The French economy in 2020 : a year of upheaval

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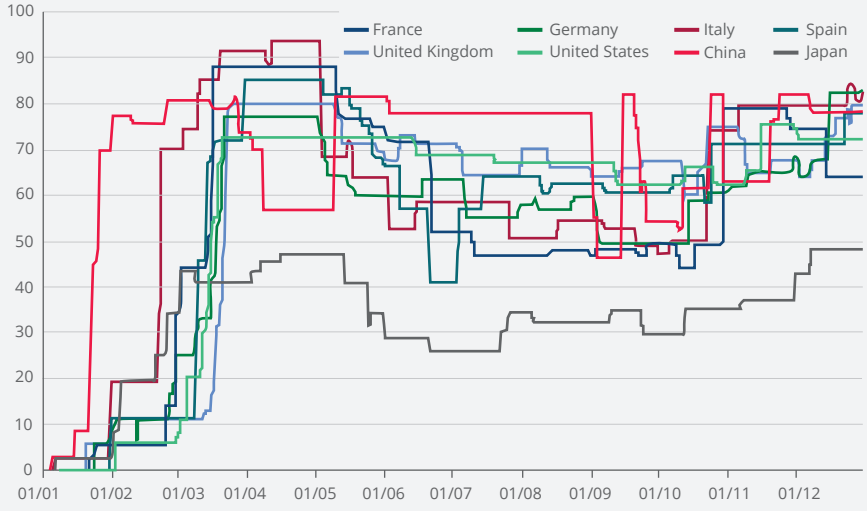
In 2020, GDP in the Eurozone declined by 6.6% under the effect of the COVID-19 global pandemic. All branches of activity contributed to the fall in total value added. However, the trade, transport and hospitality branches were particularly affected. The fall in private consumption, especially in services, is a direct consequence of the health crisis and the restrictions imposed to combat the spread of the pandemic.
In France, GDP fell by 7.9%. The branches most affected by the pandemic and health restrictions directly account for half of the overall loss of activity, i.e. 5 GDP points and, after including the resulting indirect effects, for 6 GDP points in total.
On the corporate side, thanks to public support mechanisms, savings by non-financial sector companies declined less than their value added. In total, corporate investment declined by about 9% whereas it could have fallen by around twice as much based on the change in its usual determining factors.
With regard to households, purchasing power increased slightly (+ 0.4%), thanks to support measures. Over the year as a whole, household consumption fell by 7.0%. The changes in consumption reflect the effects of the pandemic, the restrictions imposed and the adjustment in household behaviour in response to these restrictions.
Household savings grew to over €90 billion more than in 2019, which would have been their expected level in light of their usual determining factors.
In 2020, salaried employment fell considerably (- 284,000), with a level at the end of the year that was comparable with the position in mid-2018. In comparison with the fall in activity, however, the drop in salaried employment was limited, due to massive use of the short-time working or "partial activity" scheme. This can be felt also in the change in the unemployment rate, even though it loses some of its meaning in a lockdown period: its rate of 8% at the end of 2020 is close to its level at the end of 2019.
In order to soften the effects of the fall in economic activity, the public authorities implemented substantial aid schemes for households and businesses. Public expenditure soared while revenue fell: the public deficit grew significantly, rising to 9.2% of GDP. So, the loss in national income was mostly absorbed by the public authorities.

Health crisis and a marked fall in GDP

In France, GDP fell by 7.9% in 2020 [Amoureux *et al.*, 2021]. As was the case in other economies also affected by the crisis ► **Box 1**, restrictive measures accompanied this change. The Oxford University Stringency Index [Hale *et al.*, 2020] summarises in real time the degree of severity of these restrictions and testifies to the country-specific health strategies put in place in response to the spread of the pandemic ► **Chart 1**. They were strongest at the end of the first quarter, were then lessened in the summer but increased again in the fourth quarter. In France, the Stringency Index profile correlates particularly well with use of public transport and retail traffic ► **Chart 2**.

► **1. Oxford University Stringency Index in 2020**



Notes: the index (based on the Oxford COVID-19 Government Response Tracker) summarises all the measures designed to contain the spread of disease, such as restrictions on people's movements and shop, workplace and school closures.
Reading note: as at 31 December 2020, the Stringency Index for France was 63.9, compared with 71.8 for the USA.
Sources: Hale et al. (2020).

The health crisis and related constraints reduced production capacity

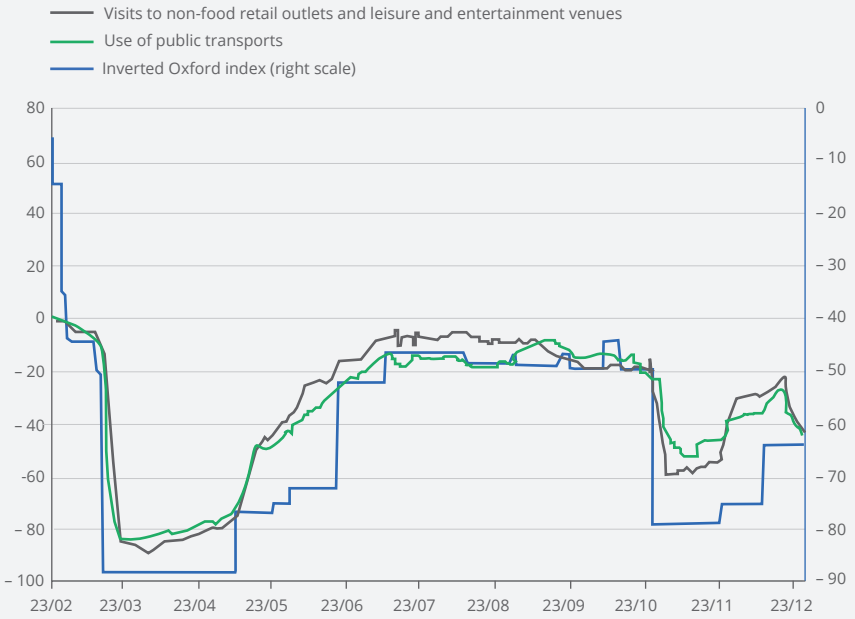
The 2020 health crisis and restrictions imposed constituted a generalized shock of great magnitude, with marked sector-specific variations ► **Chart 3**. The decline in farming or agri-food activities was modest. Conversely, notably due to government closures, sectors such as hospitality were particularly affected. Activity fell heavily in industry (motor vehicle and aeronautical sectors) and likewise in transport services. Production in several sectors was greatly limited by the direct effects of the health crisis, such as government closures, lockdowns affecting workers, people unable to work due to child care issues, and supply problems.

