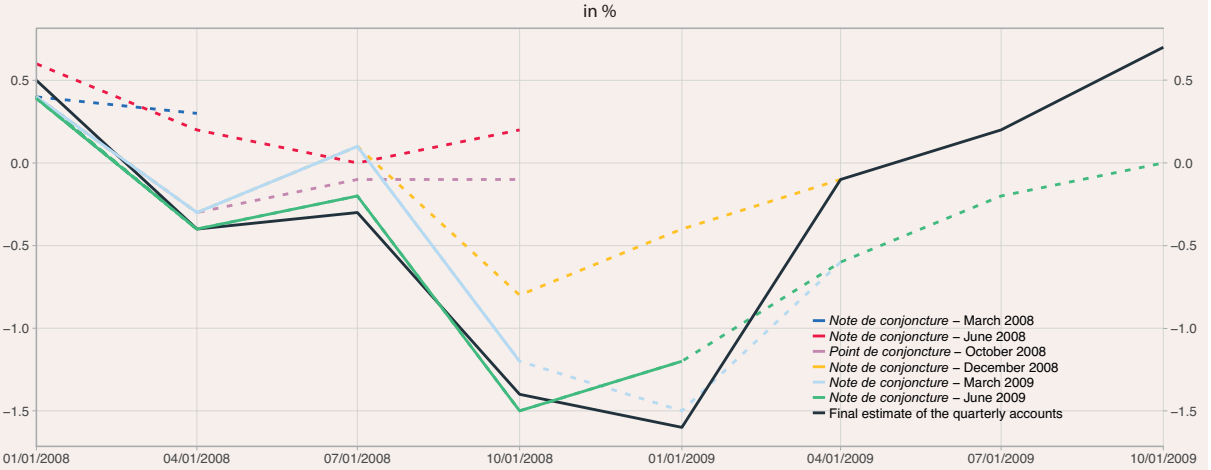
Return to 2008-2009

The 2008-2009 crisis is generally said to have been triggered by the collapse of Lehman Brothers on 15 September 2008. Although the bursting of the real estate bubble in the United States and several other countries dated back to 2007, and growth in this sector had already been severely affected, it was the collapse of this bank that was the trigger for a full-scale financial crisis that rapidly spread to the real economy in most countries. In France, GDP growth slumped from 2.4% in 2007 to 0.3% in 2008, and GDP fell back 2.9 points between 2008 and 2009.

How did INSEE's Conjoncture in France and Points de Conjoncture report this period? The graph below shows the trajectory of the quarterly GDP growth rate as it was reported and forecast in Conjoncture in France from March 2008 to June 2009. It also shows the final effective change as assessed today in the quarterly accounts.

To help with understanding this graph, note that the editions of Conjoncture in France published in December of year N–1 and March of year N project growth only in H1 of year N, as the March 2020 issue would have done if publication had not been cancelled. Conjoncture in France for June and the

Successive estimates and forecasts of quarterly growth for 2008 and 2009



How to read it: this graph covers the period from Q1 2008 to Q4 2009. For each Conjoncture in France or Point de Conjoncture, the solid part of the line gives the retrospective growth rates as evaluated by the quarterly accounts, while the dotted part corresponds to nowcasting in the current quarter and to forecasts in the following one or two quarters. The series represented by an entirely solid line (black) corresponds to the effective trajectory, as plotted in the current version of the quarterly accounts.

Source: INSEE

Point de Conjoncture for October of year N then offer a projection until the end of year N. With some exceptions, INSEE thus refrained from producing macroeconomic forecasts beyond six months, given that this is the period for which the predictive power of business tendency survey responses is considered acceptable.

However, this predictive power declined sharply just before and during the crisis. The graph shows that Conjoncture in France for March 2008 continued to forecast 0.3% growth for Q2 2008, whereas it was ultimately –0.4%. The following Conjoncture in France for June 2008 had begun to plot a slightly less favourable outlook: slight downward revision (0.2%) for growth in Q2, zero growth forecast in Q3 but followed by a slight recovery in Q4.

The Point de Conjoncture for October revised these figures down further, taking into account an initial decline in activity in Q2, and still expecting slightly negative growth in the next two quarters, of –0.1% in both cases. However, it was not able to evaluate the chain reaction triggered by the collapse of Lehman Brothers, as this was still too recent. It was only in the December Conjoncture in France that its effects started to be incorporated, by recording a decline of –0.8% for the current quarter. This figure was too optimistic, however: in the following Conjoncture in France, the quarterly accounts estimated this growth at –1.2%, a figure that was revised again several times in succession. It was henceforth estimated at –1.4%.

Two shocks of a very different scale and type

These difficulties in accurately measuring and forecasting were not specific to France. They were also experienced by all countries and categories of economic forecaster: national institutes, international organisations, bank economists. The problem is threefold: the difficulty in anticipating the crisis, the difficulty in properly assessing its magnitude once it has started, and finally the difficulty in forecasting the conditions for a return to normal.

Regarding the difficulty in forecasting the beginning of the crisis, we are certainly able to anticipate and warn about an increase in financial, economic or health risks, but it is rarely possible to say when exactly this risk will materialise. In this respect, the problem was the same in 2008 as at the present time, despite some triggering factors that are not relevant. Epidemiologists and economists encounter the same problem.

However, regarding the difficulty in measuring the strength of the crisis and forecasting a return to normal, the current situation differs from that of 2008-2009 in two respects:

• First is the fact that the 2008-2009 crisis had no impact on the conditions for collecting economic information, either for household/business surveys or for feedback from administrative sources. Its progress could therefore be monitored with the usual tools. In the current crisis these tools are very strongly impacted: some data collection has had to be suspended, and response rates to the surveys that were maintained were necessarily in sharp decline, despite the fact that online data collection has grown considerably over the last 10 years. This unprecedented situation accounts for the switch to unconventional sources: qualitative feedback, bank card data, electricity consumption data, etc. They have the advantage of being available quickly and at high frequency. However, their robustness for quantifying activity remains to be tested. It is only from business and household accounts that it will be possible to know ultimately to what extent activity and agents' income have been affected.

