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Informe Anual

Summary of the 2022 Annual Report of the Catalan Economy

June 2023



Generalitat de Catalunya
**Departament d'Economia
i Hisenda**

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Introduction

2022 was marked by the Russian invasion of Ukraine, the energy crisis and inflationary pressures. The rise in prices had already commenced in mid-2021, but accelerated in 2022 - when inflation reached record heights in decades. A combination of the Ukraine war and the tightening of health restrictions in China made supply chains extremely problematic (although the seriousness of the situation decreased progressively during the course of the year). All in all, this led to a rapid rise both in the cost of living for households and in costs for businesses.

Inflationary pressures led central banks to make a U-turn change in monetary policy, from the second half of 2022 onwards. Raising interest rates cooled-off global economic activity - such policy is expected to continue into 2023 and 2024. Meanwhile, some favourable factors have supported economic growth. 2022 saw the end of the pandemic and the removal of health restrictions after two years of COVID-19 - in Catalonia and in many other parts of the world. The disappearance of restrictions boosted the economy, especially in the first half of the year, thus consolidating the recovery that had started in 2021.

Global GDP grew by 3.4% in 2022 - slightly below average growth in the years 2000 to 2018 (3.8%). The euro area, suffering the direct impact of the war in Ukraine, saw a growth rate of 3.4% too, far below the previous year's level (5.3%).

Despite disruptions and uncertainties, the Catalan economy surpassed expectations and grew by 5.5% - on par with the Spanish economy, and 2.1 points above the euro area. This dynamism led GDP to reach pre-pandemic level by the second quarter of the year. The difference in recovery from the 2008 financial crisis and that from the COVID crisis is striking. In the former case, it was only after 36 quarters that the pre-crisis GDP level was recovered, while in the latter only 10 quarters were needed to return to pre-pandemic levels. While the two crises were of very different nature, which partly explains the speed of the recent recovery, it is also important to highlight the expansionary response in terms of economic policy, designed to provide support to businesses and households.

With regard to the factors that explain dynamic growth of the Catalan economy in 2022, one outstanding element was the positive development in external demand (which contributed to GDP growth by 2.8 percentage points). Another contributing factor was the

maintenance of levels of private consumption, aided by the persistent strength of the labour market and by fiscal policy - with measures to combat the combined effects of the Ukraine war and of inflation.

Yet, it is worth noting that growth has been uneven, across sectors of economic activity. Construction and services enjoyed significant growth (4.5% and 7.9% respectively), while industrial and agricultural production shrank (2.0% and 13.9% respectively), badly affected by price rises for energy and other basic inputs. The agricultural sector was not only affected by price rises for fertilisers and other inputs, but also saw drought and periods of late frost. Drought also marked the early part of 2023 and is maintaining the pressure on food prices.

At the start of 2023, the service sector has maintained a positive profile, while industry has enjoyed growth thanks to the fall in energy costs and relaxed supply bottlenecks. In the first quarter of 2023, this has resulted in growth in the industrial sector (3.6% year-on-year), and in GDP growth accelerating to 2.9% year-on-year. The Catalan economy has thus now accumulated eight consecutive quarters with higher growth than that of the euro area as a whole.

Growth in the external sector has been a key positive trend in 2022 and early 2023 - with a contribution of 2.8 points to GDP growth, in an adverse context. In 2022, foreign tourism continued to recover from the slump caused by the pandemic and gave a strong boost to the Catalan economy. Consumption associated to tourism continued to rise, accounting for 5.4% of GDP.

The external sector contributed to GDP growth not only via foreign tourism, but also through increased exports of non-tourism goods and services. These grew by 5.0% by volume. Catalonia's foreign sales reached a historical peak of nearly €95 billion (17.9% more than the previous year at current prices), making it the leading region in Spain for foreign sales (24.4% of the total volume). Catalan exports enjoyed significant growth, especially in sectors such as the chemical industry, transport material and food. In addition, the proportion of exports directed towards the rest of the European Union increased. Altogether, this made Catalonia achieve a proportion of trade in goods in relation to total GDP of 77% in 2022. The same indicator for the world as a whole remained relatively stable in the years 2009 to 2022, standing at 49% in 2022.

Partly as a result of the above, Catalonia enlarged its exporting base: the number of businesses with exports worth over €50,000 per year increased by 5.9%, attaining a historical high of 14,024 exporting companies. Furthermore, the number of businesses surpassing €5

million of foreign sales increased by 10.7%, totalling 1,911. This is an increase of nearly 20%, compared to the period 2019-2022.

Beyond the exporting sector, the total number of businesses increased. According to the Spanish Central Business Register (DIRCE), as on 1st January 2022 there were 634,223 businesses with their registered office in Catalonia: 1.8% more than at the same date in 2021, and 0.7% more than in 2019. Yet, recovery was unevenly distributed across sectors. Transport, construction and other services had a higher number of companies than in 2019, while the numbers of businesses in industry, commerce and hospitality were below 2019 figures. Companies with fewer than 10 employees showed continuing resilience (including companies with no employees at all). Advance indicators for company numbers show considerable dynamism in 2022, with a net creation of 17,040 commercial companies, representing 4.8% more than in 2019.

Another noteworthy positive feature in 2022 was the resilience of the labour market. Employment continued to show a healthy growth rate, despite an uncertain economic context, and surpassed pre-pandemic levels. Social Security registration increased by 3.8%, and the Spanish Labour Force Survey (LFS) showed an increase in the active population of 2.1%, with the number of hours worked raising by 4.9%. The employment rate for 15-to-64-year-olds increased to 69%, a higher figure than that registered before the pandemic, and very similar to euro area's (69.4%). Furthermore, nearly 40% of employment created in 2015-2022 consisted of higher-quality posts of professional, scientific or intellectual nature. As a result, the unemployment rate fell from 11.6% in 2021 to 9.7% in 2022 - or the lowest annual rate since 2008. In addition, dynamism of the labour market and labour market reform meant that the rate of temporary employment dropped sharply in all sectors - reaching 14.5% in the fourth quarter of 2022, a figure close to euro area's (14.6%).

A major change in the labour market, due to the pandemic, was remote working. Remote working continues at high levels, relative to years preceding the crisis. A year after the outbreak of the health crisis, in 2021, the percentage of employed people working from home in Catalonia reached 19% of the active population (more than 10 percentage points above the 2019 rate). In 2022, the lifting of restrictions and the return to "normality" led to a decline in remote working in all European countries. In Catalonia, remote working went down to 15.9% of the active population, in 2022. In summary, figures show shift towards hybrid working, with remote work for part of the working week.

Remote working is expected to contribute to an improvement in the quality of life and the well-being of society. Indicators of well-being and social progress also pointed to improvements in 2022. A downward trend can currently be observed in indices of income inequality, and statistics for severe poverty are also progressively falling. However, energy prices raised the percentage of households that could not afford to pay their electricity, gas, water and other utilities, to 9.9% (before the pandemic, this figure stood at 6.5%). Keeping homes heated to an appropriate temperature also became a growing problem for many households, in 2022.

Removal of health restrictions, the positive trend in the labour market, savings accumulated during the pandemic and the capacity to adapt to war conditions resulted in 2022 exceeding growth expectations in the beginning of the year - when war in Ukraine broke out, prices soared and China went into a new lockdown to combat a new wave of the pandemic. The positive performance of the Catalan economy has also been enabled by policies put in place by the public authorities - including fiscal measures to help households and companies combat the increase in inflation, which contributed to maintaining domestic consumption. The fiscal impulse through Next Generation EU funding, among other measures, also made it possible for investment to remain reactive, especially in the construction sector - in a context of global uncertainties and of tightening of monetary policy. All in all, this resulted in the deficit of the Generalitat for 2022 representing 1.5% of GDP. This represents an increase compared to 2021 - as extraordinary COVID-19 transfers were no longer received in 2022, while capital operations and salaries expanded, and part of pandemic-related expenditure still continued.

During the first half of 2023, uncertainty has continued, especially with regard to the future war developments in Ukraine, price rises, and the tightening of monetary policy. The time gap between decision-making by central banks and the reaction of economic agents suggests that the Catalan economy and its surrounding economies will experience a slowdown in 2023. The latest macroeconomic forecast of the Department of Economy and Finance of the Generalitat of Catalonia (published in April 2023) expects GDP growth of 1.7% in 2023, and of 2.2% in 2024. This forecast expects the unemployment rate to continue to fall, reaching 9.1% in 2024.

This forecast places Catalan 2023 growth at a higher rate, compared to surrounding economies. The forecast for the euro area, by the European Commission, places its growth at 1.1%. To enable resilience of the Catalan economy, in a changing and uncertain environment, continuing with Next Generation EU funding deployment is key - focusing on transformational projects in sectors and branches of the

value chain that can increase the competitiveness of the economy (such as semi-conductors). This should be done in parallel with the strengthening of public services, including education and health. On the one hand, the labour market needs skilled labour to enable the green and digital transformations. On the other hand, society needs a robust healthcare system, to respond to structural challenges - including population aging, as well as to progress in key areas such as research.

Key messages in the 2022 Catalan Annual Economic Report

Chapter 1. A global slowdown caused by inflationary and geopolitical tensions

- 2022 was marked by the Russian invasion of Ukraine, the energy crisis, high inflation and the tightening of monetary policy. Growth in global GDP slowed to 3.4% - which is below the average level for 2000-2018 (3.8%). The overall level of the global economy was 6.8% above that for the year 2019.
- The euro area grew by 3.4% in 2022, faced with the direct impact of the conflict in Ukraine. The Spanish economy grew more than the surrounding economies (5.5%) in a context marked by a later recovery from the pandemic.
- The forecast for 2023 continues to show a slowdown trend, due to the persistence of high inflation and the tightening of monetary policy. Overall, the 2023 forecast therefore tends towards a negative perspective due to the high level of uncertainty. On the upside, tensions in energy and food markets caused by the war are easing, China's reopening is gathering momentum, and supply-chain disruptions are relaxing.

Summary Box 1. Navigating “deglobalisation”: a Catalan perspective

Maria Ptashkina (Pompeu Fabra University-UPF) and Jaume Ventura (UPF, Centre for Research into the International Economy-CREI, and Barcelona School of Economics-BSE)

- The concept of “deglobalisation” and its potential impact on international trade have become a subject of discussion in recent years. In this summary box various perspectives are presented, focusing on the Catalan economy.
- Catalonia is characterised by a high degree of openness and a strong concentration of its exports towards Spain and other European countries.