Some branches of activity were particularly subject to heightened constraints on their production capacity, mainly in industry (electronic and IT equipment, machinery, transport equipment and industrial products), construction, transport, hospitality and other service activities. These most constrained branches ► **Methodology** represent a fifth of total value added. The impact on production in these branches of activity directly and indirectly reduces the value added of all branches. The direct effects equate simply to the drop in production observed in these branches of activity. The indirect effects stem from the fact that the constraints observed in these branches may have an impact on the others due to their interaction. They have an effect on the economy as a whole through the production network. Indeed, as these branches of activity are operating at below capacity, their demand for intermediate products from other branches is lower than usual. Consequently, even branches not directly affected by the impacts under consideration are operating at below capacity so their demand for intermediate products from other branches is, in turn, also lower. The impact of these indirect effects has been estimated using the AVIONIC model [Bourgeois and Briand, 2019] ► **Methodology**.

In total, the sectors most affected by the health restrictions directly account for just over half of the overall loss of activity, i.e. 5 GDP points. When the indirect knock-on effects on other sectors are added, the effect of these main shocks to production amounts to 6 GDP points. So, for example, in the agriculture, forestry and fishing sector, where the direct effect is nil, the indirect effect explains all of the drop in value added: - 3.0 %.

Other effects (restrictions on other private sectors and non-health-related public services, effects of foreign demand and agents' expectations) represent, by balance, between 3 and 4 points of the difference between the observed change in GDP and its medium-term trend. So, for example, the coke and refined petroleum products manufacturing sector mostly did not suffer health crisis-related production constraints but its value added fell by nearly 20%. This drop can be explained partly by the fall in demand from households as they used their vehicles far less in 2020 and therefore consumed less fuel, and partly by production difficulties that appear unrelated to the health crisis (one of the sites produced very little in 2020 because of numerous technical incidents and another was affected by staff strikes).

► 2. Mobility, Retail Traffic and Stringency Index in France in 2020



Reading Note: the 7-day moving average for visits to non-food retail outlets and leisure and entertainment venues on 15 November 2020 was down by 58% compared with the median value calculated by Google between 3 January and 6 February 2020.

Sources: Hale et al (2020) for the Oxford Stringency Index, Google Mobility Reports for retail traffic and use of public transport.

Changes in production structure

The fall in activity in the branches of the economy most affected by the health crisis and the related restrictions have repercussions on the branches strongly linked to them, whether upstream or downstream in the production chain. The flow between branches, shown in the table of intermediate inputs ► **Methodology**, trace these cascading repercussions ► **Chart 4**. The production network was considerably altered in 2020: the volume changes in intermediate consumption, much greater than usual, reflect, above all, the changes in production specific to each branch of activity, marked by clear differences: so, consumption of inputs by the coke and refined petroleum products manufacturing, hospitality and transport equipment sectors was much lower, while overall purchases by the information and communications sector, public administration and real-estate activities were stable. However, structural changes took place. For example, in public administration, there was a 5% increase in intermediate consumption of other industrial products, in particular face masks, driven by health services. Even branches where activity remained relatively resilient nevertheless reduced their consumption of certain products: for example, the legal and accounting sectors, whose total intermediate consumption fell by only 5% in volume, cut back their intermediate consumption of hospitality by 41%.

Fall in corporate savings, despite support measures

At the macroeconomic level, the fall in non-financial sector companies' value added in 2020 was on an unprecedented scale: - 8.3% (in value), or a reduction of €105.7 billion in comparison with 2019. Overall, support measures helped lessen the fall in the gross operating surplus (GOS) of non-financial sector companies, in particular the short-time working scheme, by reducing payroll charges whilst keeping employees in a job, and the solidarity fund by supporting the income of small and medium-sized enterprises. Exemptions from social security contributions, targeted at the most badly affected sectors, provided some breathing space. Despite everything, non-financial sector companies' GOS contracted sharply (- 12.5%, i.e. - €53.0 billion) and the profit margin thus fell by 1.5 point ► **Chart 5**.

However, after taking into account the end of the tax credit for employment and competitiveness (CICE), which would in any event have led to a 1.6 point-reduction in profit margin, the latter remained virtually stable (+ 0.1 point excluding CICE).
The fall in activity meant companies paid out less in dividends. The cut in corporate tax played its stabilising role so well that their savings declined to a more moderate extent than their GOS (-€43.3 billion). The need for financial sector financing also increased significantly (by €9.0 billion), despite income support measures and the fall in investments.
Moreover, this analysis does not fully take into consideration the variation between companies, which have not all experienced the same change. Individual data analysis reveals not only the scale of the impact, particularly in some heavily affected sectors, but also the variation in company trajectories, with some managing to limit the fall in their activity [Bureau *et al.*, 2021].

Half as big a fall in investment as expected

Corporate Investment dropped noticeably in 2020 (- 9.6%). However, the change was better than would be expected with the evolution of its usual determining factors. In general, the change in corporate investment can be explained primarily by the change in value added, which is a good indicator of anticipated demand. Following this approach, which is the one adopted in the MÉSANGE macroeconomic model, ► **Box 2**, the fall in corporate investment could have been in the order of 17%, or about twice as much as the fall actually observed ► **Chart 6**.
This difference can be explained notably by the economy operating in a different way from usual, the strong public support to maintain productive activities, offering reassurance as regards future prospects, the credit channel kept open through highly favourable financing terms, some degree of resilience from French companies in the face of this crisis, and the perception that the loss of activity was temporary. The scale of the fall in investment in 2020 was thus comparable to the fall in GDP, unlike the situation observed during the 2008 global financial crisis.

