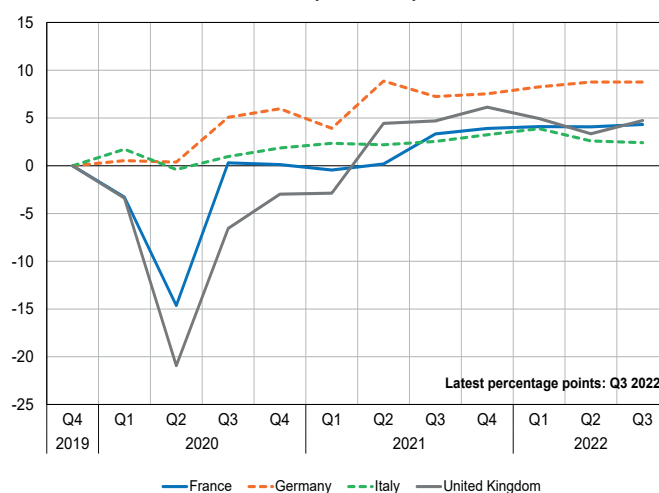


Measurement of Government Consumption and Its Impacts on Output in 2020 and 2021

Bastien Alvarez, Sixtine Bigot

- Government final consumption expenditure (GFCE) is a component of final demand in the national accounts. It covers services provided to households by public administrations, including both the direct production of public services by central government, local government and social security bodies (such as education and defence) and expenditure incurred by government bodies for services provided by the private sector (such as healthcare reimbursements).
- GFCE stood at 23% of GDP in France in 2019, at a level similar to the other leading European countries. Growth in GFCE is therefore an important component of GDP growth, but it is harder to measure than other components mostly because of the absence of market-based prices.
- The French National Institute of Statistics and Economic Studies (INSEE) and its UK counterpart the Office for National Statistics (ONS) reported a sharp decline in the output of public services during the first lockdown in the spring of 2020. The national statistics institutes in the other leading European countries (Germany, Italy and Spain), however, considered that the production of public services had not dropped.
- INSEE and the ONS used additional indicators, such as the loss of teaching activity, whereas the other institutes retained their usual methodology.
- The national statistics institutes estimated that the drop in GFCE in 2020 depressed GDP growth by -0.9 pp in France and -1.4 pp in the UK, whereas it contributed 0.8 pp to GDP growth in Germany and 0.7 pp in Spain.
- The fact that these differentials reflect at least in part the different methodological choices made to measure output in 2020 suggests that differences in GDP growth between European countries in 2020 and 2021 should be interpreted with caution. These choices cease to affect GDP growth from 2022 onwards.

Volume growth (%) in government final consumption expenditure in Europe compared with pre-COVID crisis level (Q4 2019)



Source: *Quarterly National Accounts*.

How to read this chart: In the second quarter of 2020, GFCE in France fell nearly 15% in volume compared with its level in the fourth quarter of 2019.

1. Government consumption: a considerable weight in GDP

The classic demand-side breakdown of GDP covers private consumption, investment, exports, imports, changes in inventories and GFCE. GFCE covers the goods and services produced by public administrations (central government, local government and social security bodies) – such as education, healthcare, justice and defence expenditure – or simply financed by them and produced by the private sector, such as social security reimbursements, energy vouchers and public transport subsidies. Some of this expenditure is known as individual consumption expenditure, because the end consumer is identifiable (such as in the case of education, healthcare and cultural expenditure). The remaining expenditure is known as collective, covering administrations' core functions (such as justice, defence, police and general services) and collective services (highway maintenance and public lighting), the benefit of which cannot be attributed to specific households (see Chart 1).

GFCE represents approximately one-fifth of GDP in the leading European economies: 19% in Italy, Spain and the United Kingdom, 20% in Germany and 23% in France in 2019. Its growth therefore makes a significant contribution to economic growth.

