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THE RECENT PERFORMANCE OF UNDERLYING
INFLATION IN THE EURO AREA AND IN SPAIN

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ABSTRACT

Since mid-2021, inflationary pressures have intensified and have spread to various components of underlying inflation, both in the euro area and in Spain. This largely reflects the indirect effect of the sustained increase in production costs triggered by commodity market tensions. Moreover, other pandemic-related factors may have facilitated the pass-through of inflationary pressures: production bottlenecks, the increase in home renovation demand and, more recently, the rapid pace of resumption of activities involving more social contact, after two years of demand constraints. Underlying inflation components related to transport, household equipment and maintenance, and recreation, hospitality and tourism have seen particularly high price rises over the last year, both in the euro area and in Spain. Recreation, hospitality and tourism made a significantly higher contribution to the growth in consumer prices in Spain than in the euro area in the last year, owing to the higher price rises in these components and their greater weight in the consumption basket.

Keywords: prices, inflation, underlying, pandemic.

JEL classification: E31.

THE RECENT PERFORMANCE OF UNDERLYING INFLATION IN THE EURO AREA AND IN SPAIN

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Introduction

Since mid-2021 there has been strong and sustained growth in inflation, worldwide and across all the euro area countries, largely owing to the higher prices of both energy and non-energy commodities in the international markets. These tensions, heightened by the war in Ukraine, have been swiftly and widely passed through to consumer energy and food prices, which are the main drivers of the increase in headline inflation in the current inflationary episode, both in the euro area and in Spain (see Banco de España (2022)).

However, the rising price momentum has spread across consumption basket components, reflecting the indirect effects of a strong, sustained increase in production costs and their interplay with other factors more closely linked to the pandemic. These include the supply and demand mismatches caused by bottlenecks in the production of certain goods and the swift recovery in demand observed once the pandemic-related restrictions were eased (see Alonso, Kataryniuk and Martínez-Martín (2021)). Households' changing consumer habits, which have, for example, prompted higher expenditure on household equipment, also appear to have contributed to the price rises. All these factors, which are interconnected, have played their part, in a setting in which households accumulated considerable savings during the pandemic and labour markets rapidly improved in the subsequent recovery.

The spread of inflationary pressures is observed in underlying inflation, which excludes energy and food. It is less volatile than headline inflation and is a key indicator for central banks for tracking of medium-term inflation signals and, therefore, definition of monetary policy.¹ In the euro area, underlying inflation has shown a marked upward pattern, reaching unprecedented levels in the history of Economic and Monetary Union: in July 2022 it stood at 4% (see Chart 1), after passing the previous peak level in November 2021 when it exceeded 2.5%.² Underlying inflation has crossed the 3% mark in all 19 euro area countries, and in some, such as the Baltic states or Slovakia,

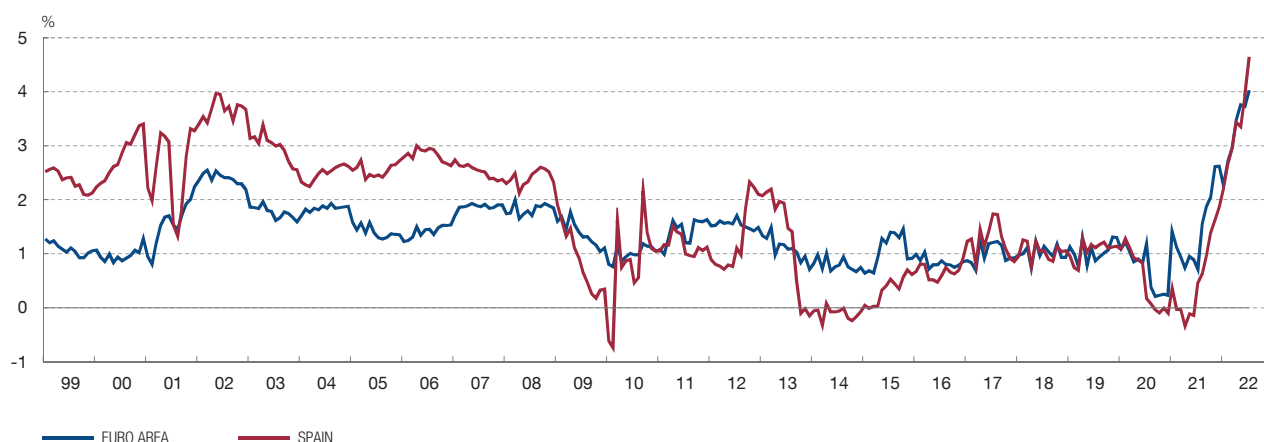
1 For instance, between September 2019 and April 2022, according to its monetary policy forward guidance, the European Central Bank's Governing Council expected to make no interest rate hikes while, among other factors, the course of underlying inflation was compatible with the headline inflation rate stabilising at 2% in the medium term.