- Although the degree of openness of globalised free trade has varied in the last two decades and some regions have experienced a reduction in trade flows, the European Union, which includes Catalonia's main trading partners, has maintained high and ever-increasing levels of commercial openness. It should also be noted that Europe has a particular orientation towards internal exchanges, with a high proportion of intra-regional trade.
- Overall, concern about the negative effects of “deglobalisation”, for the Catalan economy, are probably exaggerated. Trends observed in certain regions of the world are very unlikely to have a significant impact on Catalonia's trade patterns.

Chapter 2. Strong growth of the Catalan economy in a context marked by global shocks

- The Catalan economy enjoyed outstanding growth in 2022 (5.5%) and displayed greater resilience than initially expected. This was in an unfavourable context marked by inflationary tensions, major rises in interest rates (after more than a decade at minimal rates), the crisis provoked by energy prices, and the shortage of raw materials due to war in Ukraine. All in all, the Catalan economy successfully withstood the geopolitical and inflationary crises and enjoyed significant and continuing levels of growth.
- The growth of the Catalan economy in 2022 significantly surpassed the growth rate recorded in the euro area (3.4%), while remaining at a very similar level to that of the Spanish economy as a whole (5.5%). Furthermore, a pre-pandemic level of GDP was attained from the second quarter of 2022 onwards. The growth rate forecast for 2023 is 1.7% and for 2024, 2.2%.
- After significant growth in economic activity during the first half of 2022, the second half of the year was marked by a slower pace due to the effects of the Ukraine war and the inflationary context. In early 2023, indicators became positive again, in part thanks to the improvement in global supply problems and the tempering of energy prices.
- On the demand side, growth was based on strong positive contributions of domestic demand (which contributed 2.7 percentage points to the growth in GDP) and external demand (2.8 points). Household consumption showed significant growth (up 4.1%) despite the rapid increase in inflation. Gross capital formation grew by 3.8%, aided by the deployment of NGEU funding - although there was a subsequent slowdown at the end

of the year, partly due to the tightening of financial conditions. The strong rise in consumption by foreigners (reflecting the recovery of international tourism), along with the resilience in exports of non-tourism goods and services, were key factors in the strong performance of external demand in 2022.

- 2022 trends were very uneven across economic sectors. Construction and, in particular, the service sector (with recovery widely spread across a range of branches) displayed significant annual growth rates of 4.5% and 7.9%, respectively. The dynamism of professional services and the strong recovery in commerce, transport and hospitality were particularly notable. By contrast, industrial and agricultural production were badly affected by price rises for energy and other basic inputs: their Gross Value Added (GVA) registered falls of -2.0% and -13.9% respectively. During the second half of 2022 and into early 2023, the services maintained a healthy profile, while industry displayed a more positive trend thanks to the fall in energy costs and relaxed supply bottlenecks.

Summary Box 2. The evolution of the agricultural sector in 2022

Cristina Fumanal and José Ángel Calvo (Statistics and Food Prices Department in the Technical Service of the Catalan Department for Climate Action, Food and the Rural Agenda)

- The outbreak of war between Russia and Ukraine (main global suppliers of cereals, oils and fertilisers), worsened a situation that was already complicated for the food sector - due to tensions caused by the rise in the cost of energy and other intermediate goods from 2021 onwards. The above factors were exacerbated by the strong increase in demand from consumers worldwide, after COVID-19 lockdowns.
- Ukraine is the main supplier of the Catalan food sector in terms of maize (supplying 36% of Catalan imports in 2021) and sunflower oil (49%). It remains to be seen to what extent Catalonia will be able to replace Ukrainian imports by diversifying its purchases from other producer countries - such as Argentina, Brazil and the United States.
- The increase in final prices has not been sufficient to compensate for the increase in intermediate costs. Combined with drought and late frost, agricultural production has fallen - and is expected to continue to do so throughout 2023, due to persistent drought. By contrast, livestock production is expected to be able to

maintain income levels in nominal terms - and thus offset cost increases.

- Falling water supply levels have affected the sowing of crops and have represented a threat to animal foodstuffs - due to rises in the price of fodder. This may adversely affect consumer food prices in the very near future.

Chapter 3. Upturn in the external sector thanks to increased trade in goods and services and due to a strong recovery in tourism

- The external trade sector was a driving force behind the growth of the Catalan economy in 2022. The foreign trade balance made a significant contribution to GDP growth of 2.8 percentage points - thanks to the positive balance in terms of trade and, especially, of foreign tourism.
- Exports of goods and services not related to tourism saw a significant increase of 5.0 % by volume, with imports increasing by 5.3 %. Trade in goods, excluding services, showed a weaker performance in real terms, given that exports increased slightly (up by 0.7%), while imports fell by 1.3%. These changes are similar to what is seen in Spain as a whole. Having said that, increases in nominal terms (up 17.9% for exports and up 23.6% for imports) were particularly impressive.
- By sectors of activity, the chemical industry, the transport equipment sector and the food industry, made a notable contribution to the increase in exports of goods at current prices. In addition, the proportion of exports directed towards the rest of the European Union increased (60.7% of the total, up by 1.5 points compared with 2019).
- With regard to imports, the chemical industry, energy products and the transport equipment sector are the areas of activity that made the largest contribution to nominal growth. Transport equipment is the only branch that remains below the 2019 level of import value (-15.1%). Unlike exports, a growing proportion of imports now originate from outside the EU, and the increase in imports from the EU has also doubled.

Summary Box 3. The number of exporting Catalan companies has reached a historical high

- The number of companies exporting volumes of a value of over €50,000 per year increased by 5.9 % in 2022 - reaching a historical record of 14,024 companies. The number of companies that regularly export increased by 2.2% (totalling 7,715 companies), and those exporting on a non-regular basis increased by 10.8% (totalling 6,309 companies).
- Catalonia was the leading Spanish autonomous community in terms of foreign sales, with 24.4% by volume of total exports (24.1% in terms of regular exports). Catalonia accounted for 28.8% of the total number of Spanish companies exporting (and 30.5% of those exporting on a regular basis).
- The intensive margin for regularly exporting companies (i.e., the volume exported per company) continued to rise, and was the most important factor that contributed to the increase in export volumes.
- The number of companies exporting volumes of a value of over €5 million per year increased by 10.7 % in 2022, totalling 1,911 companies. Most of these companies are involved in the manufacturing sector - specifically, in the chemical industry, the manufacturing of machinery, the plastic products sector and the food industry.

Summary Box 4. The economic impact of COVID-19 on the tourism industry in Catalonia and Spain

Jordi Suriñach, José R. García-Sanchis, Ernest Pons and Esther Vayá
(AQR-IREA Research Group, University of Barcelona)

- To estimate the potential economic impact of the reduction in tourist expenditure caused by the pandemic, a comparative analysis was conducted between the actual situation in 2020 and 2021, against a counterfactual scenario without the pandemic.
- In Catalonia, the 2020 fall in sales revenue caused by the reduction in tourist expenditure, in comparison with the “no COVID-19” counterfactual scenario, was of 77%. For 2021, this figure was 66%.
- Had there been no furlough schemes (ERTOs), the number of full-time equivalent (FTE) jobs would have fallen by 75% in 2020

- by 64%, in 2021. The loss of FTE jobs in 2020 would have totalled 388,330.

- The contribution of tourism to Catalan GDP fell from about 15% before COVID-19 to about 4-5% in 2020 and 2021, in the COVID-19 scenario.

Summary Box 5. Strong recovery in foreign tourism has been one of the key drivers of economic growth

- In 2022, tourism recovered most of the dynamism experienced before the crisis - thanks to the normalisation of the health situation, and as pandemic restrictions were lifted. In total, Catalonia received 39 million tourists (both from foreign countries and from the rest of Spain). This corresponds to 83.6% of the 2019 level - a year in which tourist numbers reached a historical peak.
- Foreign tourism was a driving force behind the Catalan economy. The proportion of total revenue from foreign tourists' consumption in Catalonia increased significantly in 2022, totalling 5.4% of GDP. Catalonia received the highest volume of foreign tourists compared with the other autonomous communities (with 20.7% of the total number of foreign tourists entering Spain overall).
- Overnight hotel stays by domestic tourists substantially exceeded pre-pandemic figures. Specifically, overnight stays by tourists from Catalonia surpassed the 2019 figure by 11.2% and those from the rest of Spain by 9.1%, while numbers of foreign tourists were still 15.7% down.
- Since the pandemic, a number of changes have been noted in terms of consumers' choices, with a greater preference for destinations that are geographically closer, for rural destinations (significantly exceeding 2019 levels) and for establishments with higher prices.

Chapter 4. Consolidation of the recovery in the business sector

- The indicators of business confidence remained moderate during the course of 2022, but showed greater optimism for 2023.
- According to the latest data available from the Spanish Central Business Register (DIRCE), during the course of 2021 the

number of companies with their registered office in Catalonia rose by 1.8%, totalling 634,223 companies (up by 0.7% compared with 2019). Recovery has been uneven in terms of the various areas of economic activity. While transport, construction and other services counted a larger number of companies than previously, by contrast, there were still fewer companies than before involved in industry, commerce and hospitality. By company size, resilience of companies with fewer than 10 employees (including those with no employees at all) was particularly noteworthy.

- In 2022, advance indications of business demography show that the Catalan entrepreneurial fabric is recovering the dynamism of the years prior to the health crisis. The number of commercial businesses showed a net increase of 17,040 (up by 4.8%, compared with 2019). The number of business tax accounts suggests a stronger recovery in terms of accounts for companies with over 50 employees, and for those in the construction and other services sectors.

Chapter 5. Strength of the labour market and a reduction in temporary work

- During the course of 2022, employment continued to display a healthy rate of growth, despite the uncertain economic context. Social Security registration increased by 3.8%, and the Spanish national Labour Force Survey (LFS) showed an increase in the active population of 2.1% - with number of hours worked up by 4.9%.
- The increase in the employment rate during 2022 and 2023 confirms that activity held up during the health crisis much better than in previous recessions - when employment fell dramatically and even more sharply than GDP. In 2022, the various employment statistics had already surpassed pre-pandemic figures.
- The employment rate for 15-to-64-year-olds increased to 69.0 %, a higher figure than that registered before the pandemic and very similar to that for the euro area (69.4%).
- With regard to the type of employment created, a significant part of the creation of employment since 2015 has corresponded to higher-quality posts. This trend continued in 2022. In particular, nearly 40% of the employment created in the 2015-2022 period corresponds to the category of scientific and intellectual

professionals (which includes, among others, information technology workers; scientists and lawyers; health professionals and teachers; financial and administrative specialists, etc.). The next largest category is that of technical and professional support staff (26.8% of employment created).

