

## **ANNUAL REPORT 2021**

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## Chapter 1

An incomplete recovery amid uncertainty: from the pandemic to the rise in inflation and the outbreak of war

## Chapter 2

Challenges and policies for a sustainable and balanced growth of the Spanish economy

## Chapter 3

Rising global inflation

## Chapter 4

The Spanish economy and the climate challenge

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1. Introduction
2. Determinants of inflation in the pre-pandemic period
3. Characterisation of the current inflationary episode
4. Potential determinants of the persistence of the inflationary episode
5. The uneven impact of the surge in inflation
6. Conclusions

## OVERVIEW

- Although the current inflationary episode is an eminently global phenomenon, its impact has been very uneven across countries
- This rise in prices, whose intensity and persistence have systematically surprised on the upside, has become more widespread
- Analysts' forecasts suggest that inflation rates will moderate over the coming quarters. However, these forecasts are subject to much uncertainty and depend, among other factors, on the course of the war in Ukraine and on economic policies
- The impact of the rise in prices on different types of households and firms appears to be very heterogeneous

## **THE RECENT RISE IN INFLATION: AN EMINENTLY GLOBAL PHENOMENON, ALBEIT WITH UNEVEN EFFECTS ACROSS COUNTRIES**

Since early 2021, inflation has trended upwards globally and has recently reached rates not seen for several decades

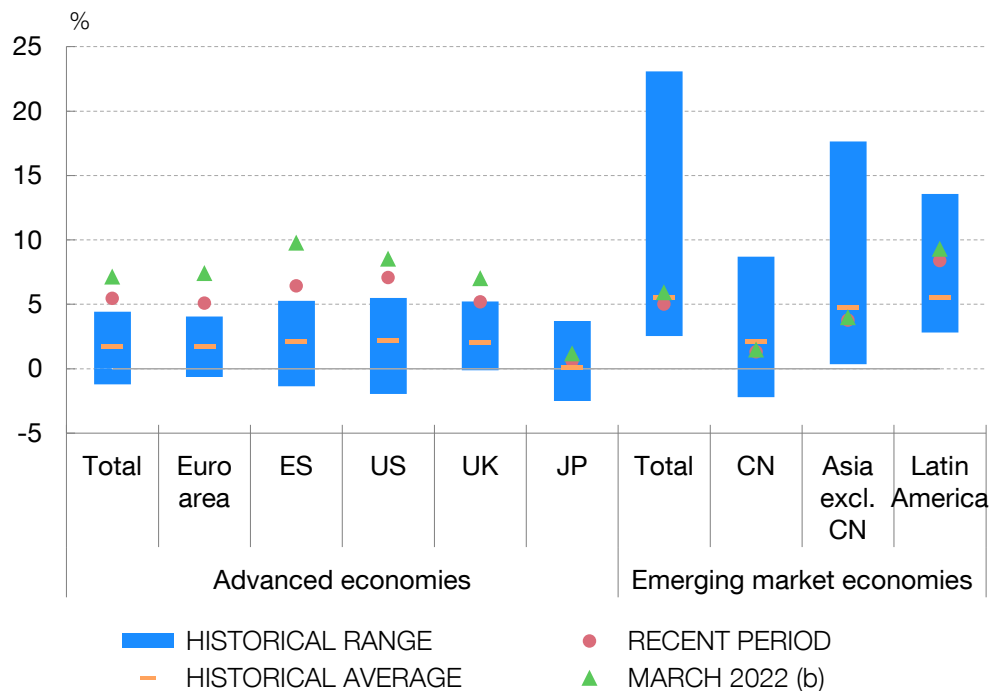
The current inflationary pressures are primarily due to the increase in commodity prices, the relatively strong recovery of global demand following the most severe phase of the pandemic (underpinned by highly expansionary monetary and fiscal policies), and a number of factors (such as bottlenecks in global value chains) which have limited the responsiveness of supply

More recently, the geopolitical tensions deriving from the Russian invasion of Ukraine in late February are contributing to a further rise in commodity prices, particularly energy and food prices