2 The euro area inflation rate during the second half of 2021 was affected by the temporary cut in VAT rates in Germany in 2020 H2, as part of the German government's support package in response to the pandemic.

Chart 1

UNDERLYING INFLATION

HICP EXCLUDING ENERGY AND FOOD. YEAR-ON-YEAR GROWTH



SOURCES: Eurostat and Banco de España.



it is over 8%. Likewise, in Spain, underlying inflation has risen sharply since mid-2021, standing at 4.6% in July 2022. This acceleration is also observed from a broader perspective that takes into account the moderation and even decline in prices seen during the pandemic. Thus, the cumulative increase in the Harmonised Index of Consumer Prices (HICP) excluding energy and food over the last three years – between July 2019 and July 2022 – was 6% in the euro area and 5.3% in Spain, compared with growth of around 3% in both areas in the three years previous to the pandemic.

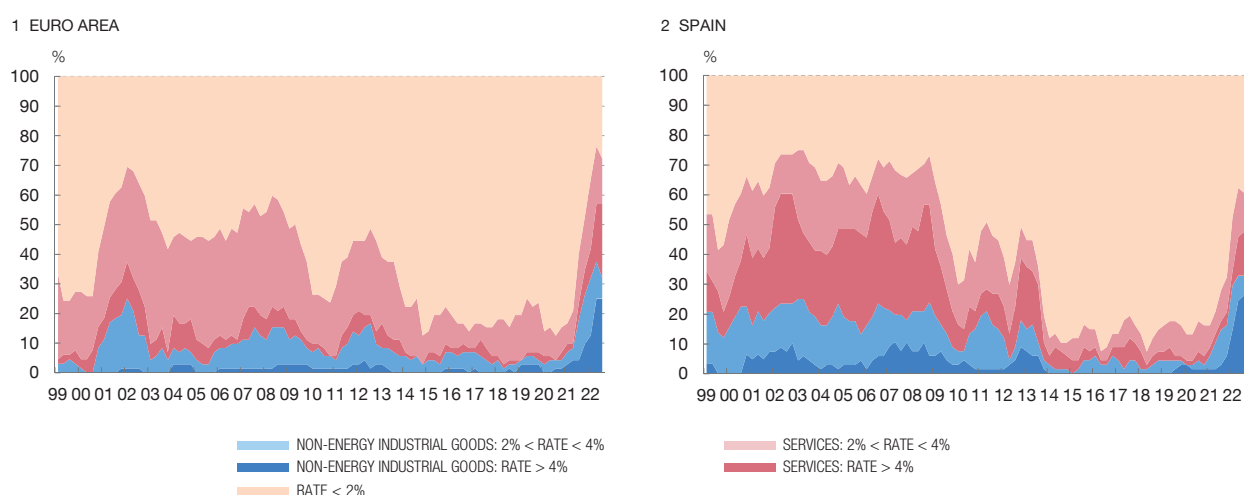
The underlying inflation components recording the highest increases notably include those related to transport, household equipment and maintenance, and recreation, hospitality and tourism. Over the last year, recreation, hospitality and tourism have made a significantly higher contribution to rising consumer prices in Spain than in the euro area, on account of the higher price rises in these components and also because of their greater weight in the consumption basket. Conversely, the contribution of transport-related components has been slightly lower in Spain than in the euro area.

This article analyses how the prices of underlying inflation components have evolved both in Spain and in the euro area. Underlying inflation is disaggregated into four sub-indices by expenditure purpose, and several factors are discussed that help explain the inflationary pressures on these components.

Main drivers of growth in underlying inflation

As indicated above, inflationary pressures have tended to spread to the less volatile prices in the consumption basket. This is evident, for example, in the large number

Chart 2

PROPORTION OF UNDERLYING INFLATION COMPONENTS AT DIFFERENT INTERVALS OF YEAR-ON-YEAR RATES (a)

SOURCES: Eurostat and Banco de España.

a Quarterly HICP data. 2022 Q3 data refer to July 2022.



of components recording high inflation (see Chart 2). Considering the 72 ECOICOP³ underlying inflation components at 3-digit level, in July 2022 in the euro area 50% posted inflation rates over 4%, and in Spain 40%. The difference between the two areas lies essentially in the percentage of services components (as a proportion of all underlying inflation components) with inflation over 4%. In the euro area this figure was close to 25% in July, the highest level since the beginning of monetary union, while in Spain it stood around 15%, well short of the peak of 37% recorded in 2002.