Overall household purchasing power preserved

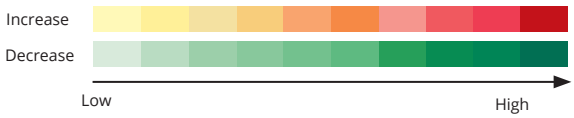
Despite the fall in economic activity, household disposable income increased by 1.0% in value ► **Chart 7**. This atypical divergence can be explained mainly by income support measures.

► 3. Direct and Indirect Effects of the Health Crisis on the Change in Value Added by Branch of Activity in 2020

Notes: the direct effects correspond to the fall in production in the branches of activity most affected by the health crisis (level A138 of NAF, the French classification of business activities) . The indirect effects measure the related fall in value added in the remaining branches of activity.
Reading note: in the branch of activity that includes the manufacture of electrical, electronic and IT equipment and machinery manufacturing, the production constraints identified through the ACEMO-COVID survey directly reduced value added there by 10.7% and by 10.9% when their indirect effects are included, whereas the fall in value added was 11.7% (see Methodology).
Coverage: France as a whole.
Sources: INSEE, authors' calculations.

Indeed, household earnings, that is to say wages and self-employed income (before solidarity fund grants), fell by 4.8%, i.e. a drop of €44.8 billion compared with 2019, as did income from wealth, in particular dividends (- €8.2 billion). However, this drop in income, related to the fall in activity (GDP declined by 5.5% in value), was compensated for by the strong increase in social security benefits and grants from the solidarity fund, as well as by the reduction in direct taxes.
Cash benefits increased considerably (+ 9.5%, after + 2.9%) due to the effect of emergency measures; primarily, short-time working or partial activity subsidies (+ €27.4 billion) as well as solidarity grants for households experiencing financial uncertainty, and the increase in the in-work benefit known as the "prime d'activité". In addition, use was also made of existing redistribution mechanisms, notably unemployment benefits and daily allowances, sometimes with notable changes in the rules.
Sick leave also increased due to the effect of the pandemic.
Sole traders benefited from solidarity fund grants (+ €9.1 billion) and from exemptions from social security contributions to cushion the drop in their income. They also benefited from payment extensions, aimed at bolstering their cash flow without affecting their income.
The drop in earnings resulted in a 3.6% fall in direct taxes or - €8.9 billion, in particular the Generalised Social Contribution (CSG) and personal income tax. The reduction in income tax that applied in 2020 and, to a lesser extent, the implementation of the third stage of the abolition of housing tax (for 80% of households) also contributed to the fall.
In total, sluggish prices (+ 0.6% in 2020) meant household purchasing power rose by 0.4%. Household purchasing power,

► 4. Main Changes in Intermediate Consumption 2019 - 2020



as a %

Products	Branches of activity																Total by product
	AZ	C1	C2	C3	C4	C5	DE	FZ	GZ	HZ	IZ	JZ	KZ	LZ	MN	OQ	RU	
AZ - Agriculture, forestry and fishing	0	0																**– 2**
C1 - Manufacture of food, beverages and tobacco products	– 1	0									– 31				– 2	– 1		**– 12**
C2 - Manufacture of coke and refined petroleum products	– 2					– 11			– 11	– 28					– 10			**– 14**
C3 - Manufacture of electrical, electronic and IT equipment and machinery manufacturing				– 9	– 26	– 9	– 4	– 11	– 6			6			– 2	1		**– 10**
C4 - Manufacture of transport equipment					– 31				– 11							– 1		**– 24**
C5 - Manufacture of other industrial products	– 2	– 4		– 13	– 28	– 9	– 4	– 11	– 7	– 20		– 5			– 6	5	– 21	**– 10**
DE - Mining and quarrying, energy, water, waste management and remediation industries.		– 1	– 28			– 11	– 7	– 9	– 4			2			0	5		**– 9**
FZ - Construction								– 11						0		– 1		**– 9**
GZ - Motor vehicle and motorcycle trade and repair industry		– 2			– 28	– 8		– 12	– 7	– 17		0			– 4	– 5		**– 9**
HZ - Transport and storage		– 4				– 12		– 14	– 9	– 17		– 13	3		– 17	– 4		**– 13**
IZ - Hospitality									– 42						– 41	– 12		**– 38**
JZ - Information and communication services									0			8	– 1		0	1		**1**
KZ - Financial and insurance activities						– 2		– 8	– 3	– 10		7	– 1	3	– 1	– 1		**– 2**
LZ - Real-estate activities									– 9			– 1	– 1	– 5	– 7	– 3		**– 8**
MN - Specialist scientific and technical activities and administrative and support service activities		– 3		– 14	– 28	– 12	– 2	– 13	– 7	– 14	– 38	3	0	0	– 4	– 1	– 18	**– 6**
OQ - Public administration, education, human health and social work									– 6						– 5	0		**– 7**
RU - Other service activities															– 11		– 23	**– 14**
Total by branch of activity	**– 1**	**– 2**	**– 28**	**– 12**	**– 29**	**– 10**	**– 6**	**– 12**	**– 8**	**– 18**	**– 34**	**2**	**– 1**	**– 1**	**– 5**	**0**	**– 18**	