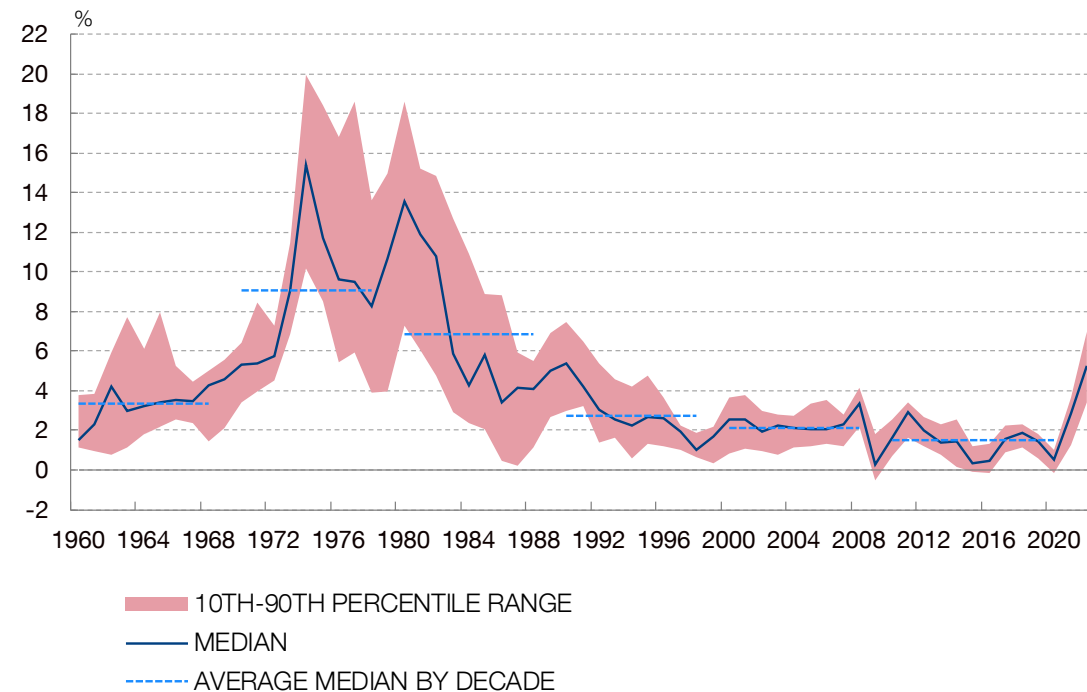
The current inflationary episode is having an uneven impact on the world's main economies, as a result of the asymmetric impact of the various global factors that have driven it and of various idiosyncratic elements

# INFLATION HAS ACCELERATED IN RECENT QUARTERS, IN SPAIN AND GLOBALLY, REACHING RATES NOT SEEN FOR SEVERAL DECADES

HEADLINE INFLATION (a)



INFLATION WITH A LONG-TERM PERSPECTIVE (c)  
Advanced economies



SOURCES: IMF, Consensus Economics and national statistics.

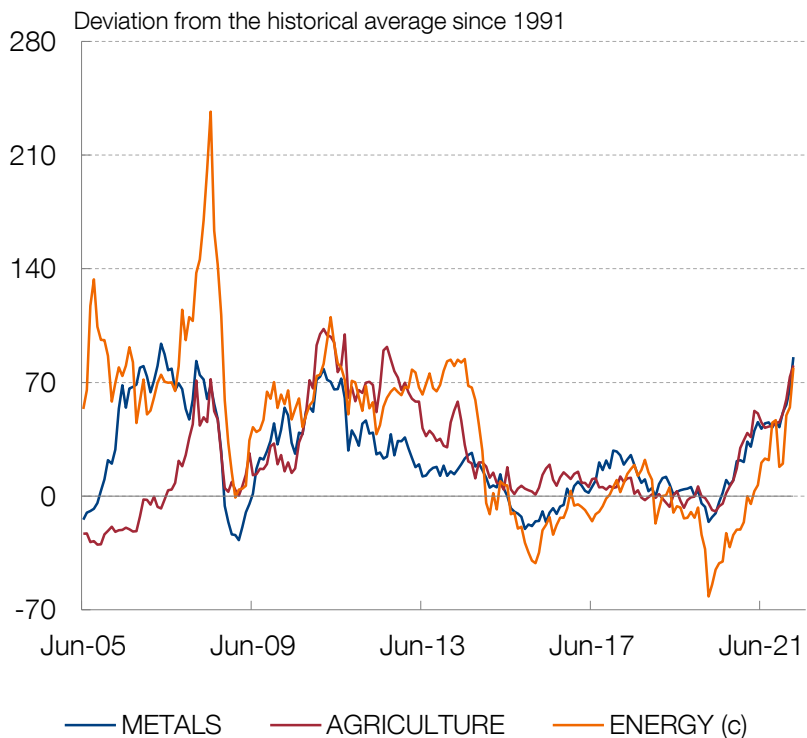
a. The recent period refers to the inflation rate average from September 2021 to March 2022. Historical data comprise the period 1999-2019. In emerging regions the periods may be incomplete due to the unavailability of data.

b. February 2022 for the emerging market economies and Asia excluding China aggregates.