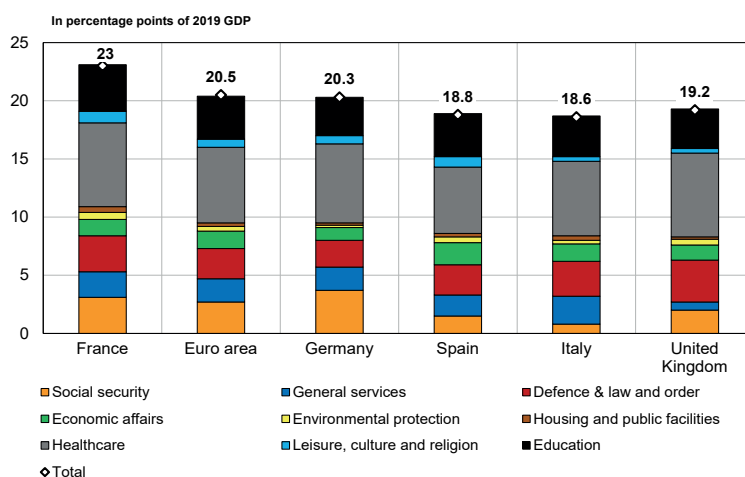
The measurement of GFCE in terms of volume, i.e. quantities consumed, poses particular methodological

problems. National statistical institutes (NSIs) have a direct measurement in current prices¹ (in euros), but they need to separate out “volume effect” (changes in quantities) from “price effect” (price changes). In the case of market goods and services, the price effect is easily identified from consumer price index trends. The price effect can then be deducted from the change in value to find the change in volume.² Yet when it comes to non-market goods and services, which account for most GFCE, the absence of market-based prices prevents the use of this method.

In European countries, the methods usually used to estimate volume are mainly direct, by means of (i) indicators of the volume of services provided for individual consumption (e.g. the number of treatments for healthcare and the number of hours of lessons for education), and (ii) “inputs” used to provide collective public services (number of employees and number of hours worked).

Alternatively, indirect measures by prices can be used, as a deflator for inputs (cost of labour and intermediate consumption) or a deflator based on prices in the market sector (as used by Germany for the healthcare sector).

Chart 1: Breakdown of government final consumption expenditure by function in 2019



Source: Eurostat.

(1) Mainly the sum of expenditure on public worker compensation, intermediate consumption (procurement) and public capital depreciation.
 (2) The ratio of value series to volume series is the deflator, which corresponds to the price effect.

2. National government consumption trends partially reflect different methodological choices

The European statistical framework remained relatively flexible with respect to the measurement of GFCE in the first half of 2020. Eurostat recommended³ using the usual methods wherever possible and, where necessary, indicators that best reflected the actual provision of public services. Only France and the United Kingdom provided information on the method used and adjustments made. The other countries did not explain their choices, but appear to have mostly opted to continue using the usual methodology rather than introducing new indicators. They hence considered that the administrations' consumption expenditure had not dropped and calculated public service output on this basis. A report published by the ONS and the OECD⁴ found that Italy and Germany had adjusted their education volumes for the second quarter of 2020, but to less of an extent than France and the United Kingdom.

The national accounts therefore present considerable deviations in GFCE change in volume for the spring of 2020 (when the strictest lockdowns were in place in Europe): between France and the United Kingdom on one side, and Germany, Italy and Spain on the other. This could be due in part to different health situations or public policy measures, such as in Germany where lockdown was not as strict as in France and the United Kingdom. However, a comparison of the different data suggests that the differences between national GFCE values measured in 2020 also reflect differences between national accounting methodologies.

In France, INSEE estimated that a quarter of public workers did not work in the second quarter of 2020 and downwardly adjusted public administration output accordingly. INSEE, which calculates GFCE

of education in volume based on the number of students, also factored in the sharp rise in school absenteeism during lockdown. In the United Kingdom, the ONS measured the number of treatments in hospitals⁵ and polled teachers to estimate the time they had spent teaching (remotely or not). The ONS reported that, despite the medical activity due to COVID, the school closures and postponements of treatment⁶ reduced the quantity of public services produced overall.