- In 2022, the increase in employment corresponded mostly to full-time employees and to the private sector. The rate of temporary employment fell to its lowest level since 2010.
- The unemployment rate fell from 11.6% to 9.7% in 2022 - thus leaving the health crisis clearly behind, and achieving the lowest annual unemployment rate since 2008. In terms of the full range of job categories, the fall in the unemployment rate in 2021 and 2022 happened across the board. Nevertheless, high rates of unemployment continued to be recorded among young population (with 15-to-24-year-olds showing an unemployment rate of 24.1%), among non-EU foreign residents (18.6%) and among persons with only a minimum secondary education (16.2%).

Summary Box 6. Recent patterns of temporary employment in Catalonia as a result of the latest labour market reform

- In April 2022, the new labour market reform approved by the Spanish central government came into effect. This restricts the cases in which temporary work contracts can be proposed, while establishing permanent contracts as a more standard option.
- 2022 saw a strong increase in permanent employment and a reduction in temporary work. According to December 2022 data, the number of employees registered with permanent contracts had increased by 401,133 persons compared with the previous year, while there had been a sharp downturn in those registered for temporary work (with 311,785 fewer persons registered). Most of the increase in registration for permanent employment over the last year (56.3%) came in the form of full-time permanent contracts. 25.1% of the increase was driven by part-time permanent contracts, and 18.6% corresponded to discontinuous permanent contracts.
- The dynamism of the labour market and the new employment framework led to a sharp reduction in the rate of temporary employment in Catalonia. In the fourth quarter of 2022, this totalled 14.5% - a figure very similar to that for the euro area (14.6%). Meanwhile, in the first quarter of 2023, temporary

employment registered a new historical low (14.36%). The temporary employment rate fell for all social groups and practically all sectors of activity - although the decline was slower in the public sector.

- Despite signs pointing to improved stability in the labour market, a longer time-span and further analysis will be required to evaluate the effects of the labour market reform.

Summary Box 7. Remote working: temporary or structural change?

Gemma García (University of Barcelona and Institute of Economics, Barcelona-IEB)

- During the pandemic, and particularly in 2021, the percentage of employed people working from home in Catalonia reached 19% of the active population (more than 10 percentage points above the 2019 rate).
- In 2022, however, the lifting of restrictions and the return to “normality” led to a general decline in remote working in all European countries. Catalonia was among the regions of Europe that experienced one of the sharpest falls remote working (from 19% to 15.9% of the active population). Such reduction in remote working took place exclusively among those working from home for more than half of the working week. Otherwise, occasional home working has continued to expand. There thus seems to have been a significant change in the field of labour relations leading to an expansion of hybrid working. There is a return to on-site working, but with a certain flexibility, allowing for remote working for part of the working week.
- The aggregate figures for remote working conceal, however, a variety of different situations. In particular, there exist major differences between salaried employees and other workers.
- According to the available studies, about 35% of the active population of Catalonia would be able to work from home. With a modification of existing legislation, it would be feasible to encourage further use of remote working.

Chapter 6. Inflation peaks in 2022 and remains well above salary rises

- In annual terms, overall inflation was 8.0% in 2022 (2.9% in 2021), while the underlying rate of inflation was 4.9%. In the last quarter of 2022, there was an easing of price rises, but a contagion effect led to the persistence of high rates of underlying inflation.
- In 2022, all sectors registered higher inflation rates, compared to 2021. Housing (14.6%) and transport (11.9%) had already experienced high rates of inflation, but other sectors saw very significant price rises during the course of 2022. The most obvious case is that of food prices (up 10.3%), which in 2021 had experienced inflation of only 1.9%.
- In 2022, the GDP deflator experienced an increase of 4.8%. This major increase was even larger than that registered during the years prior to the financial crisis. This increase was caused especially by the industry deflator (12.7%), although the service sector also recorded a significant increase (3.8%).
- Imported inflation determined the level of increase of final demand prices in 2022, a change in relative prices that led to a deterioration in the real exchange relationship.
- Nominal labour costs in Spain increased at a lower rate, compared to developments in the European Union and the euro area, in almost all branches of activity. In Catalonia, the rise in labour costs per worker per month (5.0%) was slightly higher than the Spanish average (4.2%). This was caused both by the recovery of hours worked in branches of activity that in 2021 were still affected by health restrictions, and by the increase in hourly costs in industry, retail sales and education.
- Salary increases approved by sectoral agreements increased month by month in Catalonia and Spain (with increases of 2.89% and 2.78%, respectively) - and surpassed the levels of previous years. The proportion of workers affected by salary increases higher than 3% rose from 2.2% to 42.8%. Nevertheless, the increases agreed were far below the inflation rate and have not triggered a salary-price spiral.
- In some countries in the euro area, tensions in a particularly dynamic labour market have contributed to a general increase in nominal terms. The rate of vacancies per worker, as an indicator of the time required to fill a job vacancy, reached a very high level

- with Catalonia as one of the autonomous communities with one of the highest levels in Spain as a whole.

Summary Box 8. Inflation was higher in low-income households

- Households bear varying rates of inflation to the extent that their shopping baskets or patterns of consumption are different.
- In 2022 the average inflation differential between the lowest and the highest incomes was 1.3 percentage points.
- During the course of the year, differences between income quintiles were attenuated mainly due to the evolution of energy prices.
- The summary box includes a consumer price index (CPI) calculated for an essential consumer goods basket. Starting from 2021 and during 2022, this basket saw price rises higher than that of the general CPI (13.2% as an annual average, compared with a rise of 8.0% for the general CPI) - with a maximum differential of 5.9 points in March.

Summary Box 9. The 2022 inflationary episode compared with the stagflation of the 1970s

- The high rates of inflation and the volatility in the markets of raw materials during 2022 have posed the risk of a possible combination of economic stagnation and unemployment, with a sustained rapid rise of prices - similar to the oil crisis.
- As in the crisis of the 1970s, the detonator of sharp price rises was the sudden increase in the prices of hydrocarbons and other raw materials in international markets - albeit this was briefer and comparatively less intense in 2022. In both cases, the supply shortage caused by geopolitical factors was preceded by a more gradual increase in domestic and global prices, that also met growth in demand.
- As in the 1970s, in 2021 and especially in 2022, the rise in the price of inputs led not only to a rapid rise in general inflation (driven by energy and food prices), but it was also transmitted to the rate of underlying inflation. In any case, the effect produced in 2022 was lighter. This could be explained by a lower concentration of hydrocarbons per unit of GDP, which take decades to reduce; or by less intense side-effects. The limited

increase in nominal salaries in the majority of the advanced economies is the other major difference with the crisis of the 1970s.

- The growth forecast for 2022 and 2023 was revised downwards as soon as war in Ukraine broke out. This situation has similarities with the crisis of the 1970s, which was not characterised by very sharp falls in real GDP. Despite this, for the moment, there have not been comparable increases in unemployment - but rather the opposite.
- Finally, both in the 1970s crisis and in the recent inflationary episode, there was a shift from a period of low interest rates, to a period marked by rises in reference rates. However, in the 2022 episode, this change in monetary policy happened in advanced economies - characterised by lower and more volatile levels of growth and certain stagnation in terms of productivity and long-term investment. A distinction should also be made between the orientation and implications of monetary policy in the phase prior to the inflationary episodes under analysis - and the much clearer increase in investment in financial assets in 2022.

Chapter 7. The removal of monetary stimulus by central banks

- Main central banks began to reduce their balance-sheets and to remove monetary stimulus. In 2022, the Fed raised interest rates by 4.25 percentage points (pp) and the European Central Bank (ECB) followed suit with a 2.50 pp rise (the largest annual rate hike in the history of the euro).
- The ECB brought to an end the net purchases of Asset Purchase Programmes (APPs) and will reduce its stock from 2023 onwards, while terminating net purchases of specific assets (PEPPs) due to the pandemic. The ECB adjusted conditions for injecting liquidity through its Targeted Long-Term Refinancing Operations (TLTROs), as to encourage early return of bank loans and reduce the central bank's balance-sheet. The ECB also created the Transmission Protection Instrument (TPI) to avoid the risk of fragmentation in the financial markets of the euro area.
- The 12-month Euribor rate started to rise in January 2022, reaching 3.02% by the end of the year. Housing loan interest rates registered a sustained rise to 3.12% by the end of 2022. Financing conditions tightened for both households and companies, and interest rates for loans rose to higher levels than housing loan rates.

- Private sector financing stock for the Spanish economy continued the slowdown initiated in the previous year, and started to decrease for companies. New concessional credit increased for large companies, MSEs and households. By the end of the year, it started to slow down for large companies and households, while the increase was maintained for MSEs.
- Credit stock resumed growth in Catalonia, even if it was below the GDP growth rate. Deposits have continued to expand since 2017.

Chapter 8. The public sector no longer receives extraordinary COVID-19 transfers

- The deficit of the Generalitat for 2022 was 1.5% of GDP. This ratio rose sharply because extraordinary COVID-19 transfers were no longer received, in 2022. Expenditure had not fallen, however, since capital operations and staff salary payments had increased, and part of the expenditure linked to the pandemic also still continued.
- In 2022, non-financial revenue fell by 6.7%. Advances through the financing model, which are the main source of revenue for the Generalitat, increased by 6.8%. During the previous financial year, €3.15 billion extraordinary transfers had been received due to the COVID-19 crisis - whereas, in 2022, €137 million of reimbursements were made. Revenue also fell because, during the previous financial year, €1.77 billion had been received due to the settlement of the financing model for 2019 - whereas, in 2022, the Generalitat received no settlement payments.
- Collection of tax revenue in Catalonia by the Spanish National Tax Agency (AEAT), increased by 11.8% in 2022. Revenue increased from both Income Tax and Value Added Tax (by 15.4% and 7.7%, respectively). Revenue collected via Corporate Tax increased by 6.6%.
- 2022 data for investment in Catalonia, undertaken by the Spanish central government, is not yet available. In 2021, the degree of implementation of investment in Catalonia by the Spanish central government was at a historical low of 35.8%. This figure compares to a much higher 71%, considering all Spanish autonomous communities as a whole. Further, from 2013 to 2021, the degree of implementation of investment in Catalonia was of 62.8% - and 80.8%, for Spanish autonomous communities as a whole.