The prices of the different components have an uneven impact on headline inflation, according to their respective weight in the consumption basket. Chart 3 depicts the expenditure items that made the most contribution to inflation in the period April to July 2022 and that post high inflation (over 4%). For the euro area, these expenditure items are restaurants, cafés and the like (with inflation close to 6%), motor vehicles (with inflation around 8%), accommodation services (16%), air passenger transport (42%), furniture and furnishings (8.4%), and maintenance and repair of private vehicles (5.6%). In almost all these items, the contribution to headline inflation is in the top range of the figures recorded since 1999, or even well above that level. Most of these items coincide with those making the most contribution to inflation in Spain, where the high contribution of restaurants, cafés and the like and of accommodation services stands out.

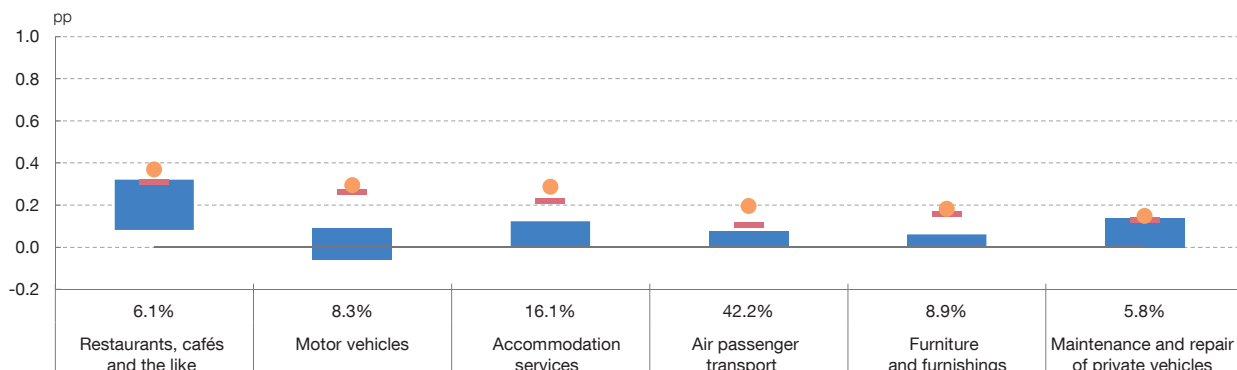
3 European Classification of Individual Consumption by Purpose.

Chart 3

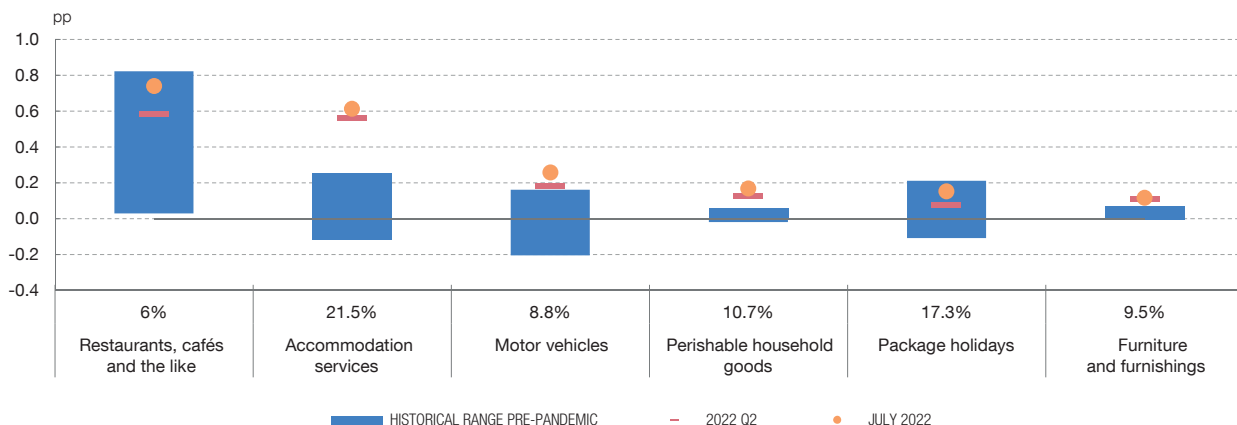
MAIN UNDERLYING INFLATION COMPONENTS WITH AN INFLATION RATE OVER 4%

Components ranked by their contribution to the headline inflation rate in July 2022. The figure above each component denotes their respective inflation rate in July 2022.

1 EURO AREA. CONTRIBUTION TO HEADLINE INFLATION



2 SPAIN. CONTRIBUTION TO HEADLINE INFLATION



■ HISTORICAL RANGE PRE-PANDEMIC — 2022 Q2 ● JULY 2022

SOURCES: Eurostat and Banco de España.