• Second, and above all, we are witnessing a shock of much greater magnitude. A shock estimated at a minimum of –12% on quarterly GDP and –3% on annual GDP is far stronger than the shocks of around –1.5% seen in Q4 2008 and Q1 2009. And it will be even more so if the lockdown is extended and/or if it is lifted only gradually. This unprecedented scale makes quarterly or annual forecasting very risky: it is impossible at this stage to say whether recovery will be fast or slow and whether it will be with or without the rebound effect, which would offset part of the immediate loss. The use of high frequency monitoring tools will assist in following this recovery process very closely, but it will still be very difficult to extrapolate its trend. ■

Economic activity

As of 9 April 2020, French economic activity is expected to be 36% lower than it would be in a normal situation. Market sectors are particularly affected by the health crisis and the lockdown measures, with a decline in activity of around 42%. If this same decline were to be maintained for one full month, it would translate into a reduction in annual GDP growth in 2020 of 3 points. This estimate is based on innovative methods and data: quantification at a detailed level of change in activity in sectors where some businesses and establishments are authorised to allow public access and some are not, feedback from professional federations and businesses, and high-frequency data (energy production, transport supply, bank card transactions).

As of 9 April 2020, French economic activity is expected to have declined by 36%. In the market sectors alone, the loss of economic activity looks set to reach 42%.

The estimated loss of economic activity has been revised only slightly since publication of the last Point de Conjoncture on 26 March 2020, but the robustness of the estimate has improved despite the limitations inherent to this exercise (Method). For the new estimate, additional and more detailed sectoral information was available on the effects of the lockdown, and estimation methods were improved.

As of 9 April 2020, based on available information, economic activity is expected to be around 36% lower than "normal", and 42% lower for the market sectors alone (Table 1). Economic activity in the market sector is therefore likely to be around 58% of normal levels. Due to their weight in the economy, the closure of establishments open to the public and the restrictions on movement, market services probably account for over half of this decline (–22 points). Trade, transport services and accommodation-catering alone are likely to contribute a third of the loss of activity. In industry, which is affected not only by the decrease in national and international demand, but also by difficulties in obtaining supplies and the lack of workforce, activity is expected to be down 44%, accounting for one sixth of the total loss of activity. The agrifood industry will probably be the least affected sector of industry, as its activity remains necessary to satisfy demand for essential goods. Finally, construction is likely to be affected mainly by the partial or total shutdown of building sites (contributing 5 points to the monthly loss of activity).

This estimate for the loss of activity is based for the most part on sectors whose activity is essential or is maintained or is not authorised, as well as on data obtained from federations and companies (Table 2). However, sources were cross-linked whenever necessary or possible: thus for a third of the sectors we have several sources of data of different types.

For one full month of lockdown, the loss of economic activity is equivalent in accounting terms to a loss of about 3 points of annual GDP growth

For one full month of lockdown and a decrease in economic activity equal to the estimated immediate loss, annual GDP growth is expected to be down 3 points. This estimate is unchanged from that given on 26 March, and is similar to the estimates from other bodies (Table 3). Differences in estimates are due to the approach used to construct GDP, the detail of the breakdown by sector, and the data sources used.

This extrapolation of the immediate loss of activity to annual GDP growth should not be taken as a forecast but rather as an accounting equivalent. In particular:

1) The effect of the lockdown in terms of activity is probably not linear over time. Consequently, annual GDP growth could be affected to a greater or lesser degree compared with the immediate loss estimated here and extrapolated to a full month;

2) Unless one makes the – fairly unlikely – assumption of a sudden improvement in the health situation, enabling an immediate general lift of the lockdown followed by an immediate return to normal, economic activity in the weeks, or even months, following the start of the lockdown will also be affected. Economic activity will take time to recover, because of constraints both in supply (gradual recovery depending on the sector, supply problems, partial lifting of lockdown restrictions, etc.) and demand (probable drop in household and business income, climate of uncertainty, asynchronous recovery in other economies, etc.). Thus it is difficult, at this stage, to predict and quantify the scale and timing of the resumption of economic activity.■

Table 1 - Estimated loss of activity linked with lockdown measures

Sectors	Share of GDP	Loss of activity	Contributions to loss of activity (GDP points)
Agriculture, forestry and fishing	2	–10%	–0.2
Industry	14	–43%	–6
Manufacture of food products, beverages and tobacco-based products	2	–5%	0
Coke and refined petroleum	0.2	–80%	0
Manufacture of electrical, electronic, computer equipment; manufacture of machinery	1	–72%	–1
Manufacture of transport equipment	1	–61%	–1
Manufacture of other industrial products	6	–53%	–3
Extractive industries, energy, water, waste treatment and decontamination	2	–23%	–1
Construction	6	–88%	–5
Mainly market services	56	–39%	–22
Trade; repair of automobiles and motorcycles	10	–56%	–6
Transport and storage	5	–64%	–3
Accommodation and catering	3	–90%	–3
Information and communication	5	–34%	–2
Financial and insurance activities	4	0%	0
Real estate activities	13	–1%	–0.2
Scientific and technical activities; administrative and support services	14	–47%	–6
Other service activities	3	–77%	–2
Mainly non-market services	22	–15%	–3
Total	100	–36%	–36
of which mainly market	78	–42%	–33
of which mainly non-market	22	–15%	–3

How to read it: As of 9 April 2020, economic activity is expected to have declined by 36% compared with a normal situation. Industry, where loss of activity is estimated at 43%, will probably contribute around 6 percentage points to this decline.
Source: INSEE calculations from various sources

Table 2 - Breakdown of estimate by data source type or estimation method

Source/method	Number of sectors concerned directly	Number of sectors concerned	Share of GDP	Contribution to loss of activity (GDP points)
Essential or maintained activity	29	29	38%	0
Non-authorised activity	21	21	21%	–14
Bank card	3*	18	3%	–2
Federation/company	68	99	22%	–15
Accounting assumption	17	35	16%	–6
Total	138	–	100%	–36

How to read it: data from federations/companies were used to estimate activity in 99 of the 138 sectors , and they were the main source used for 68 of them. These 68 sectors represent 22% of GDP and the change in their activity contributes around –15 points to the total estimated loss of activity..