Chapter 9. The improvement in levels of inequality and the fall in the at-risk-of-severe-poverty rate

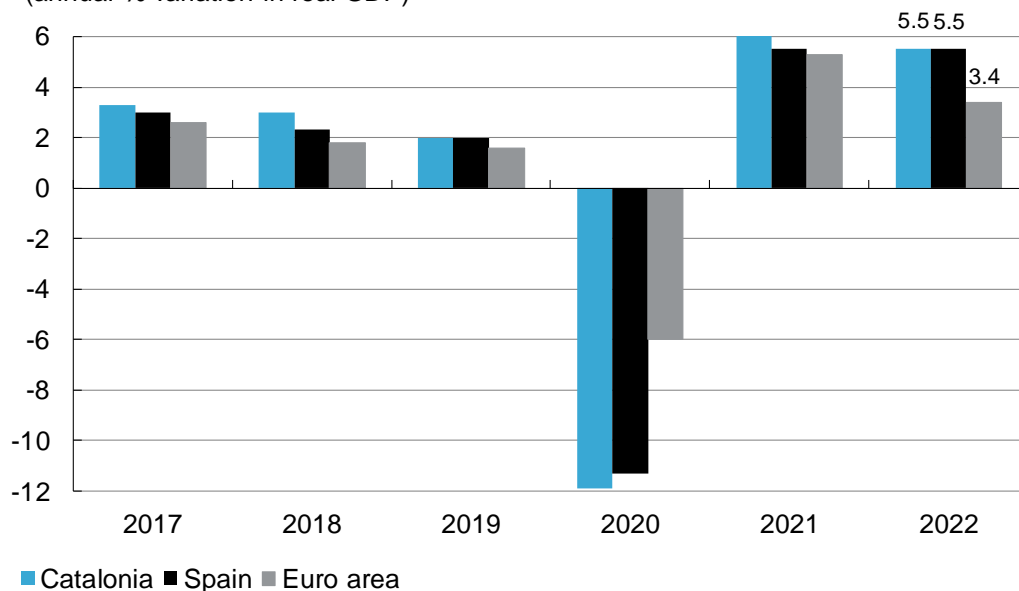
- Improvements in 2022 Life Conditions Survey (LCS) indicators are primarily driven by favourable labour market developments. Compared with 2019 and 2021, household income increased by 3.2% in current prices, and by 1.2% in constant terms.
- Further, indicators of income inequality suggest improvements in levels of inequality.
- The at-risk-of-poverty (AROP) rate fell by 1.8 points, compared with the pre-pandemic level. Further, the at-risk-of-severe-poverty (AROSE) rate, which only monitors households that have income under 40% of the average, saw a significant reduction - decreasing from 11.5%, in 2019, to 8.8%, in 2021.
- The proportion of people living in households with low work intensity (LWI) showed a very positive trend in 2021. Compared to 2019 and 2021, this ratio reduced by 3.4 percentage points.
- The proportion of people suffering from Severe Material and Social Privation was of 8.0% in 2022 - the same percentage as the year prior to the pandemic. Notwithstanding the above, the increase in energy prices raised to 9.9% the percentage of households that could not afford to pay their electricity, gas, water and other utility bills (before the pandemic, this figure stood at 6.5%).
- In 2022, keeping homes heated to an appropriate temperature became a growing problem for many. 19.2% of people could not heat their homes sufficiently - the highest figure historically recorded.

Strong growth of the Catalan economy in a context marked by global shocks

In 2022, the Catalan economy saw significant growth (5.5%), consolidating its recovery from the pandemic crisis - despite global uncertainties linked to the energy crisis and inflationary tensions

In 2022, the Catalan economy experienced significant growth (5.5%). In 2021, GDP had recovered by 6.2% - after the 2020 pandemic outbreak had led to a historic slump in GDP of 11.9%. As a result, growth rates of 2021 and 2022 have been high. At the same time, 2022 outperformed expectations at the start of the year, in a context marked by the Ukraine war, inflationary tensions linked to the price of energy and other inputs and, from the summer onwards, the tightening of monetary policy after years with very low interest rates.

In 2022, the Catalan economy has grown by 5.5%, showing significant resilience in the face of geopolitical and inflationary shocks
(annual % variation in real GDP)



Source: Idescat, INE and Eurostat.

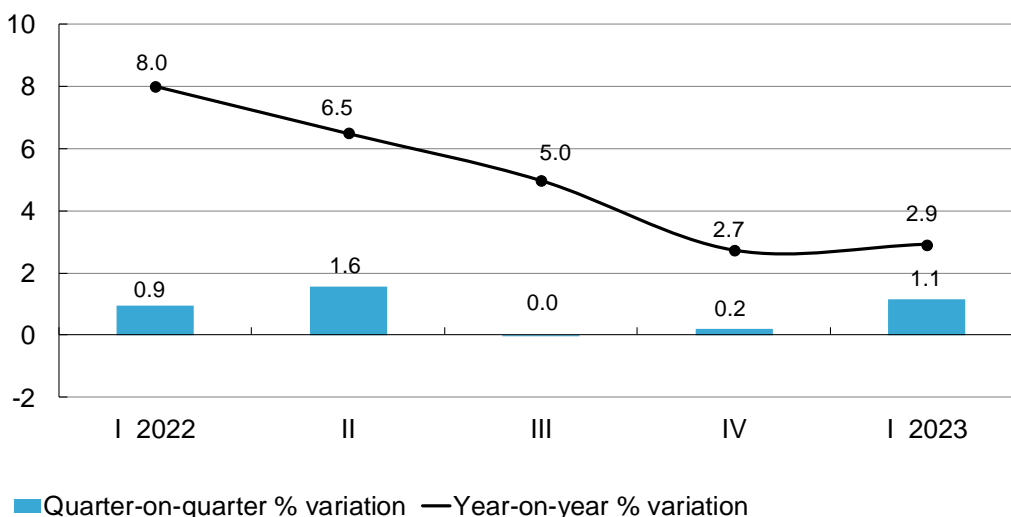
The growth rate of the Catalan economy (5.5%) exceeded that of the euro area (3.4%) by two percentage points

GDP in the euro area also registered significant growth (3.4%), but this was much lower than in 2021 (5.3%). The slowdown was gradual: at the start of the year, the year-on-year rate of growth was above 5%, but this dropped to 1.8% by the fourth quarter. In 2022, the sharpest rises in GDP were in Ireland (12.0%), Malta (7.1%) and Portugal (6.7%). Among large economies, the highest rates of growth were in Spain (5.5%) and Italy (3.7%) - while Germany (1.8%) and France (2.5%) experienced a sharper slowdown. The growth rate for the Catalan economy thus far exceeded that of the euro area in 2022, and was equivalent to that of Spain.

Economic activity saw less dynamism in the second half of the year, due to the impact of the war in Ukraine and due to inflationary tensions

In the first half of 2022, the withdrawal of health restrictions led to an improvement of economic activity in - the Catalan economy recorded significant gains (0.9% and 1.6% quarter-on-quarter, in the first and second quarters, respectively). In the second half of 2022, economic performance started to reflect the effects of the war in Ukraine and the inflationary context, and quarterly increases slowed (0.0% in the third quarter, and 0.2% in the fourth quarter).

Growth in economic activity has moderated in the second half of 2022 (% variation in Catalan real GDP)



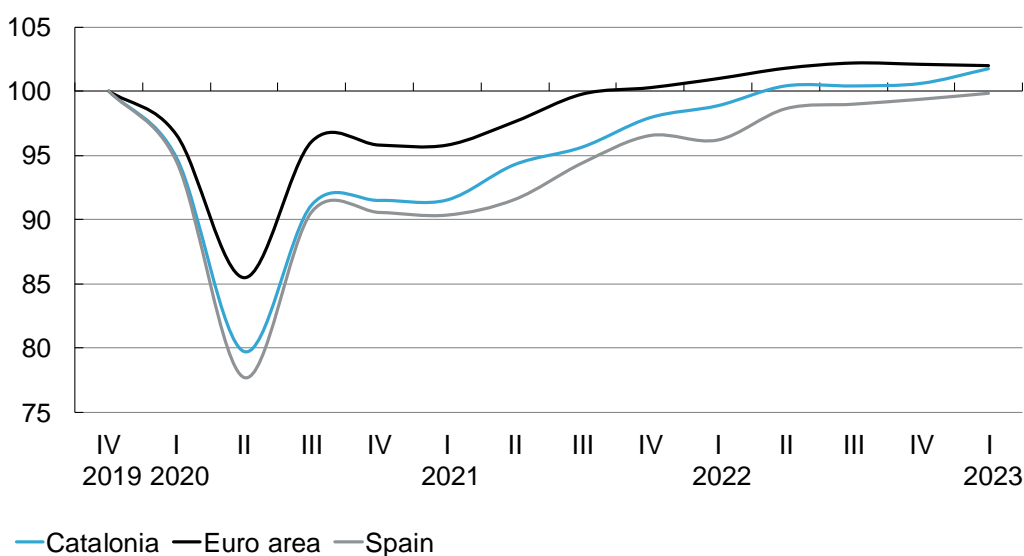
Source: Idescat.

Since the second quarter of 2022, Catalan GDP reached pre-pandemic levels

The upturn in economic activity has allowed GDP to close its gap, compared to its pre-pandemic levels. From the second quarter of 2022 onwards, the Catalan economy reached the pre-pandemic GDP level (i.e., that of the fourth quarter of 2019) - and, by the end of 2022, GDP was already 0.6% higher. GDP in the euro area reached pre-pandemic levels by the end of 2021 (and was 2.4% higher, by the end of 2022). In contrast with these developments, Spain's GDP was still 0.6% below pre-pandemic levels at the end of 2022.

GDP has reached pre-pandemic levels by mid-2022

(real GDP 2019Q4=100)



Source: own analysis using Idescat and Eurostat data.

During the first months of 2023, economic indicators have continued to point to significant strength - outperforming expectations six months ago. In the first quarter of 2023, Catalan GDP registered quarter-on-quarter growth rate of 1.1% (above that of the previous two quarters), while year-on-year growth stood at 2.9%. Energy crisis and supply chain-related tensions have alleviated - especially benefiting the industrial sector, which has returned to positive growth (3.6% year-on-year). It is also worth noting strong growth in construction (up by 4.5%), while services have also continued to see a healthy pace (up by 3.0%). By contrast, the agricultural sector has continued to experience a negative trend, due to drought and price increases for inputs.

The effects of war in Ukraine on prices of energy and other inputs pushed inflation to very high levels, and led to a tightening of monetary policy

In 2022, the Catalan economy thus enjoyed significant economic growth, above that of neighbouring economies, and outperforming initial expectations, in a context of global uncertainty. The war in Ukraine led to a sharp rise in the price of gas and of other key agricultural raw materials and energy products. The latter, combined with supply chain bottlenecks (which had already started in 2021), led to soaring inflation to its highest point in recent decades - across advanced economies. To minimize the potential for inflationary side effects, monetary authorities opted for sharp rises in interest rates. The ECB increased its official interest rate to the highest point in the last fifteen years, after a long phase of very low interest rates.