Underlying inflation sub-indices by expenditure purpose

The main pressures on underlying inflation are essentially concentrated among expenditure items related to household equipment and maintenance, transport and activities involving more social contact. In order to analyse and track prices in these areas more generally, we construct four price sub-indices by expenditure purpose, where their weighted aggregation by their respective weight in the consumption basket (which is different for each country) is equal to the underlying price index (see Table 1).

First, a “Household equipment and maintenance” price sub-index, which comprises the ECOICOP group “Furniture and furnishings, household equipment and routine

Table 1

CORRESPONDENCE BETWEEN UNDERLYING INFLATION SUB-INDICES AND ECOICOP GROUPS

	Underlying sub-indices				
	Underlying inflation	Household equipment and maintenance	Transport	Recreation, hospitality and tourism	Other underlying inflation
ECOICOP GROUPS					
01 Food and non-alcoholic beverages					
02 Alcoholic beverages and tobacco					
03 Clothing and footwear	√				
04 Housing, water, gas, electricity and other fuels	√ Excluding subgroup 04.5 (a)	√ Only subgroup 04.3 (b)			√ Excluding subgroups 04.3 and 04.5
05 Furniture and furnishings, household equipment and routine household maintenance	√	√			
06 Health	√				√
07 Transport	√ Excluding subgroup 07.2.2 (c)		√ Excluding subgroup 07.2.2		
08 Communications	√				√
09 Recreation and culture	√			√	
10 Education	√				√
11 Restaurants and hotels (Hospitality)	√			√	
12 Miscellaneous goods and services	√				√
WEIGHT IN HICP 2022 (%)					
EURO AREA	68.2	8.0	10.2	15.9	34.1
SPAIN	63.1	6.6	7.6	19.5	29.4
INFLATION RATES					
EURO AREA					
2022 Q1	2.7	4.1	4.5	3.8	1.3
2022 Q2	3.7	6.2	6.0	5.4	1.6
JULY 2022	4.0	7.3	6.0	6.4	1.5
THREE YEARS: JULY 2022 - JULY 2019	6.0	10.1	8.8	7.3	4.0
SPAIN					
2022 Q1	2.6	3.7	2.5	3.5	1.8
2022 Q2	3.6	6.0	4.2	7.0	0.7
JULY 2022	4.6	7.2	5.6	8.1	1.4
THREE YEARS: JULY 2022 - JULY 2019	5.3	9.0	7.0	7.9	2.6

SOURCES: Eurostat and Banco de España.

a Subgroup 04.5: Electricity, gas and other household fuels.

b Subgroup 04.3: Home maintenance and repair.

c Subgroup 07.2.2: Fuels and lubricants for personal vehicles.

household maintenance”, plus “Home maintenance and repair” from the “Housing, water, electricity, gas and other fuels” (hereafter Housing) group.

Second, the “Transport” price sub-index, which is the ECOICOP “Transport” group, excluding “Fuels and lubricants”. This sub-index includes the purchase of vehicles, as well as the goods and services needed to use and maintain them. It also includes expenditure on transport services.

Third, the “Recreation, hospitality and tourism” price sub-index, which comprises expenditure on services involving more social contact and is the sum of the “Recreation and culture” and “Restaurants and hotels” groups.

Lastly, all other underlying inflation components are grouped together in the “Other Underlying Inflation” sub-index which includes the following groups: “Clothing and footwear”, “Housing” excluding energy and home maintenance expenditure, “Health”, “Communications”, “Education” and “Miscellaneous goods and services”. It is important to note that this sub-index includes rental of households’ main residence, whereas holiday rentals are included as an accommodation service under “Restaurants and hotels”.