Note : * In addition to these 3 sectors , bank card transactions were used to ensure the reliability of estimates of change in value added for 18 sectors in all.

Source: INSEE calculations from various sources

Table 3 - Comparisons of estimated losses of activity (GDP) for one month of full lockdown by body

Body	Publication date	Impact on activity (%)	Impact on annual GDP growth (percentage points)
INSEE	26 March 2020 then 9 April 2020	–35 then –36	–3
OECD	27 March 2020	around –25	-
OFCE	30 March 2020	–32	–2,6
Rexecode	31 March 2020	-	–3
Banque de France	8 April 2020	–32	–1.5 / 15 days

Source: INSEE, OECD, OFCE, Rexecode

Method

Economic activity is estimated by applying unusual methods and various data sources

The tools and data that are usually used to produce Conjoncture in France (notably calibrations based on business climates and PMI indices) have proved, for the time being, to be relatively ineffective for quantifying the decline in economic activity associated with the current health crisis: indicators arrive late, econometric equations are disrupted, etc. This estimate therefore needs to go through alternative data sources, while still retaining the conceptual framework of the national accounts.

Here, GDP is estimated from the sum of the value added for the sectors that make up the economy ("production" approach). This method was preferred over a calculation according to demand categories – consumption, investment, changes in inventories, foreign trade – because:

• Quantifying the behaviour of institutional sectors (households and resident or non-resident companies) and trade outlets (does output from a sector go to consumption, investment, inventory or exports?) is a more difficult process;

• Available data generally provide information on activity in companies or in a sector, and less often on a final demand category.

An ascending method was adopted. The economy is broken down into 138 sectors and for each one, a loss, an upturn or stability in their value added is quantified. The aim is therefore to compare the estimated activity situation for the current week to what one would have expected in a "normal" week. Finally, sectors are aggregated according to their weight, providing an estimate of the immediate loss of economic activity.

The change in activity in the sectors is estimated using five types of qualitative or quantitative data and assumptions:

1- Assumptions of continued activity for sectors where the majority of output remains essential;

2- Assumptions that production will stop in sectors where the majority of activity is not authorised as it is non-essential;

3- Other accounting assumptions made possible by further breaking down sectors of activity, sometimes beyond level 138 of the French aggregated classification, for those sectors where activity is not covered by the first two points and where feedback provides insufficient quantitative information or does not directly measure activity (share of remote working according to sector, number of employees on short-time working, etc.). The input-output table for 2017 is also used to assess the interdependency of sectors (e.g. it is useful for refining the estimate of change in activity in the agrifood industry according to the structure of demand in this sector from household consumption of food goods or intermediate consumption of accommodation-catering especially);

4- Data from professional federations or businesses, covering their level of activity. This also includes daily energy production data (electricity and gas) or transport supply data;

5- Daily bank card transaction data (see Household Consumption sheet for methodological details). ■

Household consumption

As of 9 April 2020, final household consumption expenditure is expected to have decreased by around 35% compared with a "normal" period of activity. This loss of consumption mainly reflects the drop in purchases of fuel, motor vehicles and other manufactured goods (clothing) as well as other accommodation, catering and leisure services. The use of high-frequency bank card transaction data helps ensure the reliability of our estimate.

Estimates of the decline in final household consumption linked to the lockdown measures imposed to contain the health crisis are based on household consumption measured during a period of "normal" activity. Loss of consumption hypotheses are then applied, item by item, to 138 products (Method). These hypotheses are based on amounts recorded in bank card transactions and information provided by professional federations. They also cover the consequences of the measures in force to combat the spread of Covid-19 (temporary closure of some businesses, etc.).

According to this method, on 9 April 2020 final household consumption would appear to have declined by 35% compared to a "normal" situation (Table 1):

• down 38%, consumption of manufactured products accounts for 17 points in this overall decline. While some expenditure has decreased sharply (textiles, clothing, fuel) or has stopped almost entirely (automobiles), other spending has been maintained (energy) or has even increased, like spending on agrifood products (deferred consumption behaviour due to the shutdown of traditional and collective catering);

• consumption of mainly market services is expected to be down 33%, contributing 15 points to the estimated decline in household consumption. While the consumption of some services has fallen back very severely (accommodation and catering, transport services), others are unlikely to be affected very much (telecommunication, financial and insurance services and real estate services, which consist mainly of rents, etc.);

• mainly non-market services are expected to see their consumption drop by 39%, contributing 2 points to the total decline. This movement is likely to reflect in particular the decline in consumption of market teaching services (private education) and the sharp drop in healthcare in cities, as a result of the lockdown measures taken to contain the health crisis;

• as most renovation work has been suspended, household consumption in the construction sector is expected to fall by 90%, contributing to a 1-point drop in total household consumption;

• lastly, consumption of agricultural products looks set to increase by 10%, in parallel with spending on agrifood products.

The estimate remains very close to that given in the Point de Conjoncture published on 26 March. However, it is more robust since, like the estimate for loss of activity, it is based on new information as well as bank card transaction data, which provide more perspective and have a better coverage rate.