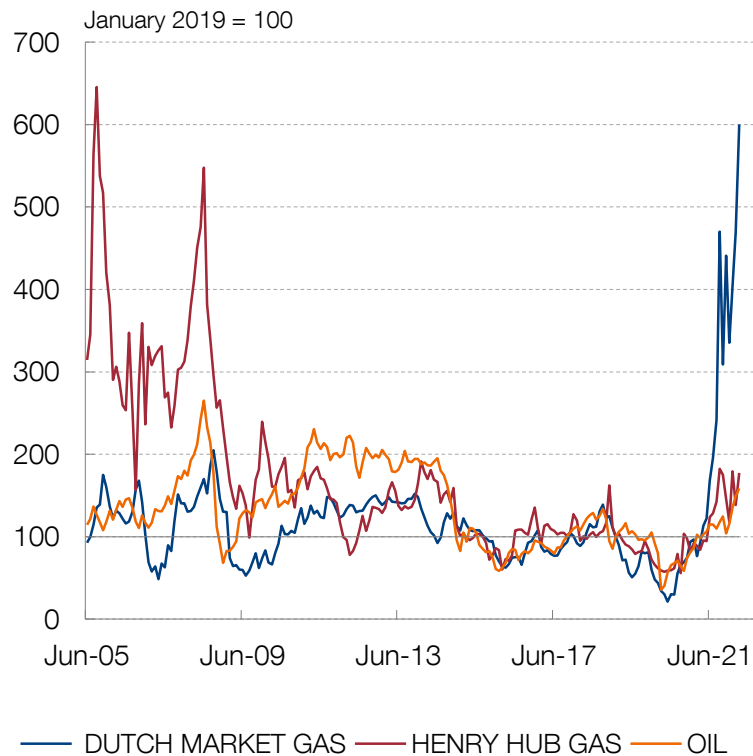
c. Annual rates, with projections for 2022 in nine advanced economies: Australia, Canada, France, Germany, Italy, Japan, Spain, the United Kingdom and the United States.

# AGAINST A BACKDROP OF A STRONG INCREASE IN COMMODITY PRICES (WHICH HAS INTENSIFIED FOLLOWING THE INVASION OF UKRAINE BY RUSSIA), A PICK-UP IN DEMAND, ...

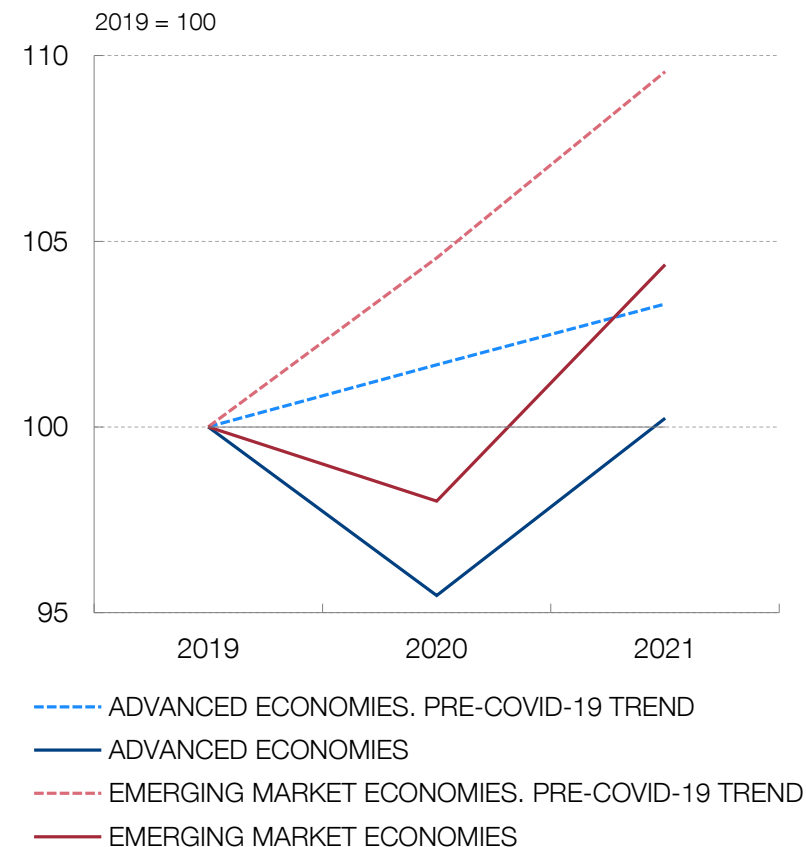
**COMMODITY PRICES (a)**



**GAS AND OIL PRICES (a)**



**GDP PATH (b)**



SOURCES: Bloomberg, IMF, Refinitiv and Banco de España.

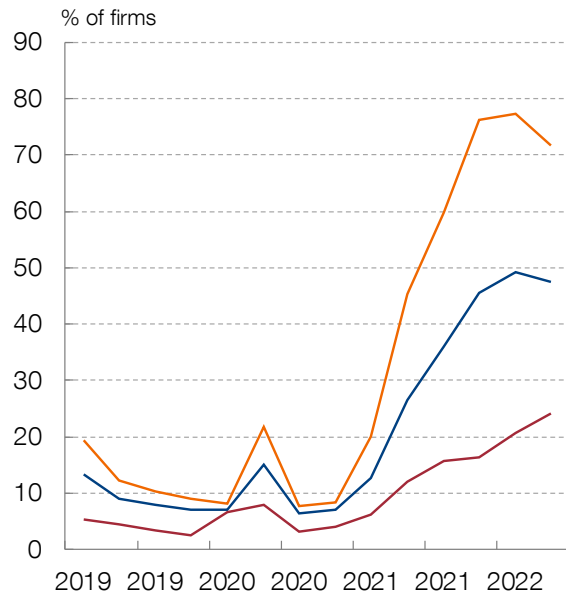
a. Expressed in real terms using the GDP deflator for the United States.

b. The pre-COVID-19 trend includes the IMF's October 2019 WEO forecasts. The current trend is based on the April 2022 WEO.

c. This index includes six commodities: Brent oil, WTI oil, natural gas, gas oil, fuel oil and gasoline.