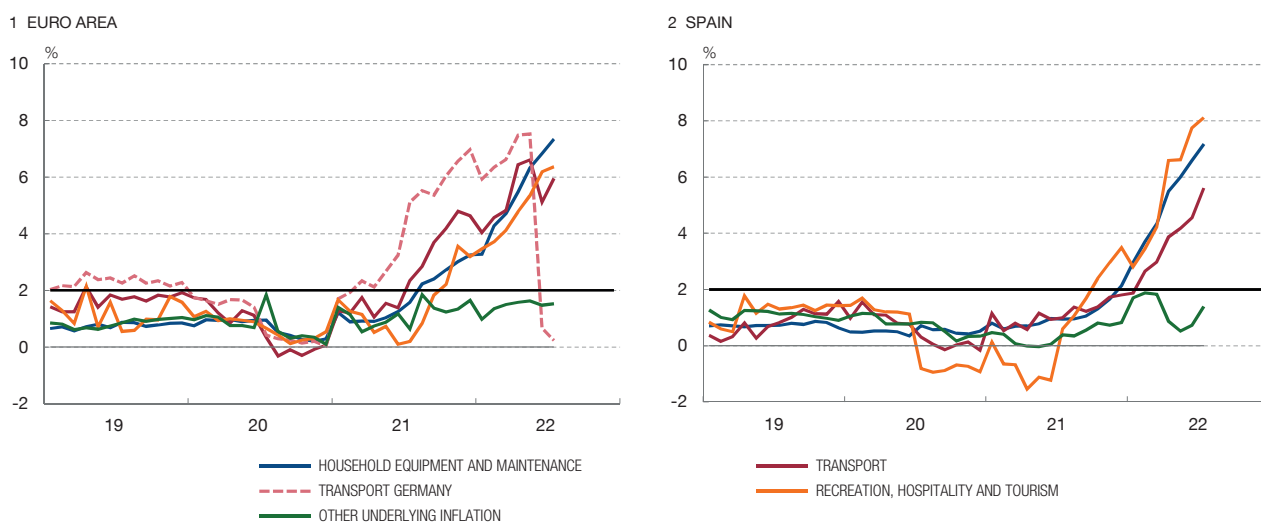
As Chart 4.1 and Table 1 show, inflationary pressures have been very intense in the first three sub-indices (“Household equipment and maintenance”, “Transport” and “Recreation, hospitality and tourism”), both in Spain and in the euro area. In all cases, price rises exceeded 5% year-on-year in July 2022. However, there has been a moderate slowdown since June in the “Transport” sub-index in the euro area, as a result of the impact of the new subsidised public transport ticket in Germany, initially set to last from June to August 2022. Meanwhile, the “Other Underlying Inflation” sub-index has remained below 2% both in the euro area and in Spain.

In Spain, “Recreation, hospitality and tourism” prices have risen more sharply in the last year (8% in July) than prices in the “Household equipment and maintenance” sub-index (7%) and in the “Transport” sub-index (5.6%) (see Chart 4.2 and Table 1). This higher recent price rise is partly a consequence of price levels normalising after the declines observed during the pandemic. Thus, if we consider the cumulative growth in prices over the last three years, the biggest increase is in the Housing sub-index (9%), while the “Recreation, hospitality and tourism” sub-index posts a price rise of 7.9%.

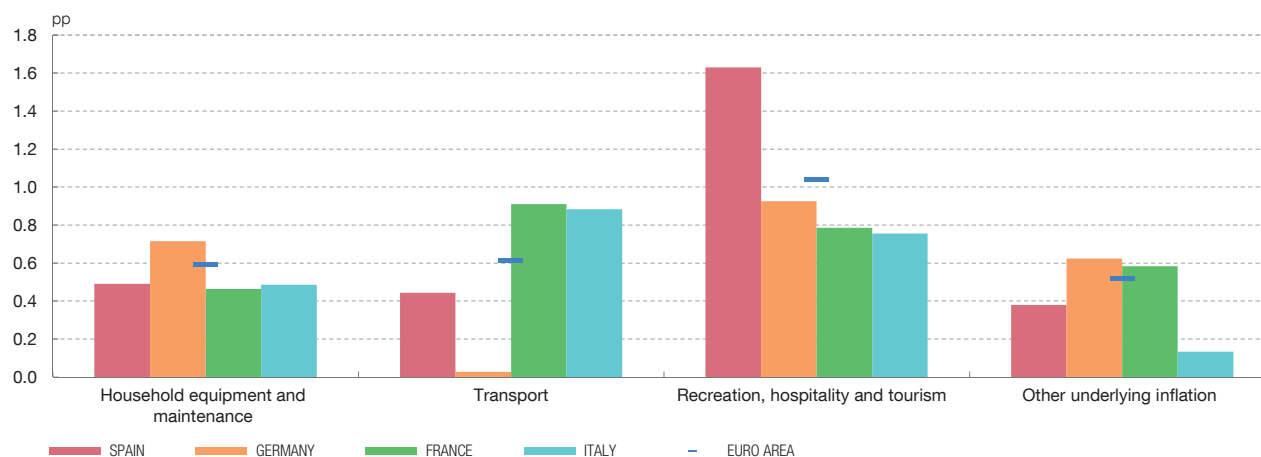
As indicated above, although the growth rates in the price sub-indices help to understand the importance of these increases for changes in consumer prices, their contribution to headline inflation also takes into account their weight in the

Chart 4

UNDERLYING INFLATION. SUB-INDICES BY EXPENDITURE PURPOSE (a)



3 CONTRIBUTION TO HEADLINE INFLATION IN MAIN EURO AREA ECONOMIES. JULY 2022



SOURCES: Eurostat and Banco de España.