Concerning estimates by other bodies, the OECD put the impact of the lockdown measures on final household consumption in France at –32%, similar to our own estimate. For the OFCE, the decline is forecast to be 18%. This difference can be explained in part by a difference in scope, as the OFCE looks at effective final household consumption, i.e. it includes goods and services produced by general government and non-profit institutions serving households (NPISH) and which are made available to households. Final household consumption in fact only includes expenditure by households directly[1]. With a comparable scope, and assuming that the production of these goods and services is not affected by the lockdown measures, our estimate gives a loss of effective final household consumption of –27% for one month of lockdown. As their approach is similar to ours in principle, this difference when the scope is the same is due to different hypotheses on the drastic fall in consumption in certain sectors, especially manufactured goods (contributes –13 points to total loss for OFCE, against –17 for INSEE) and market services excluding real estate (also contributes –13 points to total loss for OFCE, against –15 for INSEE). ■

1. In particular, the distinction between consumption of market and non-market services is based on a different rationale, linked to the nature of the price charged by the institution delivering the service (market price or not economically significant price).

1 - Estimate of 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	10	0
Industry	44	–38	–17
Manufacture of food products, beverages and tobacco-based products	15	9	1
Coke and refined petroleum	4	–80	–3
Manufacture of electrical, electronic, computer equipment; manufacture of machinery	3	–53	–1
Manufacture of transport equipment	6	–94	–6
Manufacture of other industrial products	13	–66	–8
Extractive industries, energy, water, waste treatment and decontamination	5	0	0
Construction	2	–90	–1
Mainly market services	46	–33	–15
Trade; repair of automobiles and motorcycles	1	–85	–1
Transport and storage	3	–83	–3
Accommodation and catering	7	–92	–7
Information and communication	3	–12	0
Financial and insurance activities	6	0	0
Real estate activities	19	0	0
Scientific and technical activities; administrative and support services	2	–63	–1
Other service activities	4	–82	–3
Mainly non-market services	5	–39	–2
Total	100	–35	–35

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

How to read it: on 9 April 2020, final household consumption is expected to have declined by 35%. Consumption of industrial goods, where the loss of activity is estimated at 38%, probably contributes around 17 percentage points to this decline.

Source: INSEE calculations from various sources

Method

Methodology for estimating loss of household consumption linked to lockdown measures (difference between estimated consumption between 23 and 29 March and consumption in a "normal" week)

We consider the distribution of final household consumption expenditure at the level of 138 products, as defined in INSEE's national accounts for 2017. The loss of consumption hypotheses applied to each product are based on four types of information:

• Consequences of the current regulations relating to the lockdown: closure of places that admit the public automatically halts, or reduces very significantly, household consumption of catering services and all sports, recreational and leisure activities;

• Behavioural hypotheses, mainly reflecting households' assumed constant need for specific products (gas, electricity, telecommunications, and also a large proportion of real estate or non-market services);

• Statistics from bank card transactions: in addition to evaluating the loss of consumption of the product concerned (e.g. for most manufactured goods), using bank card data also enables us to confirm or adjust the consumption of products for which behavioural or regulatory hypotheses were available;

• External information, taken from specialist publications (in the case of agricultural and agrifood products) or from professional federations, which cover activity in the sector and are therefore also assumed to reflect the loss of household consumption (e.g. in the rail or air transport sector).

All in all, the behavioural hypotheses relate to 39% of final household consumption, while the statistics from bank card data concern a third (Table 2). External information was used

for 20% of consumption. Regarding direct consequences of the current regulations, they relate to 9% of final household consumption.

The decrease (or increase) in consumption via bank card data was estimated for each type of product at level 138 based on daily year-on-year figures between 2019 and 2020 for transaction amounts. The scale of the variation is estimated from the difference between the year-on-year transactions from 23 to 29 March and those observed in January and February ("normal" period). The period between the beginning of March and 22 March is excluded as it represents the transition between the "normal" period and the lockdown, with notably some panic buying behaviour that could disrupt the analysis.

The data we used cover most bank card transactions. They are extracted from a database of anonymised and aggregated transactions to ensure that confidentiality is respected. However, there are several limitations in using this method to estimate the loss of household consumption for a given product. First, while the classification of transactions by type of activity ensures that products from specialised stores can be identified, it does not distinguish whether goods are bought in grocery stores, supermarkets or hypermarkets, which represent a considerable proportion of the amounts spent. In addition, the data used relate to any bank card holder in France, which, in addition to households could also include companies. ■

2 - Nature of hypotheses applied to each product category

Products	Share in con-sumption* (%)	Nature of hypotheses**
Agriculture, forestry and fishing	3	External info. and Beha-vioural hyp.
Manufacture of food products, beverages and tobacco-based products	15	CB
Coke and refined petroleum	4	CB
Manufacture of electrical, electronic, computer equipment; manufacture of machinery	3	Regulatory hyp. and CB
Manufacture of transport equipment	6	CB
Manufacture of other industrial products	13	Behavioural hyp
Extractive industries, energy, water, waste treatment and decontamination	5	External info.
Construction	2	CB
Trade; repair of automobiles and motorcycles	1	CB and external info.
Transport and storage	3	CB
Accommodation and catering	7	Behavioural hyp and CB
Information and communication	3	Behavioural hyp and CB
Financial and insurance activities	6	Behavioural hyp
Real estate activities	19	Behavioural hyp and CB
Scientific and technical activities; administrative and support services	2	Regulatory hyp. and CB
Other service activities	4	Regulatory hyp. and Beha-vioural hyp
Mainly non-market services	5	
Total	100	
of which:		
Behavioural hyp.	39	
CB data	32	
External information	20	
Regulatory hyp.	9	

* weight in final household consumption spending (excluding territorial correction)
** the main hypothesis is shown, as some products may be the subject of specific assumptions
Source: INSEE calculations from various sources

What do bank card transaction data say about consumer behaviour in lockdown?

Bank card data provide information on current household purchasing behaviour before then during the lockdown period that began on 17 March 2020. Although these data include certain particularities and limitations (Household Consumption sheet), they provide a quick and invaluable view of changes in consumption overall and by sector, of the support provided by distance sales and the change in the number of daily purchases and the average shopping basket.