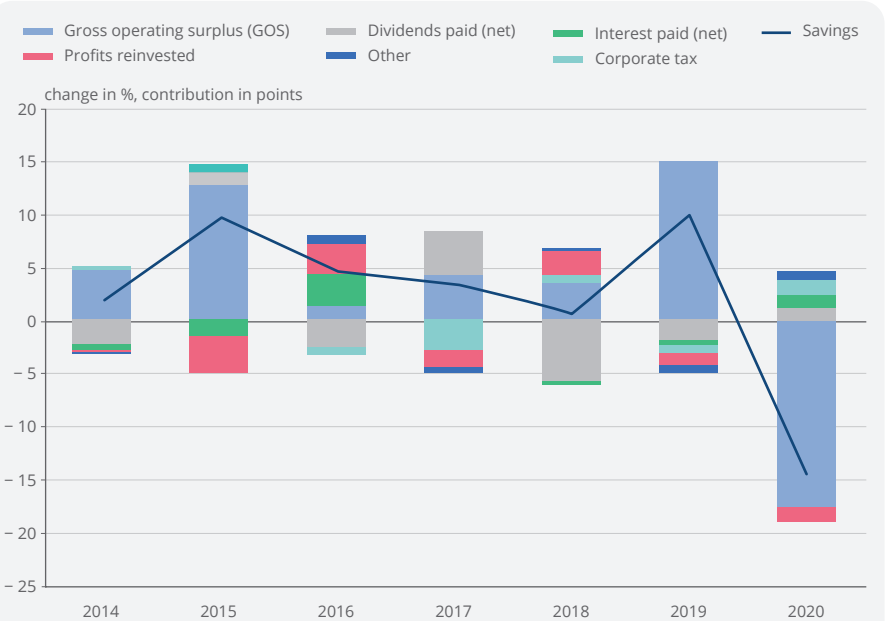
Notes: as part of its production process, a branch of activity (homogeneous production unit producing the single, same product) in a particular column is an intermediate consumer of several products as shown by line. Greyed-out cells represent average intermediate consumption of less than €3 billion on average in 2019 and 2020.
Reading note: the hospitality sector reduced its intermediate consumption of food products by 31% in 2020 compared with 2019.
Coverage: France as a whole.
Sources: INSEE, National Accounts, part-finalised 2019 IOT and provisional 2020 IOT in value terms.

when measured in units of consumption to take account of changes in household size and structure, is stable (+ 0.0% following a rise of + 1.6% in 2019).

Fall in household consumption and rise in household savings

In 2020, although household income stood up well, household consumption fell by 7.0%, following a rise of 2.6% in 2019 and average annual growth of 0.9% since 2008. In accounting terms, this drop largely explains the fall in GDP.
2020 was a very unusual year in terms of consumption. Firstly, households altered their ways of consuming from mid-March onwards and in a more marked way during the lockdown periods (eight weeks between the end of the 1st quarter and start of the 2nd, and then six weeks in the 4th quarter). They were unable to consume certain goods or services or had to limit their consumption of them considerably (e.g. culture, hospitality, tourism and non-essential shops), with the health situation having reduced supply. Other consumer behaviour, on the other hand, developed out of necessity (home shopping or online shopping) or as a substitute (home delivery of meals). Secondly, as a result of the economic crisis, savings behaviour has changed.

► 5. Non-Financial Companies' Savings



Reading note: in 2020, savings of non-financial companies fell by 14.4% with a 17.7 point gross operating surplus (GOS) contribution.
Coverage: France.
Sources: INSEE, National Accounts.

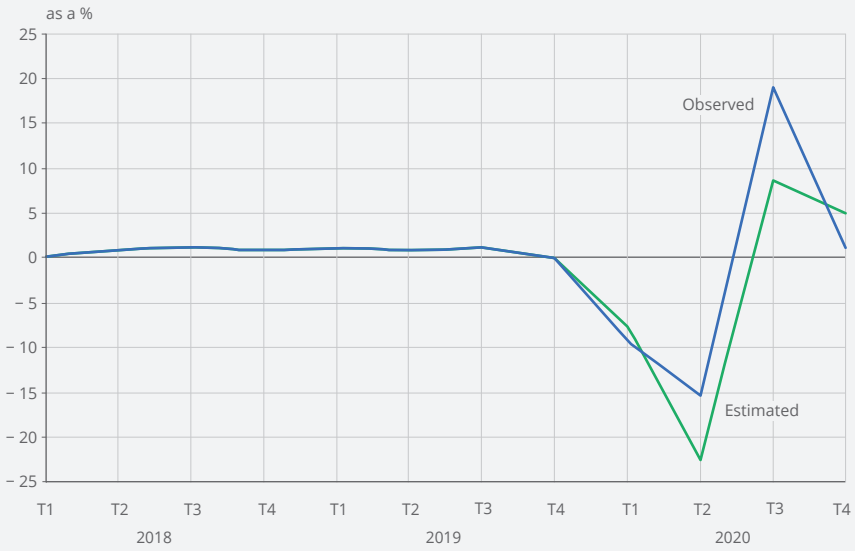
On the one hand, some households were unable to consume as much as they would have liked, due to government closures and lockdowns, resulting in an automatic increase in their savings. On the other hand, anxiety about the uncertain health and economic situation may also have increased their precautionary savings. The lockdown had a considerable influence on the household savings rate in 2020. Calculated on the basis of its usual determining factors, modelled using the

MÉSANGE model, the average savings rate for the year ought to have remained quite close to its value in the recent past. In fact, household savings in 2020 were €96 billion higher than would have been expected according to these determining factors and €91 billion higher than the savings level observed in 2019. This savings excess confirms the exceptional nature of 2020. The savings rate increased by about 7 points between the end of 2019 and end of 2020 ► **Chart 8**.