## MATERIAL AND/OR EQUIPMENT SHORTAGES

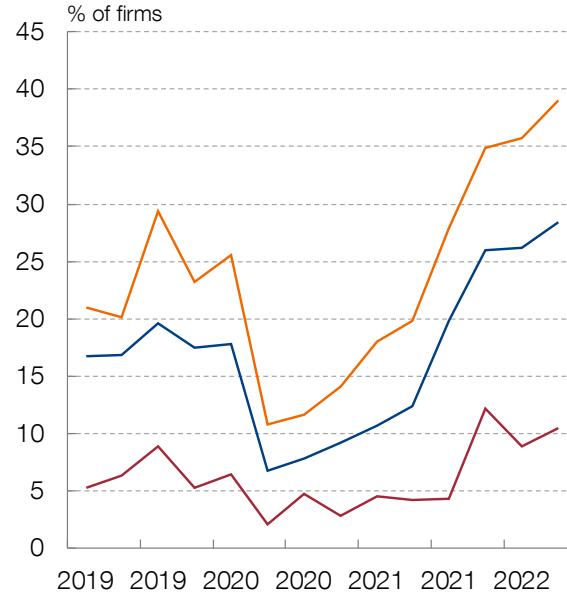
European Commission index.  
Industry and construction



— EURO AREA  
— SPAIN  
— GERMANY

## LABOUR SHORTAGES

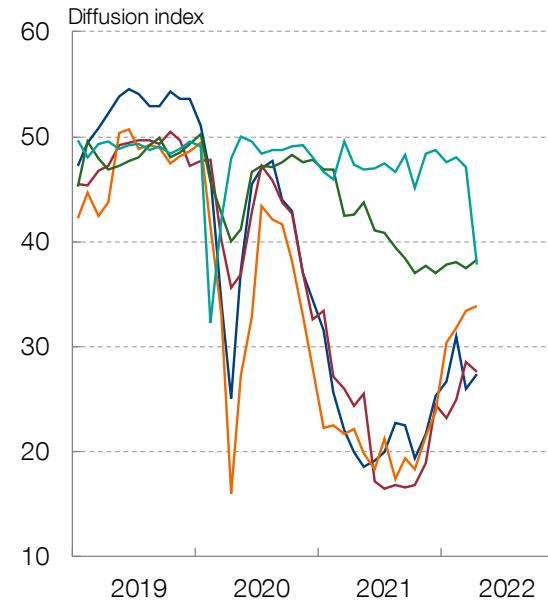
European Commission index.  
Industry, construction and services



— EURO AREA  
— SPAIN  
— GERMANY

## SUPPLIERS' DELIVERY TIMES

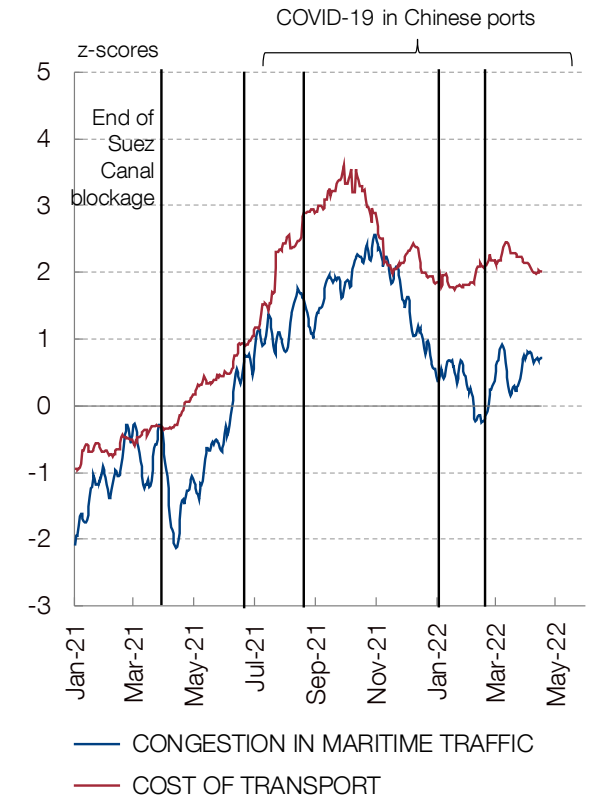
Manufacturing PMI



— EURO AREA  
— UNITED KINGDOM  
— CHINA  
— UNITED STATES  
— JAPAN

## MARITIME TRANSPORT

Composite indicators (a)



— CONGESTION IN MARITIME TRAFFIC  
— COST OF TRANSPORT

SOURCES: European Commission, Eurostat, IHS Markit, Kiel Institute for the World Economy, Refinitiv and Banco de España.

a. An increase denotes more congestion or a higher price. Prepared on the basis of an analysis of the main components.