a Sub-indices calculated as chain-linked indices. Table 1 shows the expenditure items included in each sub-index.



consumption basket. When this contribution is analysed for the euro area and the main euro area economies, some interesting points stand out (see Chart 4.3).⁴

First, the contribution of the “Recreation, hospitality and tourism” sub-index to headline inflation in Spain, which amounts to 1.6 percentage points (pp) of inflation in July 2022, compared with 1 pp in the euro area. These differences are due to the higher price rises in the last year and to the weight of this component – 20% of

⁴ The methodology proposed by Eurostat (2018) is used to calculate the contributions that each component makes to the year-on-year rate of change of headline inflation, so as to preserve additivity in the case of chain-linked indices.

consumption expenditure in Spain compared with 16% in the euro area – in the consumption basket.⁵

Second, the “Transport” sub-index’s contribution to headline inflation, which is somewhat lower in Spain (0.4 pp) than in the euro area overall (0.6 pp) or in France or Italy (0.9 pp). This smaller contribution reflects not only slightly lower price inflation, but also the lower weight of this component, which makes up 7.6% of the consumption basket in Spain compared with 10.2% in the euro area. In Germany, the new subsidised public transport ticket has prompted a fall of 60% year-on-year in the price of combined passenger transport. This explains why the “Transport” sub-index’s contribution to headline inflation was negligible in June and July in Germany, compared with 0.8 pp in May.

Third, the low contribution of the “Other Underlying Inflation” sub-index in Spain compared with its contribution in the euro area. In this case the differences are essentially due to the greater importance of “Rental” expenditure in the euro area, and the lower growth in clothing and footwear prices in Spain.⁶ Prices of main residence rentals continue to rise, but moderately for the time being, both in Spain (by 1.4% year-on-year in July) and in the euro area (by 1.9%). However, this component’s contribution is important, considering its large share of the consumption basket in certain countries. In Germany, for instance, where main residence rentals account for slightly more than 10% of the HICP, compared with 7% in the euro area and less than 3% in Spain.

Some drivers of the increase in underlying inflation

Various factors may explain the spread of inflationary pressures to the consumption basket overall and, in particular, to the sub-indices identified above. One major factor has been the sharp and persistent increase in commodity prices in the international markets, which has put more direct pressure on production costs in economic activities that use energy or food as a fundamental input or that depend on goods transport services. As Chart 5.1 shows, despite their recent moderation associated with the deterioration in the global demand outlook, energy commodity prices worldwide have more than doubled since 2020 Q4, while food and industrial metals prices accumulate increases of around 40% and 20%, respectively.⁷ In consequence, employers have reported continued increases in costs, as shown in

5 The differences are especially notable in expenditure on restaurants, cafés and the like, which make up 11% of the Spanish consumption basket, compared with less than 5% in France and Germany and 6% in the euro area.

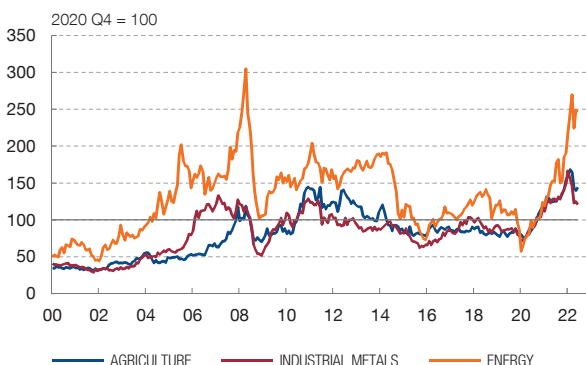
6 The clothing and footwear component is volatile in Spain, influenced by the methodological change to the treatment of seasonal sales introduced at the start of 2022. This component accounts for a slightly larger percentage of the consumption basket in Spain (5.8%) than in the euro area (4.9%).

7 Igan et al. (2022) estimate that, for advanced economies that are commodity importers, such as most of the euro area economies, a 10% increase in agricultural commodity prices would translate, after 12 months, into an increase of almost 0.3 pp in underlying inflation, while a 10% increase in oil prices would lead to an increase of