After large-scale panic buying associated with anticipatory behaviour, household expenditure has fallen sharply compared with a normal situation, but in different ways, depending on the sector

Overall consumption, obtained from the total amount of transactions paid for by bank card[1], was relatively stable in January and February 2020, with slight growth compared to 2019. Anticipatory behaviour may explain the short-lived peak on 16 March, the day lockdown was announced, which was 40% above the same Monday in 2019. Two days later, overall consumption fell drastically and stabilised around –50%, reflecting the reduced opportunities for households in lockdown to make purchases.

At a more detailed level, the coronavirus crisis has affected consumption in radically different ways according to sector. The "essential" sectors, like food, where shops are authorised to stay open, are able to survive: after the peak on 16 March, when consumption more than tripled compared with the corresponding Monday in 2019, came a succession of purchase amounts that were irregular but increasing overall, with a second peak of about +40% on 23 March (the size of these peaks suggests anticipatory behaviour on the one hand, and on the other hand, probably an increased use of bank cards rather than cash because of the lockdown). Fuel continued to be sold, and was also subject to some panic buying, but this was not sustained: households stocked up on 16 March, with a peak of more than +40%, then their consumption collapsed two days later, stabilising at around –70%. However, for "non-essential" sectors like clothing-footwear, specialised stores were required to close from 16 March. Purchases here collapsed: the very short period of time between the announcement of the closure and its implementation left no time for anticipation, and a rapid decline was evident from 13 March, stabilising at around –90% after 18 March in the case of clothing-footwear.

Distance selling is a resistance factor in consumption

When bank card expenditure is broken down between distance selling and physical selling, there are marked behavioural differences according to the sales channel around the start of the lockdown and since. Until 12 March, the increase in spending compared with a comparable day the previous year was similar for distance selling and for physical sales. On 13 March, and especially on 16 March, the consumption peak was reached by physical sales; after lockdown, physical sales fell drastically, by –60% on average, compared with the same date in 2019. Distance sales fell slightly from 13 March, then dropped sharply after 16 March, but the decline was much less pronounced than for physical sales, at around 20%.

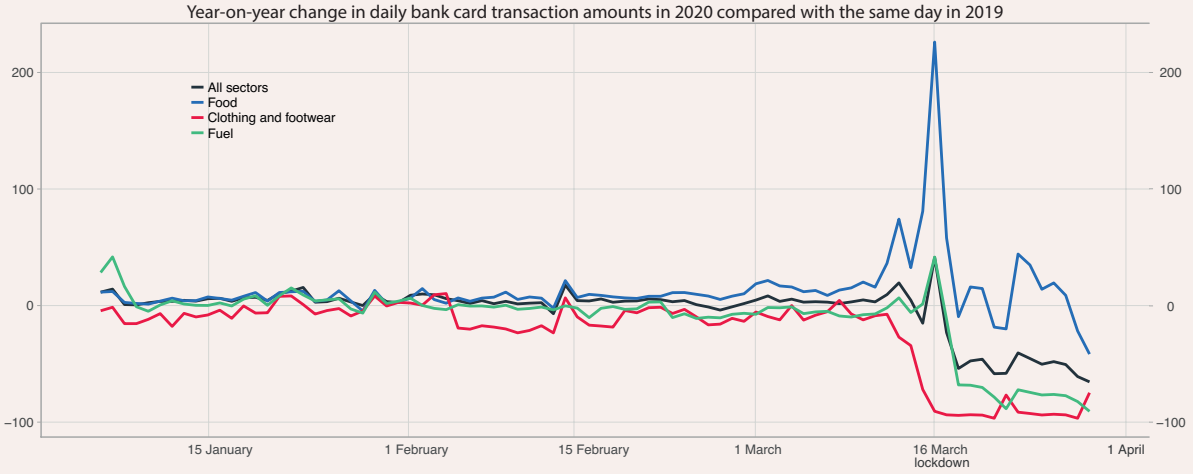
Even for sectors where transaction amounts are maintained, purchase frequency decreases but the average basket size increases

Bank card transaction amounts, broken down into the extensive margin (number of transactions) and

1. Analysis carried out by INSEE on a sample of aggregated and anonymised bank card payment data.

1 -Overall change in transactions and in some typical sectors

Year-on-year change in daily bank card transaction amounts in 2020 compared with the same day in 2019



How to read it: bank card transaction amounts for fuel purchases on Sunday 29 March 2020 were 91% down on those for Sunday 31 March 2019; on Monday 16 March 2020 these amounts were 42% higher compared with Monday 18 March 2019.

Source: GIE-CB, INSEE calculations

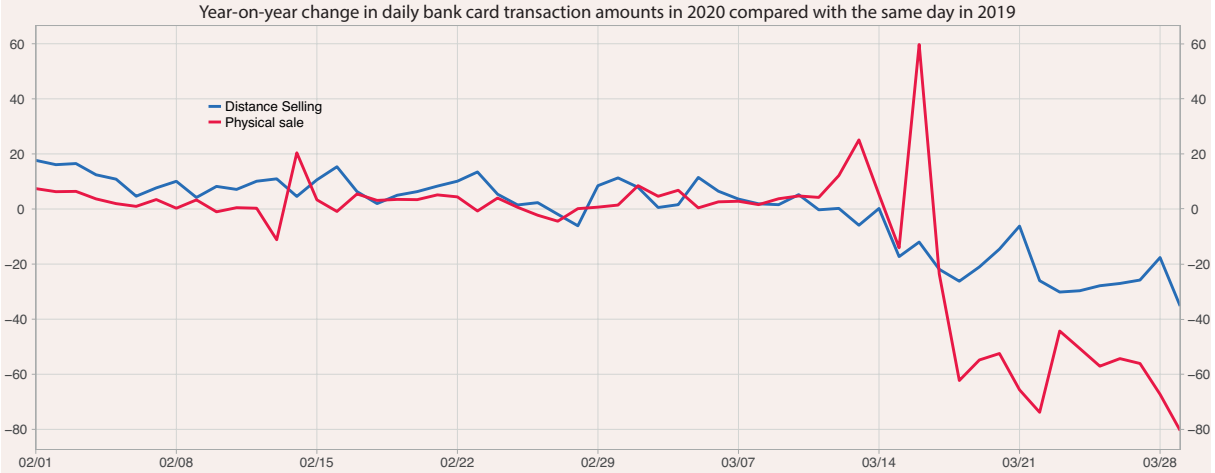
the intensive margin (average transaction amount), show up some wide sectoral disparities.