Variation in savings behaviour by standard of living

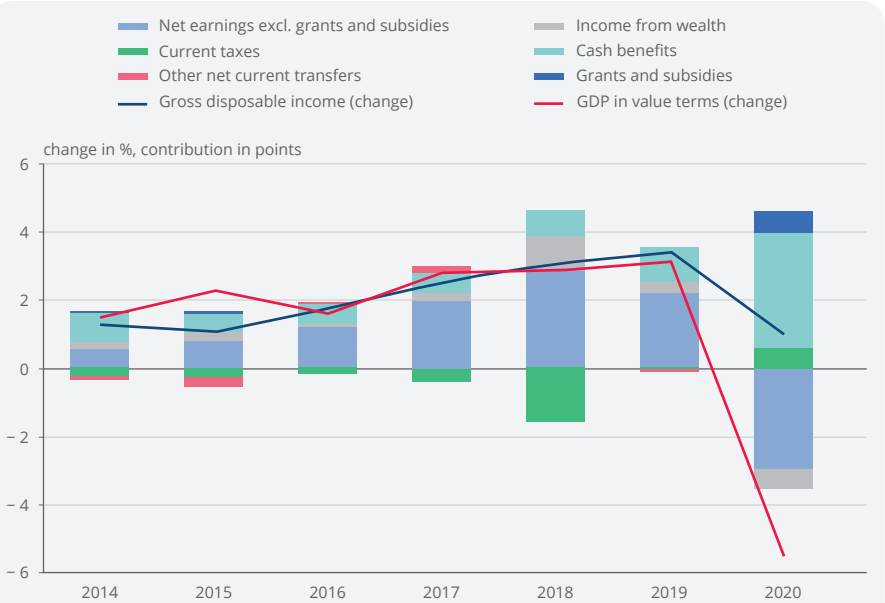
There is a significant gap between actual household consumption and the level expected on account of its usual determining factors. Besides the effect of restrictions on consumption, it is possible that household heterogeneity also explains part of this discrepancy. Information on this subject is still incomplete. However, according to one study carried out using anonymized Crédit Mutuel Alliance Fédérale data, there was relatively little reduction in consumption by the poorest households, whereas consumption by management or high income households appears to have fallen more, with their total wealth consequently increasing in absolute terms [INSEE, 2021].
During the two lockdowns in 2020, all household groups studied, regardless of level of income, appeared to reduce their consumption and focused on essential goods, especially in April. Households that consumed most prior to the crisis, primarily management or high revenue, appear therefore to have restricted their consumption more. In 2020, in comparison with the pre-crisis trend, based on the limited coverage considered here, consumption fell by 3% for the 10% of households with the lowest income, and by 22% for the 10% of households with the highest income.
This fall in consumption led to a savings excess. Gross household financial wealth appears to have risen strongly in 2020. This rise is higher in euros for high-financial wealth households, who were able to save more by reducing their consumption. Households with low financial wealth also put money aside, notably during the first lockdown, however this generally involved small amounts, a matter of tens or hundreds of euros, although these represent a significant proportion of their initial wealth.
Among working households, some might have been more affected by a fall in their income and therefore increased their savings to a lesser extent: this applies to skilled tradesmen and women, shopkeepers and private sector employees and no doubt younger people in particular, in contrast with those in the public sector.

► 6. Quarterly change in corporate investment



Note: the rate of change in corporate investment is calculated using the MÉSANGE model for the 4 quarters of 2020.
Reading note: in the 3rd quarter of 2020, corporate investment rose by 18.8% compared with the previous quarter. It would have increased by 8.6% solely due to the change in its usual determining factors.
Coverage: France.
Sources: INSEE, MÉSANGE model, National Accounts, authors' calculations.

► 7. Gross Disposable Household Income



Reading note: in 2020, gross household disposable income grew by 1.0% with a 0.6 point contribution from current taxes.
Coverage: France.
Sources: INSEE, National Accounts.

Sharp fall in foreign trade

In 2020, imports declined by 10.3% in volume for goods and by 8.8% for services, due to the effect of the fall in domestic demand, particularly household consumption and corporate investment. Exports decreased in volume terms by 14.5% and 8.4%, respectively. In total, despite a fall in energy costs, the trade deficit worsened significantly by €23.2 billion to reach €46.5 billion, notably due to the reduction in trade surpluses for other transport equipment, including aeronautical (€19.3 billion deterioration in the balance), and tourism (€8.1 billion deterioration).

Marked reduction in salaried employment

In the course of 2020 as whole, salaried employment fell considerably (- 284,000). This was the first annual fall since 2012, with a level of employment at the end

of 2020 that was comparable with the position in mid-2018. Changes followed the trend in economic activity and the imposing of restrictions: a sharp reduction in the first six months of the year with 689,000 job losses, followed by a rebound in the third quarter that saw a 426,000 rise in salaried jobs and then, in the fourth quarter, a loss of 21,000 jobs as the health crisis continued and the second lockdown was imposed.
The fall in salaried employment mainly concerns traded services (– 299,000 jobs), covering the sectors suffering the longest-lasting effects of the crisis, such as hospitality and household services. In industry, 84,000 salaried jobs (including temporary) were wiped out in the year. Conversely, salaried employment (including temporary) exceeded its level at the end of 2019 in construction (+ 27,000) and non-traded services (+ 72,000). However, in light of the fall in economic activity, salaried employment was relatively resilient, due to the massive use of the short-time working or "partial activity" scheme (mainly in the first lockdown and, to a lesser extent, in the second). People on short-time working or who are temporarily laid off are, indeed, classed as being in employment.
Taking into account a similar trend in self-employment to that seen in salaried employment, there was a reduction in total employment of 323,000 between the end of December 2019 and end of December 2020. After a year of disruption from the effects of the lockdowns on activity patterns, notably leading in the second and third quarters to sporadic illusory falls in unemployment [INSEE, 2021], in the final quarter of 2020 the unemployment rate reached 8.0% (i.e. very similar to the level in the fourth quarter of 2019).

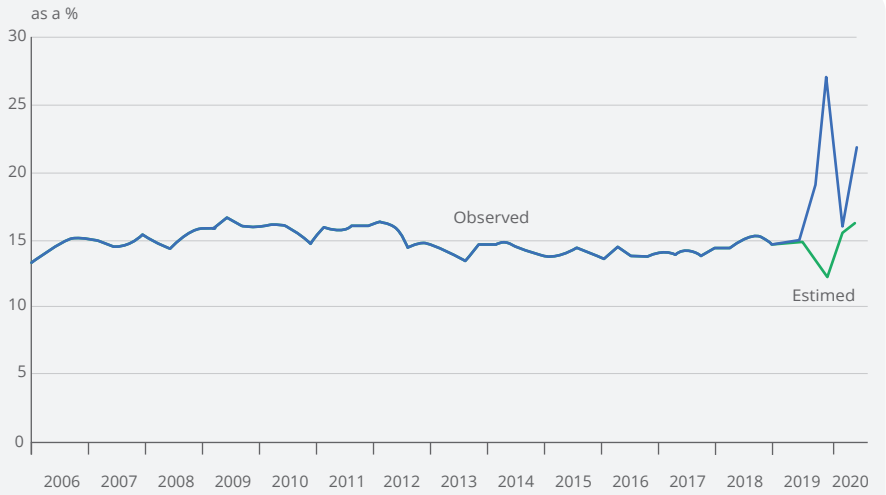
Public expenditure props up private sector income