The economy has grown thanks to a positive trend in external demand, combined with robust consumption - which has benefited from strength in labour market and from the fiscal impulse

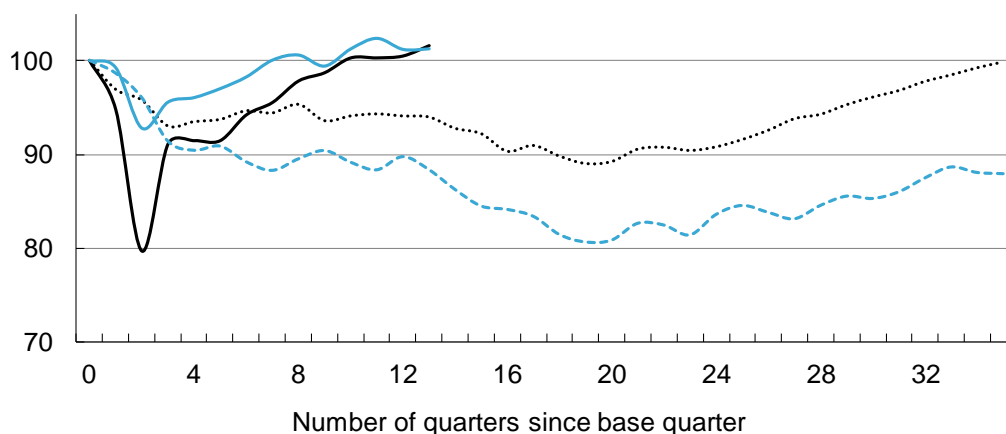
In a context of downturn risks, the Catalan economy has grown thanks to a dynamic external demand - positively impacted by recovery in international tourism, and positive results in exports of goods and services. At the same time, in a context of increasing inflation and financial costs, household consumption and gross capital formation maintained outstanding growth. Positive labour market performance, accumulated savings during the pandemic, along with fiscal measures to help households cope with increasing inflation, all contributed to sustain the growth in consumption. Meanwhile, the investment side was supported by the NGEU fiscal impulse.

GDP recovery has been faster in the health crisis, as compared to the trajectory of GDP in the financial crisis - and has had less social costs

The economic impact of the health crisis was initially much more negative than that of the financial recession of 2008 - yet, the post-pandemic recovery was faster. The financial crisis lasted for several years and was followed by the public debt crisis in the euro area. Further, readjustment of employment in response to the health crisis has been much smoother than in previous recessions - as temporary mechanisms (including furlough schemes) have enabled a faster return to pre-pandemic levels of employment.

Economic recovery, particularly in employment, has been faster in the Covid crisis, compared to that seen in the 2008 financial crisis

Real GDP and LFS employment (2008Q2 and 2019Q4=100)



- Financial crisis GDP (2008Q2=100)
- Covid crisis GDP (2019Q4=100)
- - - Financial crisis employment (2008Q2=100)
- Covid crisis employment (2019Q4=100)

Source: own analysis with Idescat data.

In the 2020-2022 period, GDP changes have closely followed changes in TFP

The improvement in Total Factor Productivity (TFP) substantially drove GDP growth in 2022, with a contribution of 3.2 points. This came after a year of more moderate economic recovery, in 2021, when TFP contributed to GDP growth with 1.3 points. Overall, in 2022, GDP grew by 5.4% in logarithmic terms. Such growth is largely driven by such improvement in TFP and, to a lesser extent, from the contribution made by production factors. Specifically, the labour factor made the more significant contribution (1.9 points), while that of the capital factor was much more moderate (0.2 points).

Notwithstanding the above, data should be interpreted in the context of the health crisis. Year 2020 was atypical: GDP fell by 12.7%, with a substantially negative contribution of TFP (-6.4 points). In 2020-2022, TFP made an average contribution of -0.6 points, while GDP fell by 0.4% - largely due to negative TFP developments and, to a lesser extent, due to the negative contribution of the labour factor (-0.1 points, on average). The contribution of the capital factor remained positive but was rather limited (0.2 points, on average). It is worth highlighting that this contrasts with the previous recessionary phase (2008-2013), when the fall in GDP reflected poor dynamics of the labour factor (which made a negative contribution of -2.0 points, on average), while the contribution of TFP was much more limited (-0.3

points). The negative contribution of TFP during the health crisis largely reflects the forceful intervention by the public authorities, with mechanisms including furlough schemes, which enabled smooth adjustments to labour requirements.

During the Covid crisis, GDP mainly reflects Total Factor Productivity trends

(annual % variation, excluding contributions to GDP growth)

| | 2000-2007 | 2008-2013 | 2014-2019 | 2020-2022 |
|----------------------------|------------|-------------|------------|-------------|
| GDP of Catalonia | 3.3 | -1.7 | 2.8 | -0.4 |
| Contribution to GDP growth | | | | |
| of TFP* | 0.2 | -0.3 | 0.8 | -0.6 |
| Labour* | 1.8 | -2.0 | 1.5 | -0.1 |
| Capital* | 1.6 | 0.7 | 0.4 | 0.2 |
| Reference data | | | | |
| Capital-labour relation* | 0.4 | 5.3 | -1.9 | 0.6 |
| Average productivity | | | | |
| Labour* | 0.3 | 2.1 | 0.0 | -0.3 |
| Capital* | -0.1 | -3.3 | 1.8 | -0.9 |

* Rates of variations and contributions calculated in logarithmic terms.

Sources: Idescat and Departament of Economy and Finance.

In Spain, TFP made a more modest contribution to 2022 GDP growth, compared to that seen in the Catalan economy (1.8 points). In the 2020-2022 period, Spanish TFP also made a lower contribution to GDP growth, albeit with a figure closer to that of Catalonia (-1.5 points).

On the demand side, household consumption showed a significant increase (up by 4.1%), despite high inflation

2022 economic growth was driven by both domestic demand (contributing to GDP growth with 2.7 percentage points) and external demand (2.8 points). Household consumption saw significant growth (up 4.1%), despite the rapid increase in inflation. First, positive developments in the labour market were central for maintaining the rate of consumption. At the end of 2022, the rate of consumption was increasing over 3% year-on-year - albeit the rhythm has slowed down in the start of 2023 (1.4%), starting to reflect the worsening of the financial conditions. Second, savings accumulated during the pandemic helped to sustain consumption - although 2022 data for Spain indicates that the rate of savings fell to 7.2% of disposable income, or 6.6 points lower than in 2021. The rate of savings increased to its highest levels in 2020 (17.7%), driven by lockdowns and other health restrictions, to then register in 2022 lower levels compared to 2019 (8.2%).

Gross capital formation continued to enjoy a significant increase (3.8%), in part thanks to the deployment of NGEU funding - but slowed down during the second half of 2022

Gross capital formation grew by 3.8 %. It benefited from NGEU funding deployment, as allocations accelerated during the course of 2022. Yet, towards the end of the year, growth saw a slowdown (in the fourth quarter, growth fell to 1,8% year-on-year). This can be attributed to the tightening of financial conditions and persistent inflation affecting costs, among other factors.

Investment increased in capital goods (3.5%) and in construction, which regained positive growth (4.8%) after two years of downturn. Investment in capital goods in 2022 was 7.5% above that of 2019, while investment in construction was still 1.1% below pre-pandemic levels. The lower rate of recovery of investment in construction has also been related to supply bottlenecks, land shortages and rising prices of inputs.

2022 has seen an improvement in the balance with foreign countries - boosted by tourism, robust household consumption and investment

GDP breakdown by demand components (annual % variation)

| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--|------------|------------|------------|--------------|------------|------------|
| Internal demand | 3.0 | 3.2 | 1.2 | -8.7 | 4.3 | 3.2 |
| Household consumption expenditure | 2.4 | 2.3 | 1.1 | -12.2 | 5.5 | 4.1 |
| Public administration consumption expenditure ¹ | 1.1 | 1.9 | 2.5 | 3.3 | 1.4 | -0.1 |
| Gross capital formation ² | 6.4 | 7.1 | 0.6 | -9.1 | 4.2 | 3.8 |
| GFCF (equipment goods and other assets) | 7.4 | 4.3 | -3.0 | -6.8 | 6.0 | 3.5 |
| GFCF (construction) | 8.1 | 10.8 | 6.5 | -10.5 | -0.5 | 4.8 |
| External balance ^{3, 4} | 0.8 | 0.2 | 0.9 | -4.5 | 2.4 | 2.8 |
| Foreign balance ⁴ | -0.2 | -1.3 | -0.1 | -2.2 | 1.3 | 2.9 |
| Total exports of goods and services | 5.2 | 2.2 | 2.6 | -22.8 | 15.2 | 14.0 |
| Exports of goods and services | 4.9 | 1.7 | 2.4 | -11.8 | 13.6 | 5.0 |
| Non-resident consumption expenditure | 6.8 | 4.9 | 3.6 | -78.3 | 47.2 | 162.8 |
| Total imports of goods and services | 7.4 | 7.0 | 3.3 | -20.3 | 12.9 | 7.5 |
| Imports of goods and services | 6.8 | 6.0 | 3.2 | -17.6 | 12.5 | 5.3 |
| Consumption of residents abroad | 21.7 | 25.4 | 5.7 | -64.4 | 30.0 | 82.9 |
| Trade balance with the rest of Spain ⁴ | 1.0 | 1.5 | 1.0 | -2.3 | 1.0 | -0.1 |
| GDP | 3.3 | 3.0 | 2.0 | -11.9 | 6.2 | 5.5 |

¹ Includes consumption expenditure of non-profit institutions serving households.

² Includes stock variation.

³ Foreign trade balance and balance with the rest of Spain.

⁴ Contribution to GDP growth.

Source: Idescat.

Public administration consumption fell by -0.1% in 2022, after recording positive growth in recent years. This can partly be due to the end of pandemic-related spending and policies. Yet, the latter was partly offset by the fiscal impulse related to the energy crisis and inflation - especially directed towards vulnerable households and most severely affected businesses.

The balance of external trade has considerably improved, thanks to dynamism in exports and recovery in consumption of foreign tourists

The strong rise in consumption by foreigners (reflecting the recovery of international tourism), along with resilience in exports of non-tourism goods and services, were key factors in the strong performance of external demand in 2022.

The external balance contributed 2.8 points to economic growth in 2022, especially thanks to the significant positive contribution of foreign trade (2.9 points). The positive results of this balance can be explained by a sharp increase in total exports (14.0%), higher than that of total imports (7.5%). Among exports, the rise in consumption of foreign tourists was particularly notable - recording two consecutive years of major increases, after the lifting of pandemic restrictions. A significant increase was also observed in exports of non-tourism goods and services - an increase of 5.0% by volume, in spite of the effects of the energy crisis and global supply problems.