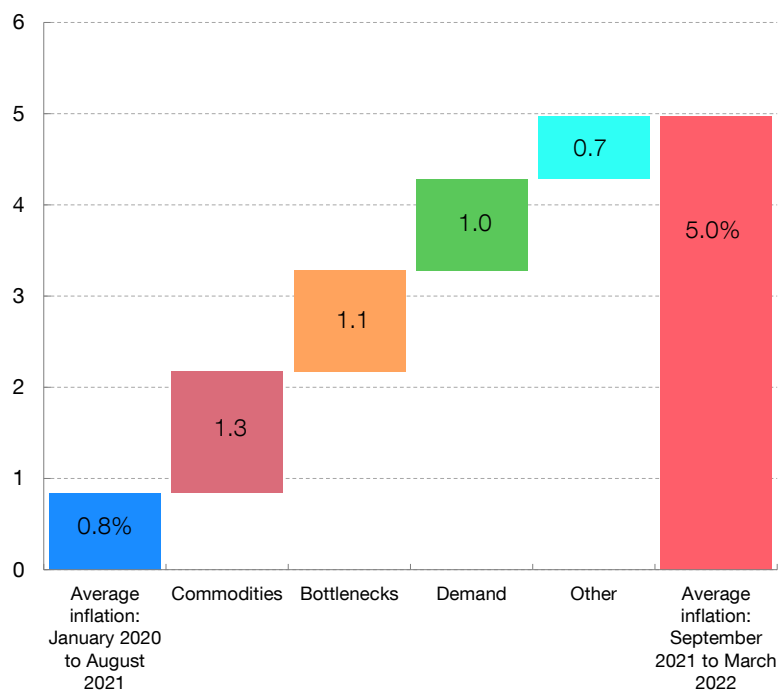


# ACCORDING TO A BANCO DE ESPAÑA STUDY, IN QUANTITATIVE TERMS, RISING COMMODITY PRICES APPEAR TO BE THE MAIN FACTOR BEHIND THE INCREASE IN PRICES

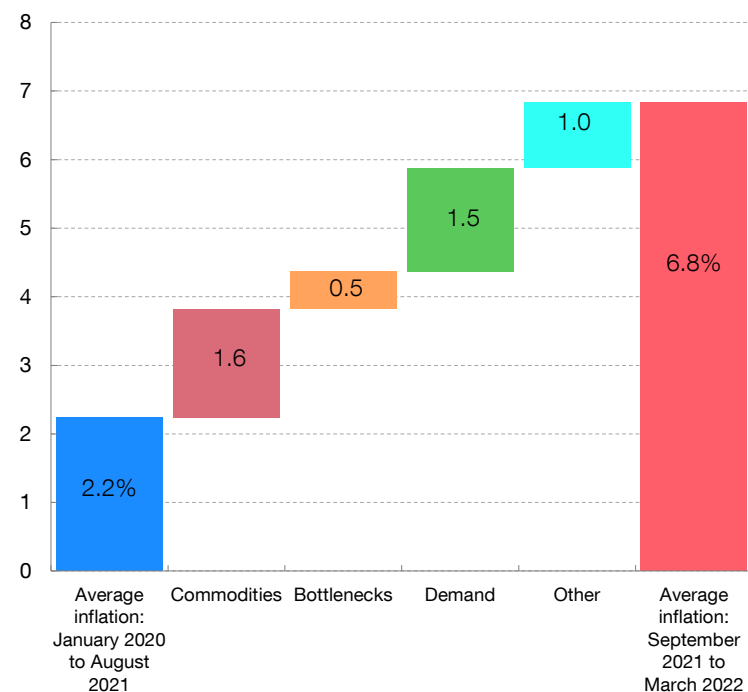
- In any event, the robust recovery of demand also appears to have played a highly significant role in these inflation dynamics, especially in the United States, while the impact of bottlenecks on inflation seems to have been particularly pronounced in the euro area

DETERMINANTS OF THE INCREASE IN INFLATION IN THE RECENT PERIOD (a)