With the unprecedented contraction in economic activity in 2020, the risks of bankruptcy for companies and unemployment for households grew considerably, which led the public authorities to implement aid schemes [Pointeaux *et al.*, 2021].
Firstly, measures were taken to support household and corporate income, primarily the "partial activity" or short-time working scheme and the grants paid out from the solidarity fund to the small and medium-sized enterprises most affected by the health crisis. These measures had a direct impact on the public balance, in addition to the fall in tax and social security revenue related to the loss of activity. Moreover, combating the pandemic led to additional expenditure (procurement of masks, ventilators, testing, etc.). In total, there was a €73.5 billion surge in public administration expenditure whereas revenue fell by €63.8 billion.
The public deficit thus increased significantly in comparison with 2019 (+ €137.3 billion), to reach €212.0 billion in 2020, or 9.2% of GDP ► **Chart 9**.
Income support schemes were supplemented by measures to boost companies' cash flow, such as extensions to tax and social security payment dates and government-backed loans [Coeuré, 2021] which, without impacting their income, enabled companies to cope with their recurrent costs and thus avoid bankruptcy.
In total, most of the loss of national income for the private sector in 2020 was absorbed by increasing the public deficit [Carnot, 2021]. ●

Jules Baleyte, Alexandre Bourgeois, Benjamin Favetto, Jean-Cyprien Héam, Matthieu Lequien, Pierre Ralle (Insee)

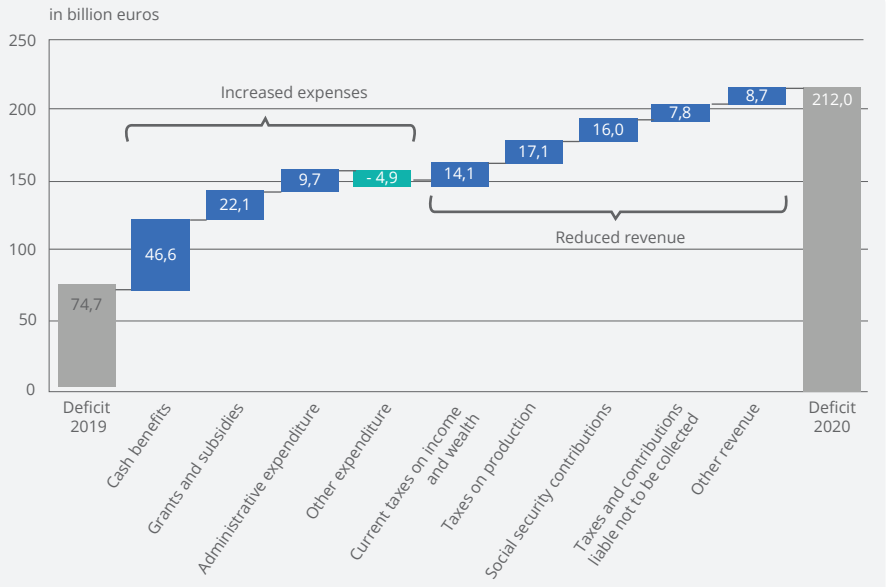
Data is available on **www.insee.fr**

► 8. Household Savings Rate



Reading note: the household savings rate in the 2nd quarter of 2020 is 27.1%. It would have been 12.3% solely due to the change in its usual determining factors.
Coverage: France as a whole.
Sources: INSEE, MÉSANGE model, authors' calculations.

► 9. Change in Public Deficit 2019 - 2020



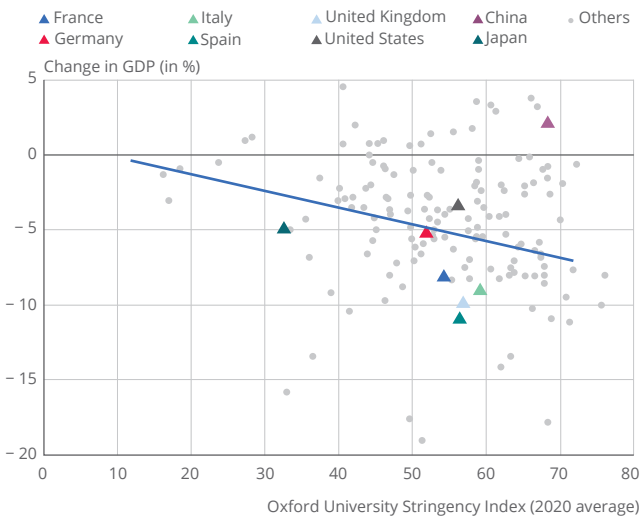
Reading note: the public deficit in 2020 amounts to €212.0 billion compared with €74.7 billion in 2019; there is a €46.6 billion rise in cash benefits between 2019 and 2020.
Coverage: France.
Sources: INSEE, National Accounts.

Box – The health crisis affected all economies in 2020

In 2020, the COVID-19 epidemic spread throughout the world, forcing countries to adopt containment measures. So, in China, where the first cases appeared, a strict lockdown was initially introduced from January 2020 to contain the epidemic and was then backed up by border controls and rapid-response measures, combining regional lockdowns with mass testing for each new virus alert. The epidemic then spread to Italy and subsequently throughout Europe, prompting the start of alternating periods of lockdown and relaxation of restrictions, depending on the circulation of the virus, with two waves in particular, in the spring and then the autumn. In the USA, where the virus began circulating in March, no national lockdown was imposed, with restrictions being left to the discretion of the individual states, and the epidemic gradually worsened up to the end of the year. In Brazil and India, the epidemic spread considerably during the summer. Conversely, Japan was spared, relatively speaking, and the restrictions limited people's movements there less than in Europe.