The number of transactions relating to clothing-footwear, catering and accommodation fell drastically from the week of 16 March (–90% compared with the same week in 2019). The average transaction amounts in these sectors remained relatively stable. Fuel consumption was also very much affected, but with average amounts that were much lower than in the same period in 2019. The number of transactions in household equipment also tumbled, but with higher average baskets than last year.

In the food sector, the number of transactions increased significantly in anticipation of the lockdown in the week of 9 March (+23%), with slightly larger baskets (+11%). Since the lockdown was put in place, there have been fewer transactions than last year and this number continues to decline (–27% in the week of 23 March). However, for the most part, average baskets remained larger than last year (+48%). ■

2 -Change in in-store and distance transactions

Year-on-year change in daily bank card transaction amounts in 2020 compared with the same day in 2019

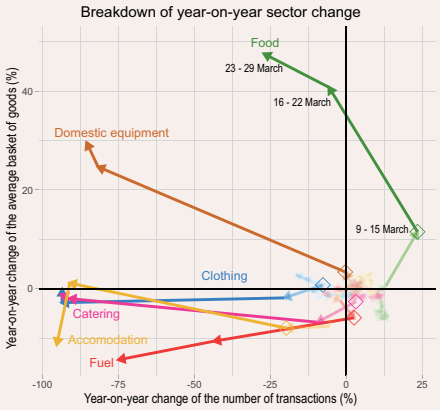


How to read it: on Monday 16 March, the day before lockdown began, physical bank card sales were 60% higher than on Monday 18 March 2019, whereas distance sales by bank card transaction fell by 12%..

Source: GIE-CB, INSEE calculations

3 -Change in the number of transactions and the average basket in selected sectors

Year-on-year change in the weekly number of bank card transactions and average amounts per transaction in 2020 compared with the same week in 2019



How to read it: the change in the number of transactions and in the average basket are plotted for several sectors for weeks 11, 12 and 13. During week 11, compared with the same week in 2019: in food, the number of transactions increased by 23% and the average amount of a basket by 12%. In household equipment, the number of transactions was stable and the average basket was slightly higher (+3%).

Source: GIE-CB, INSEE calculations

International developments

The Covid-19 epidemic is affecting the great majority of countries and virtually all of the advanced economies. Containment measures to stop the spread of the virus are paralysing large swathes of economic activity. For a large number of countries, high-frequency indicators already demonstrate the consequences of lockdown measures imposed on the population: electricity consumption is down 10 to 30% in the advanced countries and the number of people frequenting public places has plummeted by 60 to 80%, especially in Europe. By applying estimation methods that are fairly similar to those used for France in this Point de Conjoncture and the edition published on 26 March, although without using high-frequency bank card transaction data, various institutes believe that the loss of activity linked with the Covid-19 virus is likely to be between 25 and 35% depending on the country.

Survey and high-frequency indicators show the consequences of containment

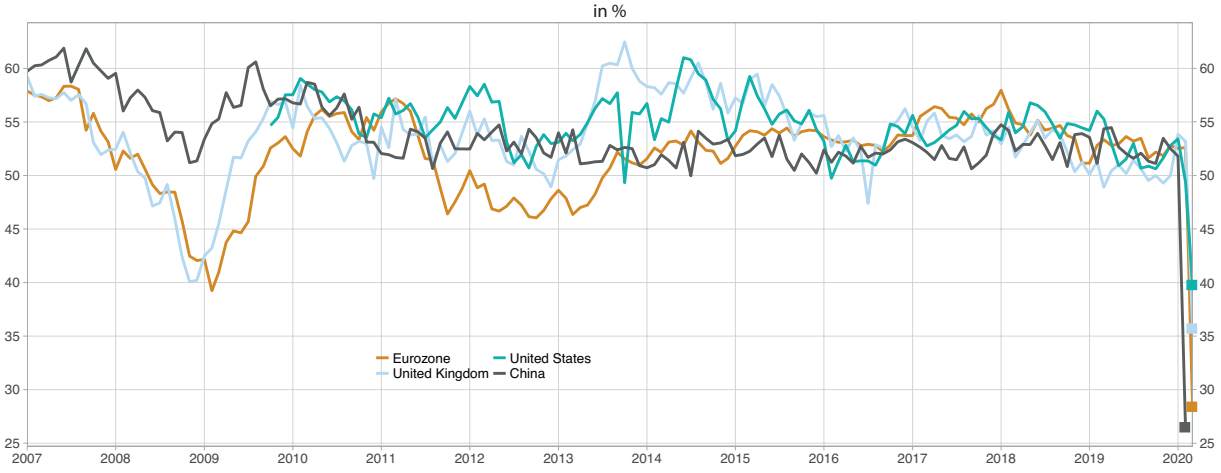
In order to combat the spread of the Covid-19 virus, the advanced economies have adopted a variety of strategies. In the Eurozone, for example, the major economies decided to halt all production activity not necessary for supplying essential goods and to place their populations in lockdown, a decision taken on 22 March in Italy and on 28 March in Spain. Measures to restrict economic activity in some sectors, mainly commercial activities excluding food and basic necessities, had already been taken earlier in the month, on 11 March in Italy and 14 March in Spain. In Germany, lockdown measures were decided at regional level, while at federal level measures to restrict movement and gatherings adversely affected productive activities. In France, all public places not essential for the life of the population closed from 15 March.

After the number of people going to shops, restaurants and public places fell in the days leading up to and following the lockdown measures, the Services PMI plummeted drastically in March for all the advanced economies, a much stronger and more sudden contraction than during the 2007-2008 crisis (Graph 1).