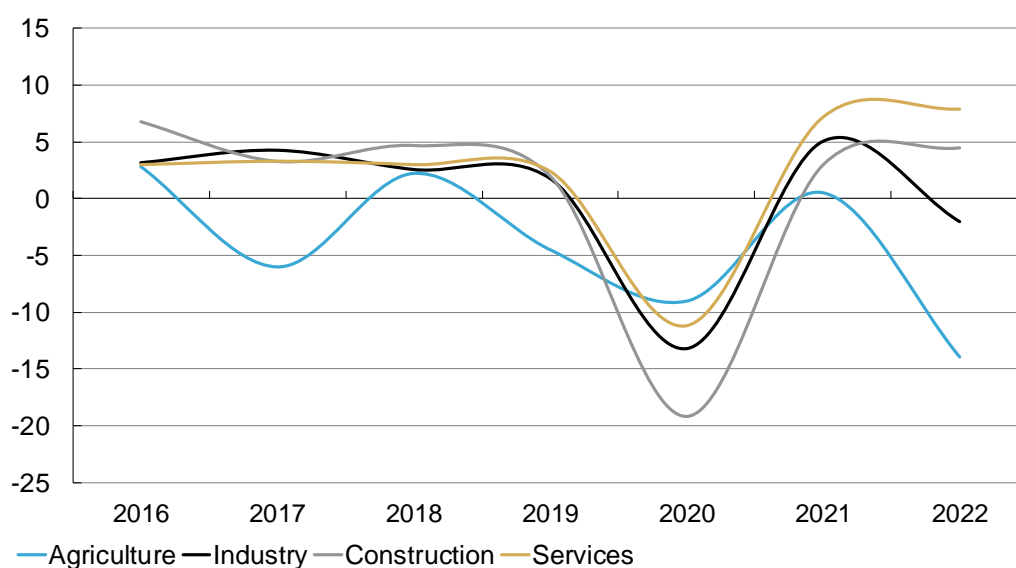
Overall, these positive developments in exports suggests that, although part of the inflationary increases in costs have been transmitted to the final export prices, the external sector has maintained effective performance and competitiveness.

Growth was uneven across economic sectors, with strong performance in construction (4.5 %) and services (7.9 %), while industry and agriculture registered falls due to the impact of higher prices for energy and for other basic inputs

Growth was highly uneven across economic sectors. The sharpest increase came in construction (4.5%) and particularly in services (7.9%) - the latter benefited from the withdrawal of pandemic-related restrictions, and registered growth across all branches. By contrast, both industrial and agricultural production levels were negatively affected by price rises for energy and other basic inputs, and by supply chain problems (which nevertheless gradually improved over the course of the year). The Gross Value Added (GVA) of the agricultural

and industrial sectors registered falls of -2.0% and -13.9% respectively. During the second half of 2022, services maintained a healthy profile (although with a more moderate growth, once the health crisis had been overcome). From early 2023 onwards, industry displayed a more positive trend thanks to the fall in energy costs and the reduction of supply bottlenecks. In any case, by the end of 2022 the service sector had significantly exceeded the GVA registered prior to the pandemic (in 2019), while the agricultural sector was the farthest away from doing so.

Dynamism in services and construction, and decline in industrial and agricultural activity. Evolution of GVA by economic sector (annual % variation)



Source: Idescat.

Two branches of the service sector (commerce, transport and hospitality, and professional services) accounted for most of the economic growth in 2022

The commerce, transport and hospitality branch made a very significant contribution to growth of Catalan GDP in 2022 (3.1 percentage points). This activity has benefited from the removal of the health restrictions, and had already made a particularly outstanding contribution to growth in 2021 (after being the most affected branch by the outbreak of the pandemic in 2020). Separately, professional and technical services, real estate and other activities, also made an outstanding contribution to growth (2.1 points). The contributions to growth by these two branches were much higher in Catalonia than in the euro area.

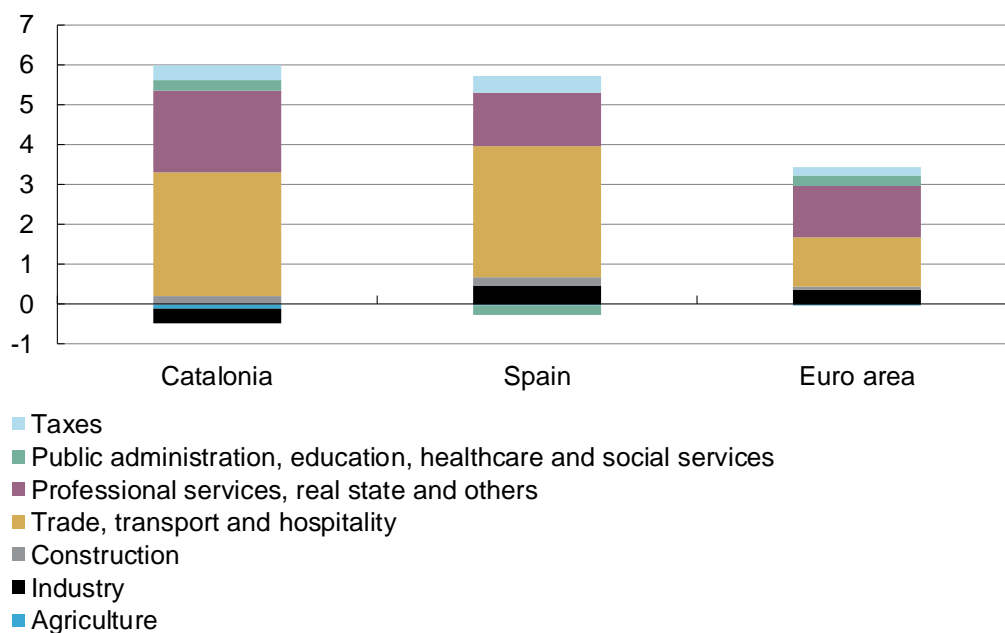
The industrial sector shrank by 2.0% in 2022, due to the high prices of energy and other inputs, and due to supply chain bottlenecks

Starting from the second half of 2021, the dynamism of the industrial sector started to slow down, largely as a result of the global supply chain crisis. Throughout 2022, the Catalan industrial sector experienced an increasingly negative trend, as supply chain bottlenecks were compounded by a steep increase in the cost of energy and other basic inputs. Industrial GVA fell by 2.0% (in 2020, the year of the outbreak of the pandemic, this had fallen by 13.2%, to then recover by 5.1% in 2021).

The weakening of the industrial sector during the course of 2022 was pretty much a global phenomenon. In the case of Catalonia, some industrial activities (such as transport equipment) were badly affected by a lack of components or the rise in energy prices.

Services branches have driven 2022 Catalan growth

Contribution of supply components to real GDP variation (in p.p.)



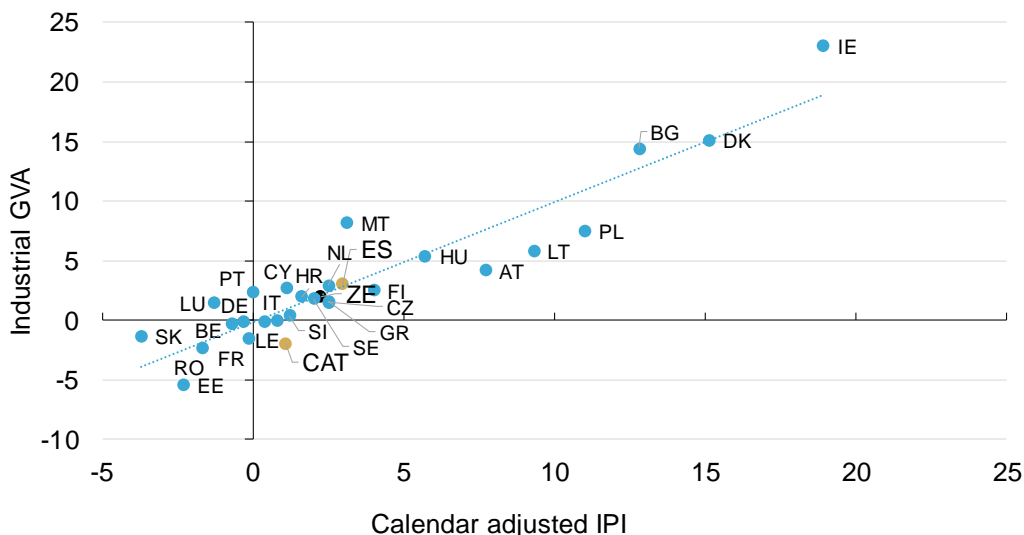
Source: own analysis using Idescat data.

In 2022, industrial production grew by 0.6%, showing a more favourable trend than that of industrial GVA

The Spanish Industrial Production Index, a key indicator for industry, rose by 0.6% during the course of 2022 (having increased by 8.3% in 2021, after a fall of 9.3% in 2020). Industrial production by volume thus maintained a positive trend during the course of 2022, although the increase was very slight. A more favourable trend can be seen if

energy production is excluded and only manufacturing is taken into account (with an increase in production of 1.2% over the course of 2022). It should be noted that industrial production displayed a more positive performance than that of industrial GVA - following a pattern seen elsewhere in the EU. In this regard, the context of sharp rises in the price of intermediate consumption goods complicated the interpretation of indicators. Growth of turnover in production by volume can often conceal a less favourable trend in terms of added value (equivalent to production minus intermediate consumption, in constant prices). In any case, other indicators related to the industrial sector, such as the increase in Social Security registrations in the sector, and the positive trend in industrial exports, also provide grounds for a more favourable interpretation.

Increasing input costs and supply disruptions have significantly affected industrial sectors across EU countries (2022 industrial GVA annual % variation, against 2022 average IPI monthly % variation)



Source: Idescat and Eurostat.

Uneven trends for different industrial sub-sectors in 2022: strong growth in pharmaceuticals and mechanical machinery, whereas major decline in textile and transport equipment industries (affected by shortage of components)

There were uneven trends in the various sub-sectors of industrial production, as had already been the case in 2021. Pharmaceuticals and mechanical machinery saw the strongest 2022 growth. These sub-sectors were also those that enjoyed most robust recovery in relation to the pre-pandemic situation - along with rubber & plastic, and electrical, electronic & optical equipment.