Overall, the restrictions imposed correlated with economic activity in 2020, to varying degrees depending on the country ► **Chart 1**. In Europe, where successive lockdowns were introduced in most countries, economic activity was particularly affected, with a 6.6% fall in the Eurozone's GDP in 2020. The fall in GDP was comparable in France (- 7.9%) and Italy (- 8.9%), worse in Spain (- 10.8%) and the United Kingdom (- 9.8%), but not as bad in Germany (- 5.1%). Conversely, China returned to economic growth as from the second quarter, resulting in a rise in GDP for the year as a whole (+ 2.3%) but still at a markedly lower rate than usual. The position regarding the USA, Brazil and Japan was midway between the situation in Europe and China, with GDP falling to a lesser extent than in Europe (- 3.5%, - 4.1% and - 4.8% respectively).

► 1. Change in GDP and Intensity of Restrictions in 2020



Note: the line shows the negative correlation between the evolution of GDP and the intensity of restrictions. The dots represent the countries considered by Hale *and al.* (2020).
Reading note: in 2020, GDP in France fell by 7.9% and the Stringency Index was 54.3.
Sources: Eurostat and the IMF for GDP; Hale et al (2020) for the Oxford Stringency Index.

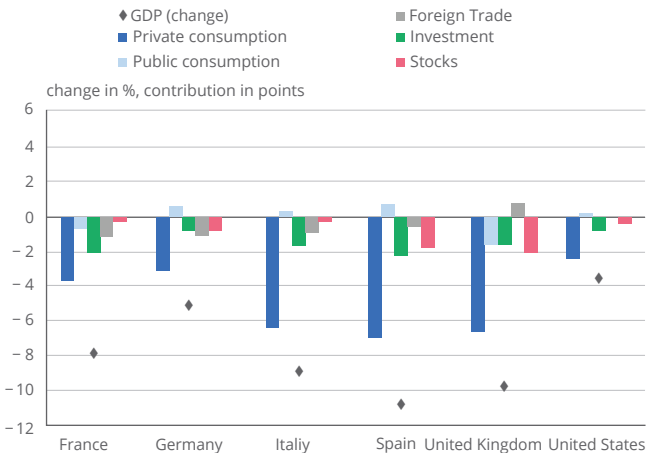
In 2020, the crisis affected household consumption above all, especially services

The fall in economic activity in 2020 is primarily related to the fall in private consumption as a consequence of the health crisis and measures taken to curb growth in the pandemic ► **Chart 2a**. That is the case particularly in Spain and Italy (accounting for a fall in GDP of 7.0 points and 6.4 points, respectively) and, to a lesser extent, in France (- 3.7 points). The contribution from foreign trade varied by country: negative in France, Germany and Italy, but positive in the United Kingdom. Public consumption, recognition of which may have differed by country, especially in the spring, also contributed to a varying degree depending on the country.

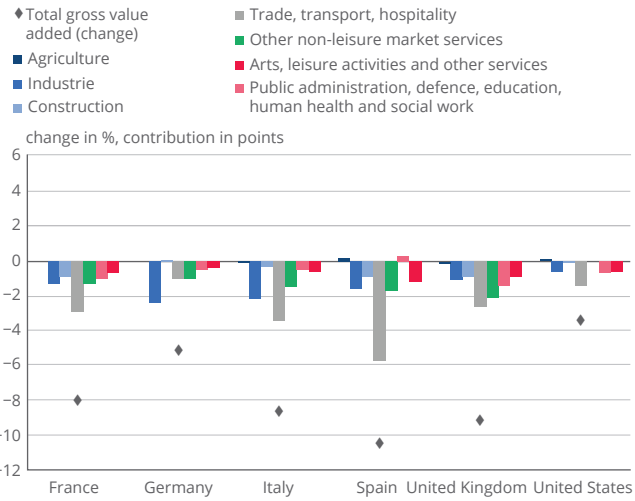
From a supply point of view, all productive sectors contributed to the fall in total value added Figure 2b, especially the trade, transport and hospitality sectors (contribution of - 2.9 points in France and - 5.7 points in Spain, owing to the significant influence of tourism). In Germany, where industry accounts for a high proportion, the partial shutdown in production and the fall in foreign trade had serious consequences: industry's contribution to the change in GDP was - 2.4 points. In Europe, other non-leisure traded service activities also contributed to the fall in economic activity (- 1.3 points for France).

► 2. Change in GDP and Total Gross Value Added in 2020

a. Change in GDP and Contributions from Different Items of Expenditure



b. Change in Total Gross Value Added and Contributions from Different Branches of Activity



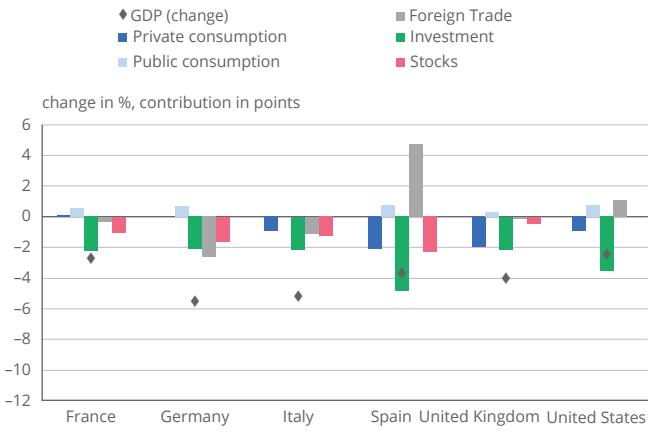
Notes: the breakdown by branch of activity matches the NACE Rev. 2 EU classification, A10 division, by re-aggregating IT, communications, financial, insurance and real estate activities, specialist scientific and technical activities and administrative and support service activities in "Other non-leisure market services".
Reading note: in 2020, GDP in France fell by 7.9%, of which 3.7 points were due to the fall in private consumption.
Sources: Eurostat, Destatis, Istat, ONS, Bureau of Economic Analysis.