However, this decline in the PMI probably underestimated the actual drop in activity in the service sector for March since calculation of the indices is based on data collected over a period that does not include the last days of the month. In addition, survey data are currently in uncharted territory, given the unprecedented nature of the economic situation. High-frequency data allow for real-time reporting of the quantitative consequences of the lockdown measures (Table 1).

In the major cities, private transport, the streets and public transport are all deserted: according to the TomTom website, road traffic in the main cities of the advanced countries has declined by 30 to 60%. Data from Citymapper show a reduction in mobility of almost 80% in most of the world's cities (with many employees remote working). Airports too are operating at a reduced rate, with levels down by 30 to 90% on the usual level. The

1 - Services PMIs collapse



Source: IMS Markit

number of commercial flights worldwide has been cut by two-thirds. Electricity consumption has also plummeted, decreasing by 10 to 30%. Lastly, with the population in lockdown, this has resulted in a significant drop in numbers of people out in public places, especially in the Eurozone countries and in particular in France, with numbers down 77% on average compared with January, and down 84% in Italy, the greatest decrease in the advanced economies (Table 2).

The closure of non-essential businesses, which was adopted in many countries, supply difficulties and the decline in activity in general may lead to a sharp rise in unemployment. In fact, on the Google search engine there has been a considerable increase in most countries in searches for the term "unemployment". However, these dwindled more rapidly in France than in other countries. In France, internet searches for the "short-time working" scheme put in place by the government also contributed to the increase.

The first estimates of the economic consequences of the lockdown are highly dependent on its duration

1 – High-frequency indicators of the consequences of containment measures

in %

	Road traffic	Air traffic	Electricity consumption	Airbnb requests Google Trend	Cinema attendance
Germany	–31	–78	–7.2	–72.4	–100
Spain	–33	–90	–10.0	–83.0	–100
Italy	–53	–20	–24.1	–82.2	–100
France	–62	–94	–12.3	–69.7	–100
United States	–50	–55	–5 (–20 in New York State and California)	–52.0	–100
United Kingdom	–47	–78	–7.1	–69.0	–99
Japan	–29	–30		–35.0	–70
China	–40	–60	–15		–100

How to read it: over the last five working days in Germany, the road traffic congestion index was 31% lower than the average index in 2019. Between 26 March and 2 April, 78% of flights were cancelled on average every day in the 3 largest German airports. On average, over the last seven days of March, electricity consumption in Germany was 7% below the average consumption for March 2019. The average number of Airbnb requests on Google over the last two weeks declined by 72% compared with the average number of requests in March 2019. In Germany, cinema attendance disappeared completely by the end of March.

Source: TomTom website for road traffic in major cities, average difference between the normal road traffic peak (usually at 6pm) and the peak observed from 26 March to 2 April; Flightradar24 website for air traffic, ratio of the number of flights cancelled to the number of flights scheduled in the country's three largest airports between 26 March and 2 April; US Energy Information Administration (EIA) website for electricity consumption in the United States, difference between consumption observed from the lockdown date and the average for March 2019, data from the transparency.entso.eu platform for electricity consumption in EU countries, average difference between consumption at midday over the last seven days of March 2020 and consumption at midday in March 2019, data from Wind for China; Google Trends for Airbnb, difference between the number of searches or visits to the Airbnb website for the last two weeks of March compared with the average for March 2019; boxofficemojo.com website for cinema attendance, latest attendance compared with the same date last year.

2 – Mobility of people in the advanced economies (data from Google Maps)

in %

	France	Germany	Italy	Spain	United Kingdom	United States	Japan
Businesses (excluding food shops and pharmacies) and leisure	–88	–77	–94	–94	–85	–47	–26
Food shops and pharmacies	–72	–51	–85	–76	–46	–22	–7
Parks and gardens	–82	–49	–90	–89	–52	–19	–25
Stations and transit points	–87	–68	–87	–88	–75	–51	–41
Offices and workplaces	–56	–39	–63	–64	–55	–38	–9
Residential areas	+18	11	24	22	+15	+12	+7

Note : comparison of numbers of people in different places on 29 March 2020 compared with a reference situation. This situation is given by the median number of people visiting these places each Sunday in the 5 weeks from 3 January to 6 February.
Source: Google Maps

The OECD[1], for example, estimated a decline in activity in its member countries on the basis of ad hoc sectoral assumptions, i.e. the total shutdown of the production of transport equipment and leisure and entertainment services, activity reduced by 50% in construction and services to businesses and by 75% in other activities directly affected by the lockdown (retail trade, accommodation-catering, transport services, real estate). All in all, and according to these assumptions, the median drop in GDP is likely to be 25% in member countries. The decline is expected to be around 25% in the United States and France, about 26% in Italy and the United Kingdom and is likely to reach almost 30% in Germany. In addition, the sectors concerned by the lockdown or by the shutting down of certain activities (transport, accommodation and catering, clothing, retail trade excluding food, etc.) represent a large proportion of household consumption in the countries studied (50% in the United States and around 45% in Italy and Germany, for example). Added to this are the loss of income and the increase in unemployment, with the overall result expected to be a sharp decline in consumption. According to the OECD, the drop in consumption could be around 30% in the United States and France and as much as 35% in Germany, Italy and the United Kingdom. The emerging countries are also affected, with the possibility that activity could decline by as much as 5 or 10% of GDP in Russia, Brazil, Turkey and other emerging countries.

Using an approach similar to that of the OECD, the ifo Institute put forward several scenarios for a fall in activity for the European countries based on identical sectoral assumptions. In an "optimistic" scenario, activity in the construction sector would remain at 80% compared with 50% in the pessimistic scenario. Activity in the branches of industry, excluding pharmaceutical and food products, would remain at 20% in the optimistic scenario against 0% in the pessimistic. Lastly, business activity would maintain 50% of production in both scenarios. Thus, in the event of a two-month lockdown, annual GDP growth would be reduced by 8 to 13 percentage points in Italy and the United Kingdom, and by 8 to 14 points in Spain. In Germany, the ifo Institute defined sectoral assumptions based on its business outlook surveys. In the event of one month of production stoppage, the loss to Germany of value added would be 35.8%. This estimate is fairly similar to the OECD's.