By contrast, the most significant annual contractions in 2022 (also, when compared to 2019) corresponded to textiles and clothing, water provisioning, electrical energy and transport equipment (the latter being negatively impacted by the supply chain disruptions in microchips, starting from 2021). Some branches with high energy dependency (such as metallurgy or the chemical industry) also experienced production falls during the course of 2022.

Pharmaceutical and mechanical machinery industries have recorded the strongest growth, while transportation equipment and textile industries are the furthest from 2019 levels
(annual % variation)

| | 2014-2019 average annual variation (%) | 2021 annual variation (%) | 2022 annual variation (%) | 2022 / 2019 variation |
|---|---|------------------------------|------------------------------|--------------------------|
| Overall IPI index | 1.8 | 8.3 | 0.6 | -1.2 |
| Extractive industries | -2.0 | 21.7 | -4.3 | -8.0 |
| Manufacturing industries | 2.1 | 9.6 | 0.9 | -0.3 |
| food and beverage industries | 1.4 | 8.4 | -0.4 | 2.2 |
| textile, clothing, leather and footwear industries | 3.3 | 15.5 | -6.6 | -14.1 |
| paper, graphic arts and recorded media industries | -2.4 | 8.2 | 0.2 | 0.5 |
| chemical industries | 2.0 | 8.0 | -1.6 | 5.4 |
| pharmaceutical products | 2.0 | 3.3 | 11.3 | 17.5 |
| rubber products and plastic materials | 3.3 | 8.8 | 3.2 | 6.1 |
| other non-metallic mineral products | 2.1 | 10.6 | -0.5 | 5.0 |
| metallurgy and metal products | 3.2 | 12.7 | -2.5 | -4.4 |
| electrical, electronic and optical materials and eq | 3.5 | 11.4 | 1.3 | 5.4 |
| machinery and mechanical equipment | 3.0 | 17.3 | 9.1 | 10.0 |
| transport material | 0.7 | 1.0 | -4.5 | -28.8 |
| other industries | 4.1 | 19.9 | 1.8 | -1.6 |
| Electricity, gas, steam and air conditioning | -0.7 | -3.6 | -0.2 | -7.6 |
| Water supply | 1.6 | 0.8 | -7.7 | -11.3 |

Source: Idescat.

Construction GVA showed a positive trend (up by 4.5% year-on-year) - albeit with a less optimistic future outlook due to increased financial costs

The construction sector experienced positive growth in 2022, according to data of the Statistical Institute of Catalonia (Idescat). Its GVA increased 4.5% by volume - a rise greater than that registered in 2021 (3.0%). These figures come after a sharp contraction of 19.2% in 2020.

Other indicators of construction activity, such as Social Security registration, building authorisations and cement consumption also showed a positive trend

While the first half of 2022 recorded sharp rise in costs and a shortage of certain key materials, construction indicators were positive overall. Employment in the construction sector (measured by Social Security registration) registered a significant rise (3.3%), while the volume of cement consumption increased by 6.2% (after an increase of 9.9% in 2021). Permits for new dwellings increased by 10.2%, totalling 16,400 authorisations (the highest figure for the last decade). Nevertheless, a slowdown in construction activity was detected starting from the second quarter of 2022 (and which has been slowing even further in early 2023). This may be explained by the uncertainty caused by the sharp rise in interest rates, restrictions in access to financing, a reduction accumulated savings, and the shortage of land in high-demand areas.

Positive trends in dwelling sales and construction

| | Cement consumption annual variation (%) | Permits for new dwellings | | Permits for new dwellings and for refurbishing | | Sale of new dwellings | Sale of second-hand dwellings | Prices for new dwellings (2015=100) | Prices for second-hand dwellings (2015=100) |
|------|---|---------------------------|-------------------|--|-------------------|-----------------------|-------------------------------|-------------------------------------|---|
| | | Absolute value | Annual change (%) | Absolute value | Annual change (%) | | | | |
| 2007 | 3.3 | 84,842 | -32.4 | 88,391 | -32.8 | 46,034 | 65,448 | 146.4 | 184.5 |
| 2013 | -25.4 | 2,401 | -39.0 | 8,460 | -16.4 | 15,124 | 30,284 | 89.9 | 95.2 |
| 2019 | 23.2 | 13,796 | 6.8 | 21,974 | 17.0 | 12,012 | 68,994 | 136.0 | 134.0 |
| 2020 | -10.5 | 10,476 | -24.1 | 18,078 | -17.7 | 11,220 | 54,666 | 147.7 | 135.8 |
| 2021 | 9.9 | 14,886 | 42.1 | 22,894 | 26.6 | 15,195 | 73,980 | 153.4 | 140.5 |
| 2022 | 6.2 | 16,400 | 10.2 | 20,495 | -10.5 | 16,958 | 85,143 | 165.1 | 150.4 |

Source: INE and Ministry of Transport, Mobility and Urban Agenda.

Real estate indicators saw significant growth in 2022, although the future outlook seems more uncertain

With regard to the property market, housing demand saw a sharp increase in 2022. Purchasing continued to be financed via savings accumulated during the pandemic, and transactions were incentivised in anticipation of interest rates increases, from the summer onwards. Purchases of homes reached the highest level for the last 15 years (with an increase of 14.5% compared with 2021, or of 55.0% compared with 2019). More specifically, purchases of new dwellings increased by 11.6% and those of existing dwellings by 15.1% - although the first few months of 2023 have seen a significant slowdown.

Data from the Spanish National Institute of Statistics (INE), indicates that real estate prices continued to rise in 2022 (up by 7.1%) - both for new dwellings (up 7.6%) and for existing dwellings (up 7.0%). Such price rises might be explained by strong demand, significant increases in construction costs and a shortage of new housing. Nevertheless, from the fourth quarter of 2022 onwards, housing prices saw a corrective trend - particularly, for existing dwellings. According to Generalitat data, the price of housing reached a record high in 2022 (an average of €779.70 per month) while, at the same time, there was a fall in the number of purchase contracts signed (down by -9.0%). The increase in housing prices was more accentuated in the areas of highest demand (i.e., the metropolitan area of Barcelona and the coastal zones), and can largely be explained by the increasing difficulty of affording home ownership, and by new alternative uses of dwellings that reduce the amount of available housing on the market.

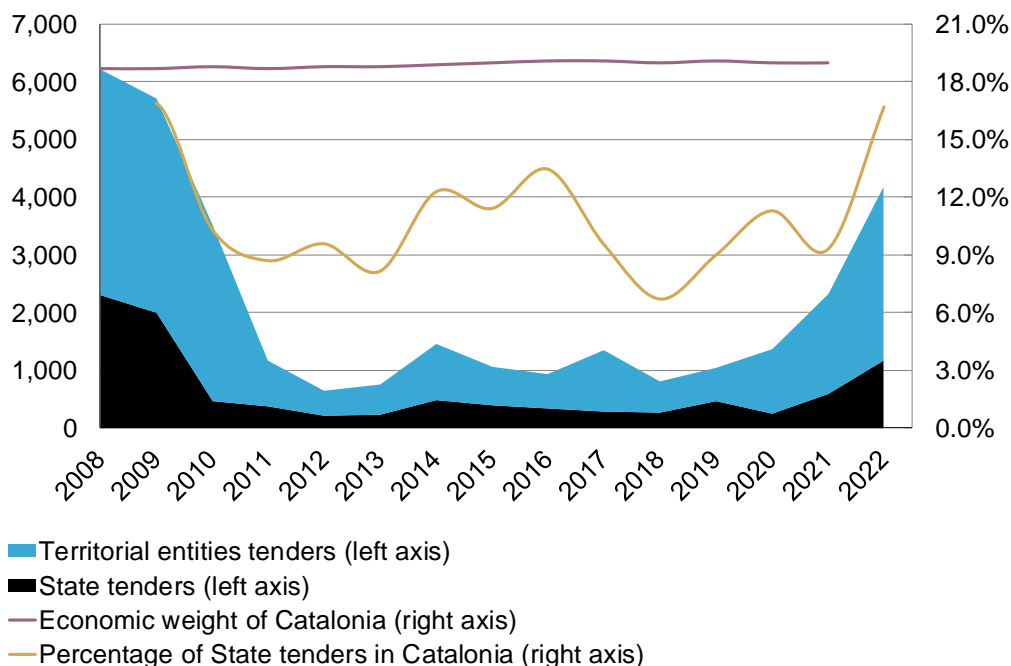
The number of public contracts for tender in 2022 registered the highest figure since 2010, but there persists a significant difference between the proportion of central government contracts for tender in Catalonia and Catalonia's relative economic importance

With regard to public building and works contracts, 2022 registered a sharp increase in public contracts for tender (up 80.6%) - the highest figure since 2010. This increase is mainly driven by contracts by the Generalitat and by local administrative bodies (which represented over 70% of the total value of the contracts) - although there was also an increase in contracts by the Spanish central government. This significant increase in contracts is partly linked to deployment of NGEU funding. In any case, besides these figures on public contracts for tender, it will be necessary to evaluate the degree and rate of implementation of these contracts for public works.

In 2022, the number of public contracts for tender by the Spanish central government in Catalonia increased significantly as a proportion of the total proposed throughout Spain. This number increased from 9.2% in 2021 to 16.7% in 2022. At the same time, the economic volume of Spanish central government contracts in Catalonia in 2022 was the highest figure since 2009. In any case, despite the increase in 2022, the proportion of Spanish central government contracts tendered in Catalonia over recent decades has always been far below Catalonia's relative level of economic activity - which is about 19% of the Spanish total.

Public works tenders ended 2022 with the best results in the past 10 years

Public construction works tenders (millions of euros), State tenders in Catalonia (% Spain's total) and economic weight of Catalonia (% of Spain's GDP)



Source: Ministry of Transport, Mobility and Urban Agenda, and INE.

The service sector was once again the most dynamic sector in 2022 - seeing growth of 7.9% spread over a wide range of activities

The service sector started to see clear recovery from the second quarter of 2021 onwards - and has hence already accumulated two years of recovery.

During the course of 2022, services GVA increased by 7.9%, after a sharp rise of 7.2% already recorded in 2021. It should be noted that the 2020 outbreak of the pandemic and the imposition of health restrictions directly affected services most dependent on social interaction - with GVA overall reducing by 11.2%. Yet, once the health crisis was overcome, services was the sector that made the fastest recovery (on average, surpassing the 2019 level of GVA by 2.7% in 2022). The service sector (the most significant one, and typically recording smooth variation), has gained economic weight. In 2022, services represented 74.8% of total nominal GVA, surpassing the figure for 2019 (74.3%). This trend in nominal terms is in spite of services prices (i.e. its deflator) experiencing lower increases than those of the rest of the economy.