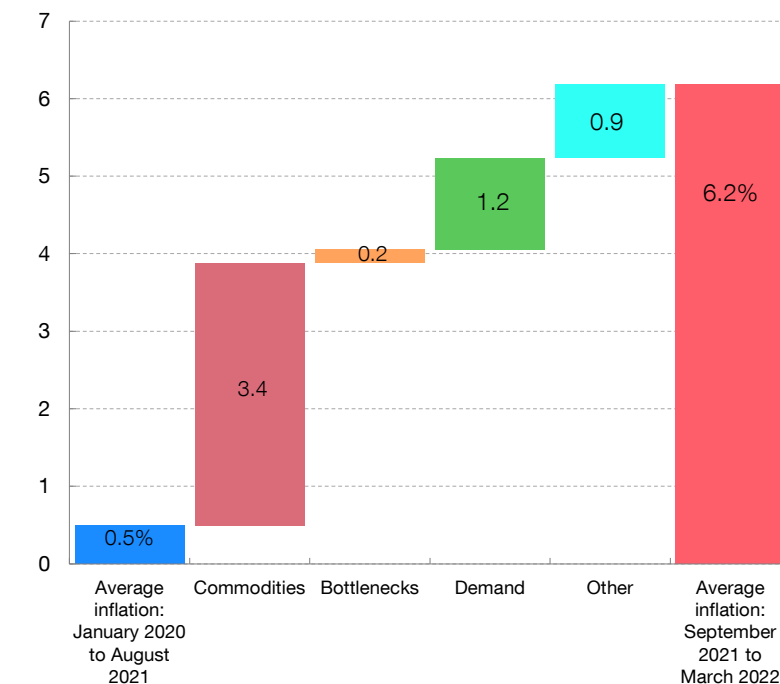
## EURO AREA



## UNITED STATES



## SPAIN



SOURCE: Banco de España.

a. Estimates using a structural vector autoregressive model based on the Cholesky method.

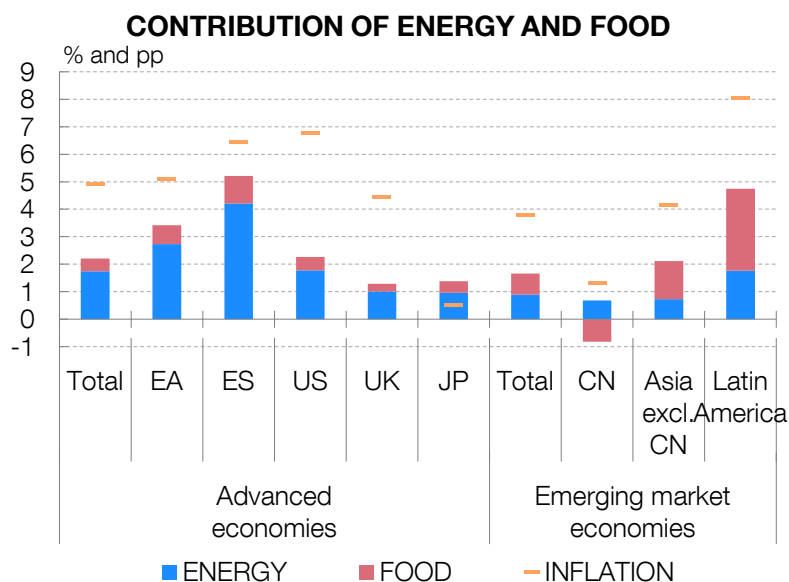


# HIGHER ENERGY PRICES ARE HAVING A MORE ACUTE IMPACT ON THE EURO AREA AND, IN PARTICULAR, ON SPAIN

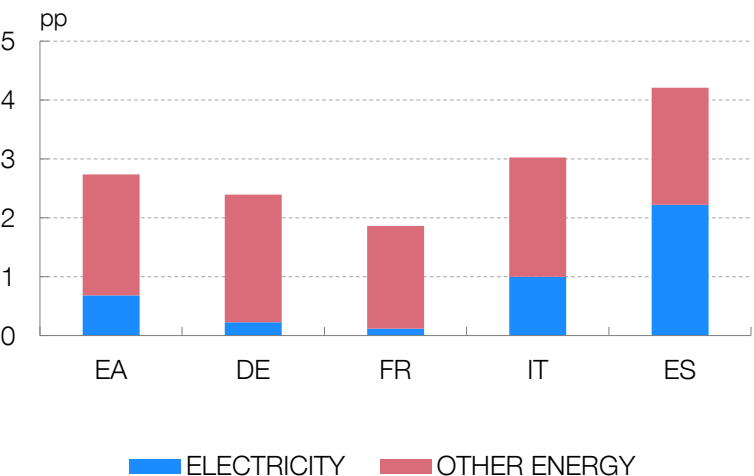
- This is largely due to fuel and electricity accounting for a higher share of the consumption basket in these economies
- The economies' sectoral specialisation pattern has also influenced the asymmetric impact of the current inflationary episode. Thus, for instance, in Spain and Italy the share of contact-intensive services is relatively higher than in the euro area; therefore, the recent rise in prices in these sectors has contributed more to inflation than in other countries, such as France and Germany