INSEE and the ONS consequently adjusted the volume change in GFCE for the second quarter of 2020 (-14.6% decrease in France and -20.9% in the United Kingdom compared with the fourth quarter of 2019). GFCE subsequently returned to its pre-crisis level in France in the third quarter of 2020 and later (second quarter of 2021) in the United Kingdom. Conversely, GFCE in current prices continued to rise (as wages were still being paid): as a consequence, the deflator for GFCE rose sharply in France and the United Kingdom through to the second quarter of 2022 before returning to its pre-crisis level.

In the other European countries, use of the regular measurement methods, merely with slight adjustments, produced a measurement of volume growth in GFCE close to its growth in value. So GFCE, as measured by NSIs, continued to rise in the first half of 2020 in Germany (+0.6%) and Spain (+1.8%), while remaining virtually stable in Italy (+0.2%).

Volume growth in GFCE in France and the United Kingdom was consistent with the evolution of other volume indicators such as the number of hours worked (see Box). However, volume growth in GFCE in the other countries was more in line with value indicators such as employee compensation.

(3) Eurostat (2020), "Guidance on Non-market Output in the Context of the COVID-19 Crisis" Methodological Note.

(4) OECD and ONS (2021), "International Comparisons of the Measurement of Non-market Output During the COVID-19 Pandemic".

(5) Compared with the last quarter of 2019, accident and emergency activity posted a 45% drop in the second quarter of 2020 and a 23% drop in the third quarter. See the ONS publication (2021), "International Comparisons of GDP During the Coronavirus (COVID-19) Pandemic".

(6) The COVID-19 epidemic drove an increase in highly expensive intensive care, but was also associated with a sharp drop in outpatient treatment and elective care, which account for one-third of UK healthcare spending on average.

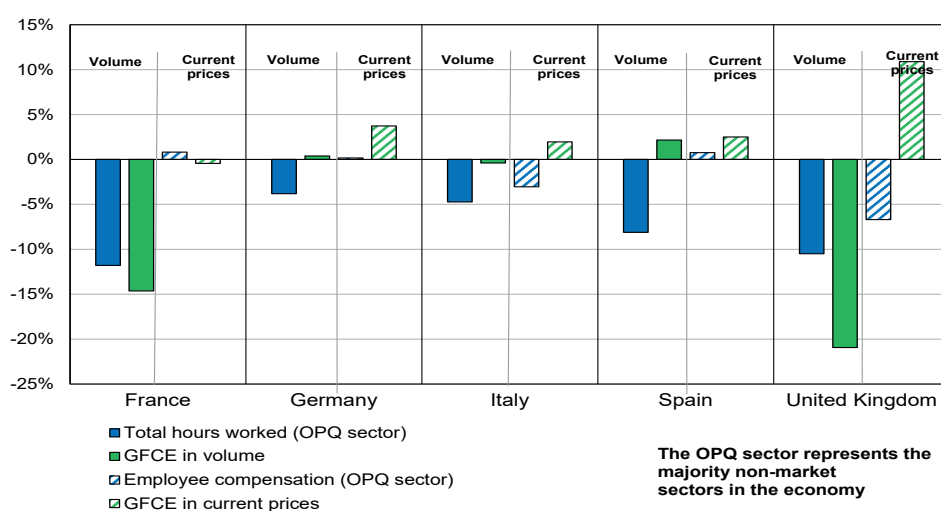
Box: Comparison between growth in non-market sector output and GFCE

Supply-side indicators for predominately non-market sectors (coded OPQ),^a such as the number of hours worked and employee compensation, paint a clearer picture of the differences between national GFCE trends.

In all the leading European countries, the total number of hours worked posted a marked downturn in these sectors in spring 2020: over 10% in France and the United Kingdom in the second quarter of 2020 compared with the fourth quarter of 2019, and approximately 5% in Germany, Spain and Italy. Compensation in these predominately non-market sectors posted less of a downturn than hours worked, and even increased in France and Spain.