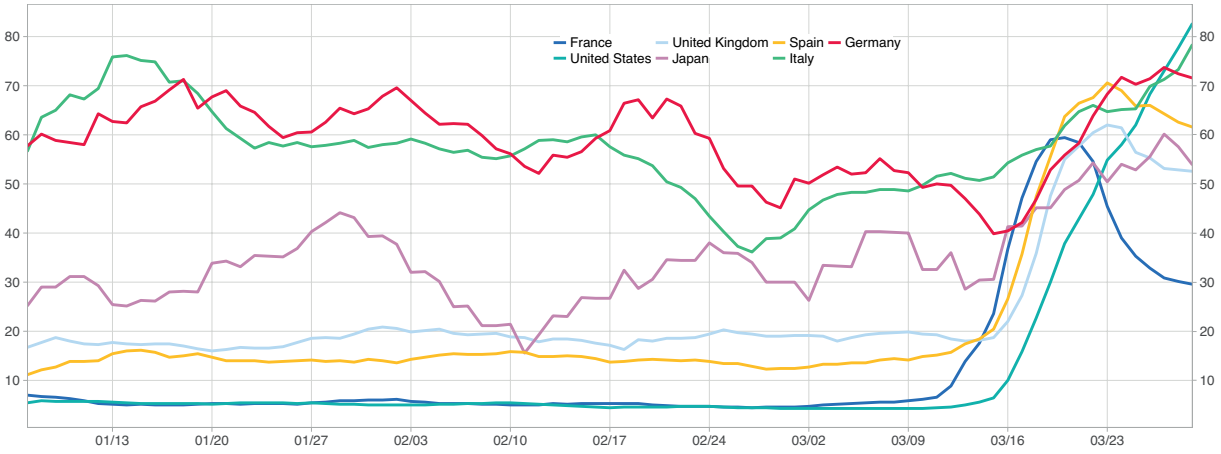
In Italy, the national statistical institute (ISTAT) recently used its business directory to estimate the effect of measures taken in relation to activity. Italian industry would be expected to lose 59% of its turnover against 37% in services and 45% in trade. In terms of value added, all of these authorised production activities together represent 59% of total value added. Thus the minimum decline in economic activity is likely to be 41% of a "normal" situation. This would in effect be a lower bound of the actual decline since activities that are still authorised are probably not operating as normal.

In Spain, the FUNCAS think tank estimated that a quarterly impact of Covid-19 would give a 2.2% drop in GDP in Q1 followed by a fall of 7.7% in Q2. In this case, the estimation method differed from the methods described so far as it is based on a scenario for the different demand items, in particular on a detailed consumption per item using their family budget survey and exports.

Outside the Eurozone, in the United Kingdom and the United States, lockdown measures were taken later, from the last week of March. Japan did not take drastic measures until 7 April, but since February there had been a sharp

1. « Evaluating the initial impact of Covid-19 containment measures on economic activity », OCDE, 2020

2 - Sharp rise in Google searches including the term "unemployment"



Source: Google Trends. Moving average 7 days. A high index means that the proportion of searches with the term "unemployment" is significantly greater than usual.

decline in people going to cinemas, restaurants and bars. Few real-time activity estimates are available.

In the United Kingdom, the CEBR (Centre for Economic and Business Research) estimated the daily loss of activity due to coronavirus at 31%, similar to the OECD estimates. The CEBR uses loss of activity assumptions at a detailed level (105 sectors) then aggregates them, and estimates expected changes in demand for the different products.

In the United States, the New York Federal Reserve built a weekly economic sentiment indicator: it shows a fall of 4% for the week ending 21 March, when most States had not yet taken any strict containment measures. However, estimates by these different institutes do not take into account high-frequency bank card transaction data, which INSEE was able to use to estimate loss of economic activity in France.

Market services make up a major part of economic activity in the advanced economies outside the Eurozone: 68% of US GDP in 2018 and almost 80% of UK GDP in 2019. Growth estimates for the United States in Q2 vary between –9 and –40% at an annualised rate, with the OECD estimating a fall of 25%.

The consequences for employment can already be seen in the United States: 701,000 jobs were destroyed in March, according to the Bureau of Labor Statistics, and almost 10 million Americans registered for unemployment insurance between 15 and 28 March, according to the US Department of Labor: job losses were higher in these two weeks than for the duration of the entire 2007-2009 crisis and could already represent an unemployment rate of at least 12%. In the opinion of several economists these data are still underestimated. Up to 40% of jobs, especially in services, could be threatened by the Coronavirus crisis. According to Goldman Sachs and Oxford Economics, job losses in the United States could reach or even exceed 20 million, which would represent an unemployment rate of between 12% and 20%. The Federal Reserve Bank of St. Louis even fears an increase in the unemployment rate of as much as 30%. In the United Kingdom, almost one million people have claimed the Universal Credit benefit, suggesting that unemployment could potentially rise to 7%, and according to Capital Economics it could reach 10% by mid-April, a level not seen for 26 years.

Finally, short-term data from China provide some elements of comparison and some prospects for the country that was the first to go into lockdown and has already significantly though cautiously relaxed some restrictions on activity. According to a study by Quantcube (11 March 2020), Chinese maritime traffic fell dramatically by 30% to 35%, air traffic dropped by four-fifths, and was stopped completely in Wuhan, and the labour market index of job vacancies fell by 25%. According to the Wind website, coal consumption by the main electricity producers fell by 20 to 40% compared with the level one year previously, and this lasted for a month. According to the Beijing Economic Regional Department of the Directorate General of the Treasury, the rate of recovery in the main Chinese cities and provinces reached around 40% on 3 March, and around 70% on 24 March. These facts suggest a strong decline in Chinese economic activity (industry and services) in Q1, of as much as –10%, or even –20%. ■

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