## HETEROGENEITY ACROSS INFLATION COMPONENTS

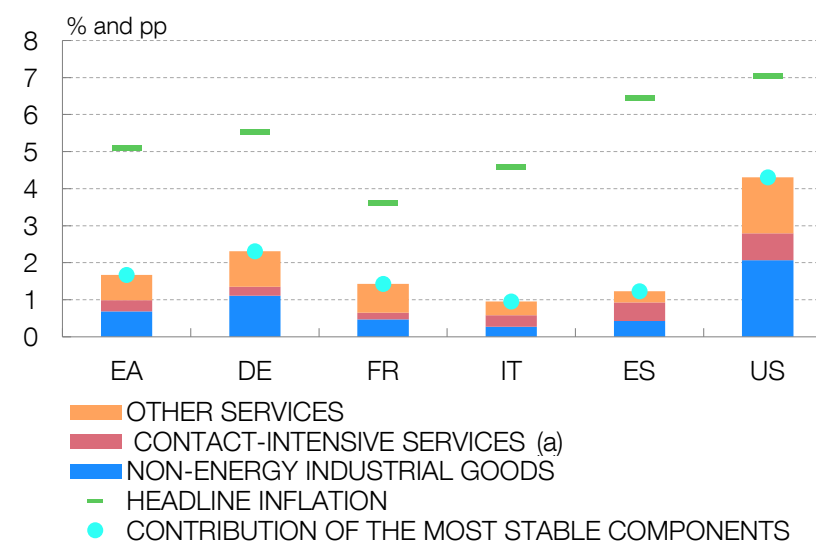
Contributions to the average inflation rate during the most recent period: September 2021 to March 2022



**CONTRIBUTION OF ELECTRICITY AND OTHER ENERGY**



**CONTRIBUTION OF THE MOST STABLE COMPONENTS**



SOURCES: Eurostat, national statistics and Banco de España.

a. Contact-intensive services include recreation and culture, hospitality and, in the case of euro area countries, package holidays.

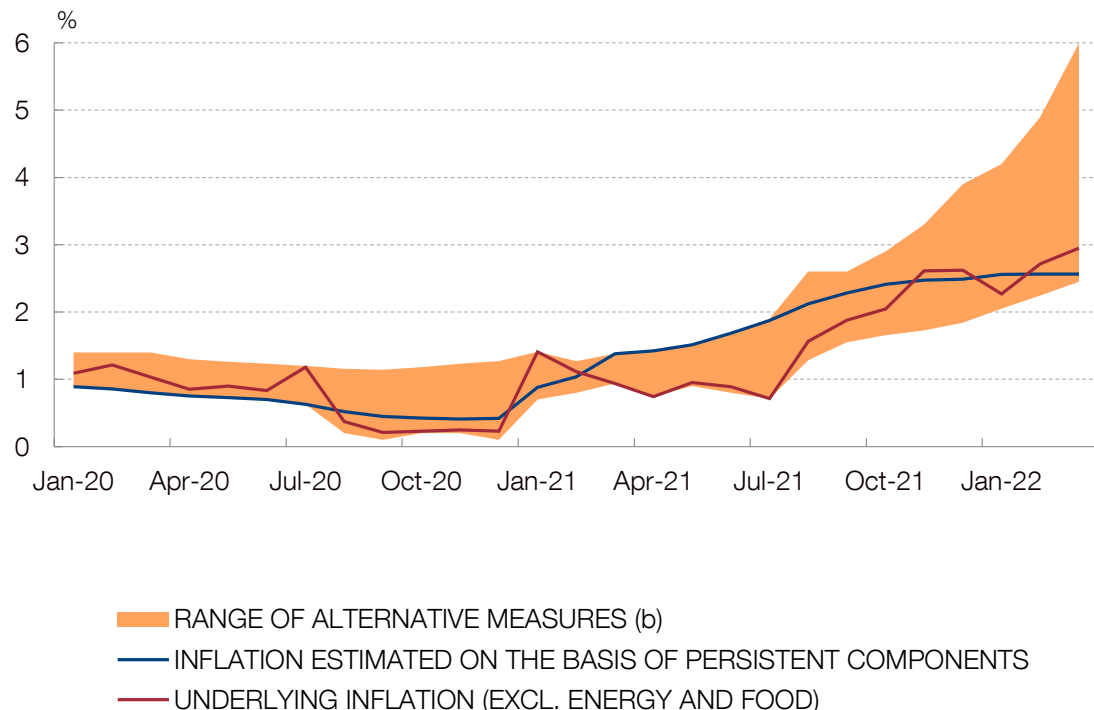
## THE RISE IN PRICES, WHOSE INTENSITY AND PERSISTENCE HAVE SYSTEMATICALLY SURPRISED ON THE UPSIDE, HAS BECOME MORE WIDESPREAD IN RECENT MONTHS

Although the increase in energy prices is a key factor in the recent surge in inflation rates, in recent months the price increase has extended to the rest of goods and services