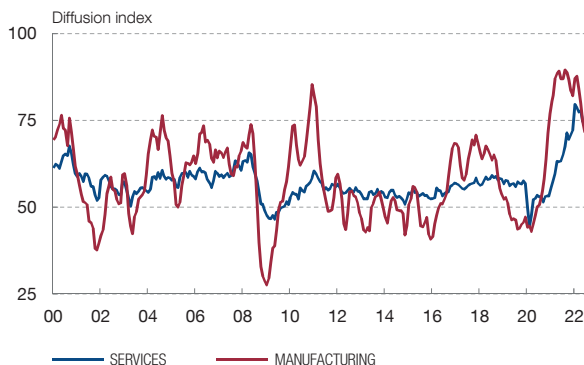
Chart 5

SOME KEY FACTORS BEHIND THE RISE IN UNDERLYING INFLATION: COMMODITY PRICES, HOME EXPENDITURE, BOTTLENECKS, THE REOPENING OF THE ECONOMY AND THE CYCLICALITY OF PRICES BY EXPENDITURE PURPOSE

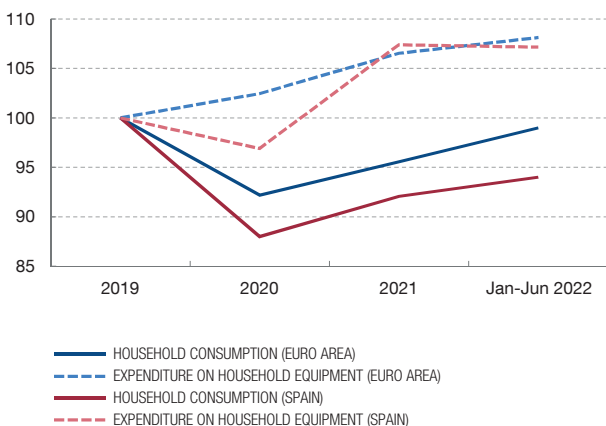
1 BLOOMBERG COMMODITY INDICES



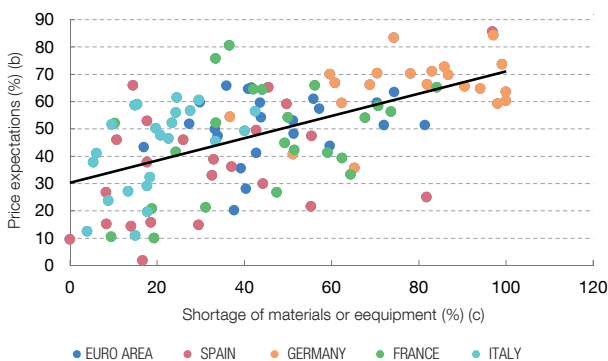
2 PMI INPUT COST INDICATORS. EURO AREA



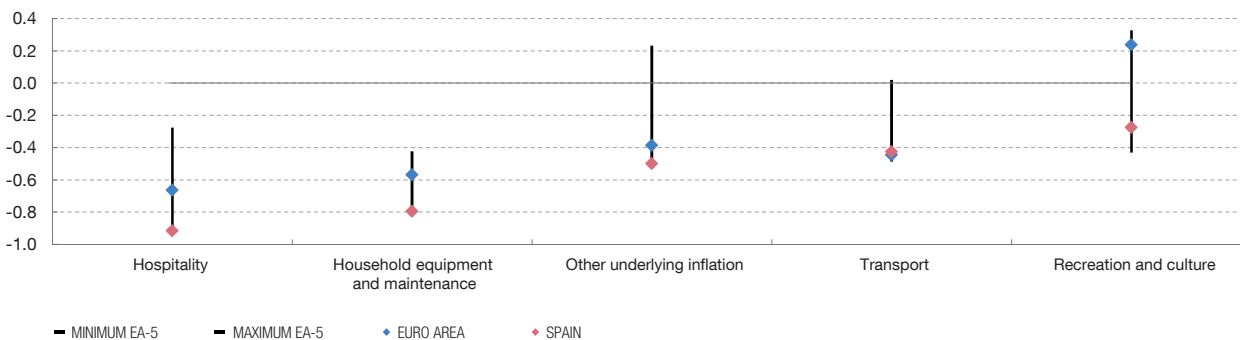
3 HOUSEHOLD CONSUMPTION. EURO AREA AND SPAIN (a)



4 SHORTAGE OF MATERIALS OR EQUIPMENT AND SALE PRICE EXPECTATIONS. MANUFACTURING. JULY 2022



5 UNDERLYING INFLATION COMPONENTS AND ECONOMIC CYCLE
Correlation between unemployment gap and inflation rate 2000-2019 (d)



SOURCES: European Commission, Eurostat, INE and Banco de España.