The 2020 fall in value added is markedly different from the one that occurred in the 2008 global financial crisis

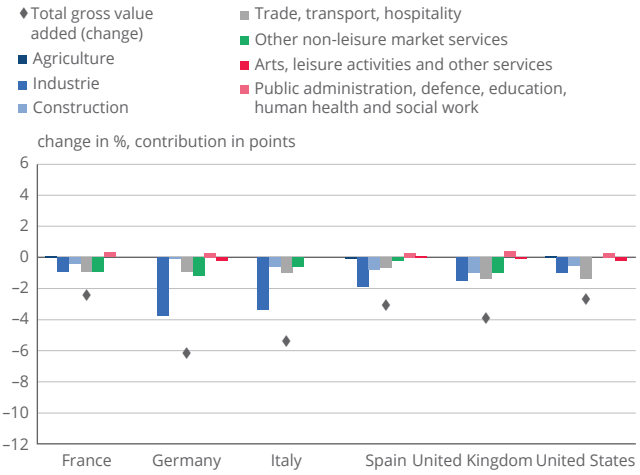
In the global financial crisis of 2008, the fall in activity was due, above all, to industry (on the supply side) and investment (on the demand side). Unlike in the 2020 health crisis, private consumption was not affected, or not by much ► **Chart 3**, particularly in France, whereas investment was the main item contributing to the fall in demand. In the same way, in 2008, industry was the main sector affected and to a greater extent than in 2020, whereas there was little impact on trade, transport and hospitality, unlike in 2020.

► 3. Change in GDP and Total Gross Value Added in 2008

a. Change in GDP and Contributions from Different Items of Expenditure



b. Change in Total Gross Value Added and Contributions from Different Branches of Activity



Reading note: in 2008, GDP in France fell by 2.8%, of which 0.1 of a point was due to the fall in private consumption.
Sources : Eurostat, Destatis, Istat, ONS, Bureau of Economic Analysis.

► Méthodology

Characterisation of branches of activity constrained by the health crisis

Branches of activity where production capacity was directly constrained by the health crisis can be identified using the ACEMO-COVID survey. In this survey, companies state the main difficulties they anticipate regarding business recovery and, in particular, whether these relate to the health crisis (difficulty in procuring masks, sanitiser gel and other protective equipment; difficulties in organising the business activity in such a way as to comply with social distancing requirements; employees' reluctance or refusal; representative bodies' reluctance or refusal; supply difficulties concerning materials or equipment needed for the activity; limited availability of some staff (e.g. due to child care issues)). Based on this information (collected by sector, between levels A88 and A38 of NAF, the French classification of business activities), a branch of activity (level A138) has a production capacity that is considered constrained by the crisis if the companies state they are more often constrained by these difficulties than by their outlets and if their fall in production is greater than or equal to the fall in GDP (working-day volume), or - 8.0% (the results are robust to choosing a threshold between 5% and 10%). According to this definition, the change in production in the branches of activity characterised in this way is solely dependent on these production constraints and not on demand. There are other possible ways of identifying production constraints: thus, Dauvin and Sampognaro (2021) identify the branches affected mainly by supply problems in April 2020 through the closeness between the observed fall in production and the expected fall in production subsequent to the supply factors they quantify (government closures, labour shortage, other supply shocks including procurement problems): if the supply shock for a given branch dominates the demand shock, then the fall in production ought to be of a similar scale than the supply shock. Their identification solely for the month of April cannot be applied automatically to the entire year.

The AVIONIC model

The AVIONIC national accounts input-output variance analysis model (Analyse Variantielle Input/Output Nationale en Importations et en Contenus) uses the Input/Output (IOT) and Intermediate Input Tables (IIT) produced by National Accounts to quantify the effect of these shocks to certain branches of activity on the rest of the production network [Bourgeois and Briand, 2019].

Intermediate Input Table (IIT)

The Intermediate Input Table shows intermediate consumption by the different branches of activity over the course of the year. For a provisional account, such as the one shown here, this consumption is not directly observed by national accounts but is estimated based on assumptions and will be refined in the course of subsequent versions of the account by incorporating information from company data.

In the meantime, estimates are based on the assumption of "stability of technical coefficients", which consists of assuming a change in intermediate consumption that is proportionate to the change in production by the branch of activity, ensuring consistency between changes in intermediate consumer prices and producer prices for the product and the correct balance with other transactions regarding the balance between product resources and use. Additional information may be used if these conditions are not met, which then allows the estimates to be adjusted. For example, in 2020, the contract catering turnover index enabled an adjustment to be made to the fall in intermediate consumption for catering services branches.

Household consumption and savings in MÉSANGE

The MÉSANGE model (Modèle Économétrique de Simulation et d'Analyse Générale de l'Économie) is a quarterly macro-econometric model of the French economy [Bardaji *et al.* 2017]. It is characterised by a detailed accounting framework, incorporating a breakdown into five sectors, differentiated by the degree of exposure to international competition and the split between skilled and non-skilled labour. The model's dynamics are determined by adding econometric equations. These equations, known as behavioural, are translated into a short-term freely estimated response and long-term behaviour stemming from a theoretical aggregated supply-demand framework. By way of example, the model's equation for household final consumption (in volume) has good empirical properties and provides a good explanation of changes in said consumption from one quarter to another based on its determining factors. As part of a retrospective analysis, the MÉSANGE consumption equation allows measurement of how the change observed in 2020 deviates from the average behaviour observed in the past.

The counterfactual scenario, built on the basis of the consumption equation in which only the explanatory variables change over the course of the four quarters, while the residual component (which reflects the change that is not explained by the equation) remains fixed at its value as calculated in 2019.

The calculations made based on the MÉSANGE model use the data associated with the initial estimate for the first quarter of 2021.

In 2020, household consumption decreased by 7.0% in volume. Taking into account the change observed in the explanatory variables (primarily gross disposable income), consumption ought to have increased by 0.7%. The discrepancy between these two figures mainly stems from factors not explained by the model (restrictions and changes in household behaviour), which account for a 7.6% fall in consumption over the year as a whole.

► Learn more

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Direction générale :
88 avenue Verdier
92541 Montrouge Cedex
Directeur de la publication :
Jean-Luc Tavernier

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Rédactrices en chef :
A. Goin, S. Pujol

Rédacteurs :
C. Lesdos-Cauhapé,
V. Quénechdu,
A. Saint-Ourens

Maquette :
Jouve
R. Pinelli Vanbauce

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