The OECD/ONS analysis^b found that the volume of non-market output (OPQ industries such as public administration, healthcare and education) fell in all the European countries in the first half of 2020. In France and the United Kingdom, this fall coincided with the volume drop in GFCE. However, it is harder to tie in with growth in GFCE in the other countries (Italy, Spain and Germany).

Chart 2: Changes in government final consumption expenditure and indicators in the non-market sector (OPQ) from Q4 2019 to Q2 2020



Source: Eurostat.

a. Most non-market output is produced by the following sectors: Public Administration (O), Education (P), and Human Health and Social Work (Q). However, market producers account for a proportion of total output in these sectors, and this proportion varies from one country to the next. In addition, a small percentage of non-market output is produced by other sectors.

b. OECD and ONS (2021), op. cit.

3. Significant impacts on output measurement for the leading European countries

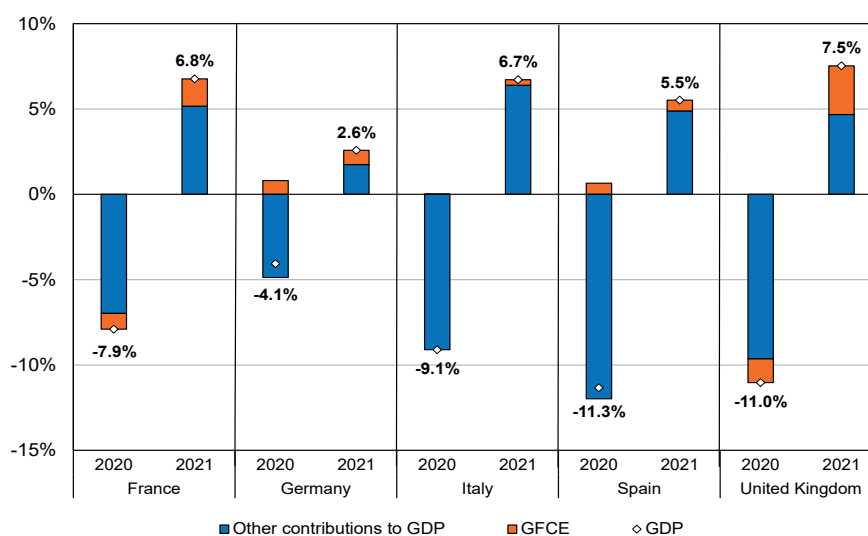
GDP is the measurement of each country's economic activity calculated by NSIs. INSEE's latest estimate shows that GDP dropped sharply in France by -7.9% in 2020. The drop was even sharper in Italy (9.1%), the United Kingdom (-11.0%) and Spain (-11.3%). However, GDP fell just -4.1% in Germany.

The decrease in GFCE measured by NSIs accentuated the drop in GDP in France (by -0.9 pp) and in the United Kingdom (by -1.4 pp). However, GFCE buoyed economic activity in Germany (contribution of +0.8 pp) and Spain (+0.7 pp), while it had a neutral effect in Italy (contribution of 0.0 pp). In a mirror image of the downturn in 2020, the upturn in GFCE in France and the United Kingdom supported GDP growth in 2021, contributing +2.8 pp in the United Kingdom and +1.6 pp in France.

If Germany, Spain and Italy had adjusted their calculation methods using additional indicators, the growth in GFCE recorded in 2020 would probably have been lower, if not negative. This would have accentuated the drop in GDP in 2020 and ramped up the recovery in 2021.

The effects of these methodological differences call for caution in the interpretation of growth differentials across the main European economies during the COVID-19 crisis; in particular the years 2020 and 2021 should be taken into consideration together. They also highlight the importance of transparency in the methodologies used by NSIs. Lastly, note that these differences in GDP levels measured in 2020 affect the comparability of growth figures in 2020 and 2021, but have no effect on growth from 2022 onwards.

Chart 3: Contribution of government final consumption expenditure to GDP growth in 2020 and 2021



Source: Eurostat.

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