- a “Household consumption” refers to consumption expenditure by households and non-profit institutions serving households (NPISHs) in the Quarterly National Accounts (QNA). As the data published are not uniform, expenditure on household equipment refers to retail sales of “Other household equipment” published by Eurostat for the euro area, which includes textiles, hardware, carpets, electrical appliances and furniture, and retail sales of “Household equipment” published for Spain by the National Statistics Institute (INE), which includes furniture, hardware, electrical household appliances, home computers, etc.
- b Expectations of changes in sale prices over the next three months. Net percentage (the number of firms reporting an “increase” less the number of firms reporting a “decrease” as a percentage of the total responses).
- c Percentage of firms reporting shortage of materials or equipment as a production constraint.
- d Calculated for the big five euro area economies.



the qualitative PMI input cost indicators for the euro area (see Chart 5.2) and the Banco de España's Business Activity Survey (EBAE by its Spanish acronym). In 2022 Q2, Spanish firms continued to report growth in their input prices, albeit slightly lower increases than earlier in the year (see Fernández and Izquierdo (2022)). Cost pressures have affected both manufacturing output and services, although the impact on manufacturing was felt earlier and has been more marked.

However, the increase in final prices of certain goods and services also reflects circumstances linked to the COVID-19 crisis. First, during the pandemic, demand for goods was driven by lower opportunities to spend on services and by the needs created and new habits acquired during the confinement periods, including the increase in remote working. In general, the pandemic has meant that people have spent more time at home, driving demand for goods and services related to home maintenance and repair and household equipment, facilitated by the growth in households' capacity to save over the last two years. In this respect, Chart 5.3 shows how expenditure on household equipment has risen above pre-pandemic levels, both in the euro area and in Spain, while total household consumption in the first half of 2022 was below the average level observed in 2019 in both areas.

Europe has been particularly affected by the supply difficulties caused by the disruptions and overload in global production chains and in goods transport during the pandemic. These problems, which persist, have caused production delays and significant increases in manufacturing sector costs that have also been passed through to sale prices, in a relatively favourable demand setting for goods worldwide. As Chart 5.4 shows, there is a positive correlation between expectations of increases in sale prices and the severity of the supply problems in the different manufacturing sectors of the euro area countries. One clear example is the car industry, where supply problems have been particularly serious owing to the high dependence on global production chains (see Fernández Cerezo, Montero and Prades (2021)). Supply difficulties have made it hard to meet the demand for new cars, driving up sale prices, while part of the unmet demand has been passed through to second-hand cars, with a positive impact on prices. The rise in second-hand car prices has been most notable in Germany. In July 2022, prices of new and second-hand vehicles rose by almost 6.5% and 12.4% year-on-year, respectively, in the euro area, and by 5.3% and 24%, respectively, in Germany. In Spain, the increase in the price of new cars in the last year was even higher, up 9.5% in July, while the price of second-hand cars rose by 8.6%.

Lastly, and more recently, as economies have fully reopened as the vaccine roll-out has progressed, mobility and demand for services involving more social contact have grown strongly, especially in hospitality and tourism. Although the recovery in

around 0.1 pp over the same period. Similarly, Borrillo, Cuadro-Sáez and Pérez (2022) find that food commodity price shocks have a significant and positive impact on headline inflation.

consumption in these sectors is still incomplete, part of the demand that had been severely limited in these services in the first two years of the pandemic has been rapidly released.

All these factors, which are interconnected, have played their part, against a backdrop of improving labour markets and a relatively favourable financial situation for households, especially in terms of aggregate saving levels. Indeed, the disparities in how the prices of the different underlying inflation components have evolved may partly reflect a different level of cyclical sensitivity to the recovery in demand. As Chart 5.5 shows, following Lian and Freitag (2022), the more pro-cyclical inflation components, defined as those with the most negative correlation between labour market slack⁸ and the inflation of the component analysed, are “Hospitality” and “Household equipment and maintenance”. In both cases, the correlation is negative in the big five euro area economies, and is higher in Spain. Accordingly, the acceleration in inflation in these two components may also be related to the fall in the unemployment rate and the consequent decline in labour market slack in the last year.

Final reflections

Since mid-2021, inflationary pressures have intensified and have spread to a growing number of consumption basket components, both in the euro area and in Spain. How long these price increases will persist in the more stable inflation components is uncertain. It will largely depend on how the war in Ukraine evolves, owing to its direct effects on commodity prices in the international markets and their pass-through to the other prices that make up the HICP. Some temporary pandemic-related factors can be expected to fade, such as those associated with the momentum stemming from release of the pent-up demand for recreation and tourism services following the lifting of the health restrictions. Also, both the heightened macroeconomic and geopolitical uncertainty and the sharp loss of purchasing power caused by inflation will tend to smooth aggregate demand and price dynamics. In any event, a relatively contained wage and profit margin response to the current inflationary pressures will be essential, to prevent significant second-round effects from emerging and thus the current inflationary scenario from becoming prolonged.

12.9.2022.

⁸ Measured as the difference between the observed unemployment rate and the structural unemployment rate (NAIRU).

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