Strong dynamism in the services sector, particularly in professional services and in activities involving more social interaction

GVA trends by economic sector

| | 2014-2019 average annual variation (%) | 2022-2019 variation (%) | 2022 annual variation (%) | Weight over total GVA (%) | | |
|---|---|-------------------------------|------------------------------------|---------------------------|--------------|--------------|
| | | | | 2019 | 2020 | 2022 |
| Agriculture, livestock, forestry and fisheries | -1.3 | -21.2 | -13.9 | 0.9 | 1.1 | 0.6 |
| Industry | 3.4 | -10.6 | -2.0 | 19.7 | 19.8 | 20.1 |
| Manufacturing | 3.6 | -10.5 | -1.5 | 16.7 | 16.7 | 15.9 |
| Construction | 3.3 | -13.0 | 4.5 | 5.2 | 4.8 | 4.5 |
| Services | 2.6 | 2.7 | 7.9 | 74.3 | 74.3 | 74.8 |
| Wholesale and retail trade, vehicle repair, transportation and storage, and hospitality | 2.0 | 1.3 | 14.6 | 25.1 | 21.2 | 25.3 |
| Information and communication | 8.7 | 9.1 | 11.6 | 3.9 | 4.4 | 4.0 |
| Financial and insurance activities | -2.7 | 2.0 | -5.4 | 3.4 | 3.7 | 3.6 |
| Real state activities | 1.7 | -0.6 | 0.3 | 12.0 | 13.3 | 11.1 |
| Professional, scientific, technical and administrative activities | 6.4 | 7.9 | 12.4 | 10.0 | 10.6 | 10.8 |
| Public administration, education, health and social services | 1.8 | 3.6 | 1.7 | 15.4 | 17.3 | 15.9 |
| Artistic, recreational, and entertainment activities, and other services | 2.8 | -1.9 | 15.2 | 4.5 | 3.8 | 4.0 |
| Total GVA | 2.8 | -1.1 | 5.6 | 100.0 | 100.0 | 100.0 |

Source Idescat.

Across branches, highest growth was recorded in commerce, transport and hospitality, in professional activities, and in artistic activities

Across branches, recovery of the service sector was broadly generalised in 2021 and 2022. The sub-sectors that had the sharpest rise in GVA during the course of 2022 were artistic and recreational activities (15.2%, although this branch has not yet regained its pre-pandemic level); commerce, transport and hospitality (14.6%, led by the growth in restaurant and accommodation services, which benefited from foreign tourism recovery); and professional and technical activities. The latter two branches have already surpassed the 2019 GVA level - particularly in the case of professional activities, where technological services played a particularly dynamic role. The public administration, education and health branch displayed moderate growth (1.7%) - which is below that for 2021 (when it grew by 2.9%, also due to the effects of the pandemic). The only branch of activity showing a contraction in 2022 was that of financial and insurance activities (down by -5.4%) - which contrasts with the positive trend enjoyed in 2020 and 2021.

Foreign tourism regained dynamism in 2022

Tourism had outstanding performance in 2022 - regaining dynamism thanks to the removal of the health restrictions and the growth of international tourism. Tourism recovery made a major contribution to boosting economic growth. This publication includes a summary box that provides detailed analysis of tourism recovery in Catalonia, during the course of 2022.

Agricultural GVA fell in 2022 - negatively impacted by the sharp rise in the price of intermediate consumption goods

Data by the Statistical Institute of Catalonia (Idescat) indicates that GVA for the agricultural, forestry and fisheries sector registered a major fall in volume of 13.9% in 2022 - after a slight increase of 0.5% recorded in 2021. The fall in agricultural GVA can largely be explained by the sharp rise in the price of intermediate consumption goods (the rise in the prices of energy and those of key raw materials). At the same time, there was a fall in the volume of livestock production (with a relatively significant weight in the Catalan economy) - and particularly in agricultural crops, as a result of adverse climatic conditions. Total production levels were maintained or increased in nominal terms due to increasing end prices - but this has not been enough to prevent a sharp increase in the price of intermediate consumption goods (i.e., production costs) from significantly eroding the added value.

According to estimates of the Catalan Department for Climate Action, Food and the Rural Agenda, GVA recorded a change of -16.8% in volume in 2022 (without accounting for forestry and fisheries sub-sectors). This publication includes a summary box prepared by the Catalan Department for Climate Action, Food and the Rural Agenda, analysing developments in the agricultural sector.

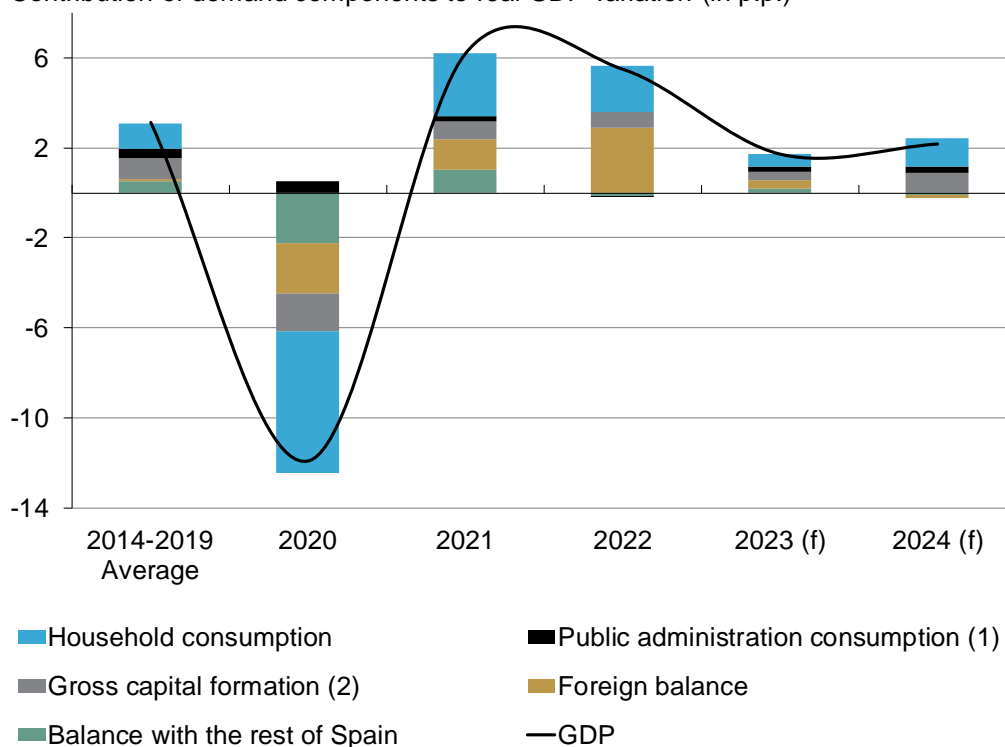
The 2023 economic growth rate will be more moderate due to the inflationary context and the tightening of monetary policy - but it will nevertheless surpass that of most other advanced economies

The 2023 latest macroeconomic forecast of the Department of Economy and Finance of the Generalitat of Catalonia (published in April 2023) forecast GDP growth of 1.7%. The forecast is made in a context of a high level of uncertainty - although developments in 2022 and in the early months of 2023 have been better than expected, and there have been solid results in the external sector and in the labour market. Risks of a downturn could be linked to the effect of inflation on households' purchasing power; to geopolitical risks (particularly, the Ukraine war and its implications for certain raw materials); and the

effects of the rapid tightening of monetary policy. For 2024, GDP growth of the Catalan economy is forecasted at 2.2%.

2022 GDP growth has been driven by foreign balance and household consumption. 2023 and 2024 are projected to have a balanced growth outlook.

Contribution of demand components to real GDP variation (in p.p.)



¹Includes consumption of non-profit institutions serving households.

²Includes stock variation.

(f) April 2023 forecast.

Source: Idescat and Department of Economy and Finance.

The growth forecast for 2023 reflects both a containment of domestic demand and a positive contribution from foreign demand, of 1.2 points and 0.6 points, respectively. The dampening of domestic demand reflects the weakness of household spending and gross capital formation (expected to grow by 1.1% and 1.9%, respectively). The reduction in household consumption reflects the effect of inflationary pressures and the increase in financial costs. The slowdown in investment incorporates the effects of uncertainty and the worsening of financing conditions. However, the strength of the labour market, the easing of supply bottlenecks and the boost from NGEU funds could counterbalance these restrictive factors. Growth in government spending will remain moderate but positive at 1.5%, driven by measures designed to address rising prices and the public sector wage agreement for the period 2022-2024. Exports of goods and services are expected to increase by 3.3% in the context of a moderate growth in world trade. This year, the recovery of foreign tourism and the

expansion of non-tourist services will continue to be fundamental drivers.

Regarding the labour market, the 2023 forecast points to moderate growth in full-time equivalent employment (0.7%), in line with the slower pace of economic growth, along a stable unemployment rate (9.6%). In 2024, full-time equivalent employment is expected to increase by 1.3%, driving a fall in the unemployment rate (to 9.1%).

Macroeconomic forecasts for Catalonia

| | | 2022 | 2023 (f) | 2024 (f) |
|--|------------------------------------|---------|----------|----------|
| GDP | real annual variation (%) | 5.5 | 1.7 | 2.2 |
| GDP | EUR millions | 270,710 | 285,300 | 300,258 |
| Internal demand | contribution to GDP growth | 2.7 | 1.2 | 2.4 |
| Household consumption expenditure | real annual variation (%) | 4.1 | 1.1 | 2.5 |
| Public administration consumption expenditure ¹ | real annual variation (%) | -0.1 | 1.5 | 1.6 |
| Gross capital formation ² | real annual variation (%) | 3.8 | 1.9 | 4.8 |
| External balance | contribution to GDP growth | 2.8 | 0.6 | -0.2 |
| Foreign balance | contribution to GDP growth | 2.9 | 0.4 | -0.1 |
| Exports of goods and services | real annual variation (%) | 14.0 | 3.3 | 3.7 |
| Imports of goods and services | real annual variation (%) | 7.5 | 3.0 | 4.9 |
| Balance with the rest of Spain | contribution to GDP growth | -0.1 | 0.2 | -0.1 |
| Jobs created ³ | thousands | 119.9 | 24.4 | 45.6 |
| Jobs created ³ | annual variation (%) | 3.6 | 0.7 | 1.3 |
| Unemployment rate | unemployed / active population (%) | 9.7 | 9.6 | 9.1 |

(f) April 2023 forecast.

¹ Includes consumption expenditure of non-profit institutions serving households.

² Includes stock variation.

³ Full-time equivalent terms.

Source: Idescat, INE and Generalitat de Catalunya (Department of Economy and Finance).