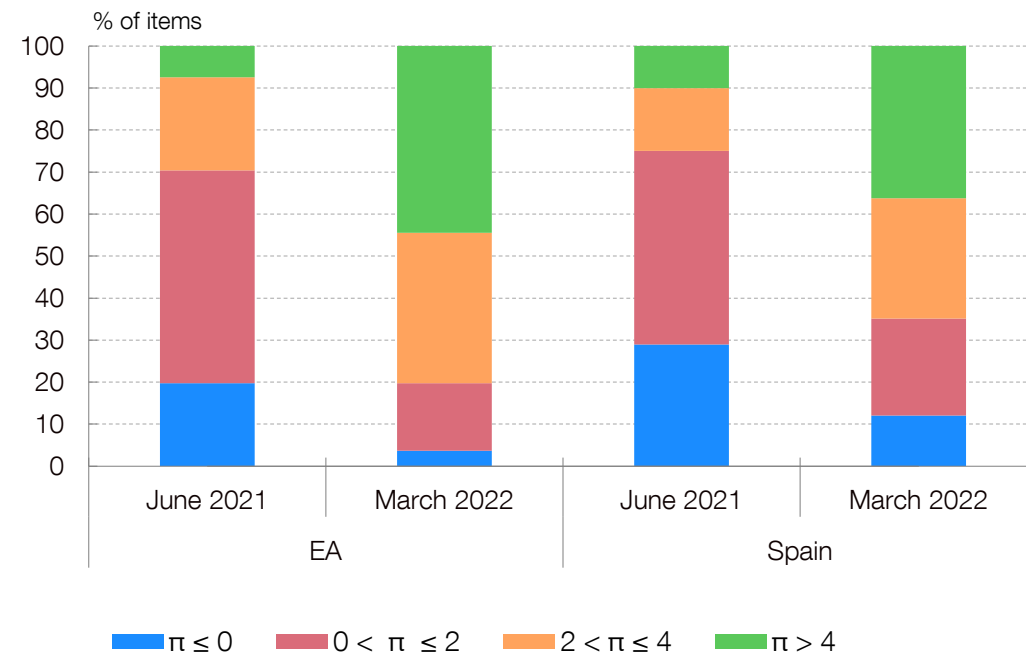
These dynamics have also been reflected in an increase in agents' medium and long-term inflation expectations

# IN RECENT MONTHS, INFLATIONARY PRESSURES HAVE SPREAD TO NUMEROUS COMPONENTS OF THE CONSUMPTION BASKET, BEYOND ENERGY AND FOOD

## EURO AREA. MOST STABLE MEASURES OF LATENT INFLATIONARY PRESSURES



## DISTRIBUTION OF THE HICP ITEMS BY RATE OF CHANGE OF THEIR INFLATION RATE



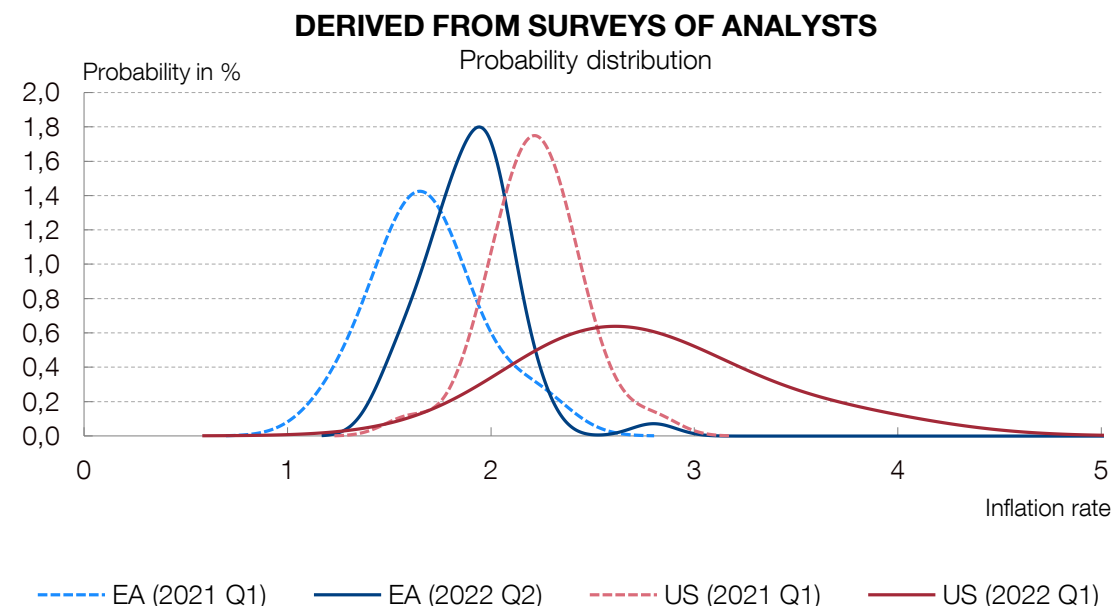
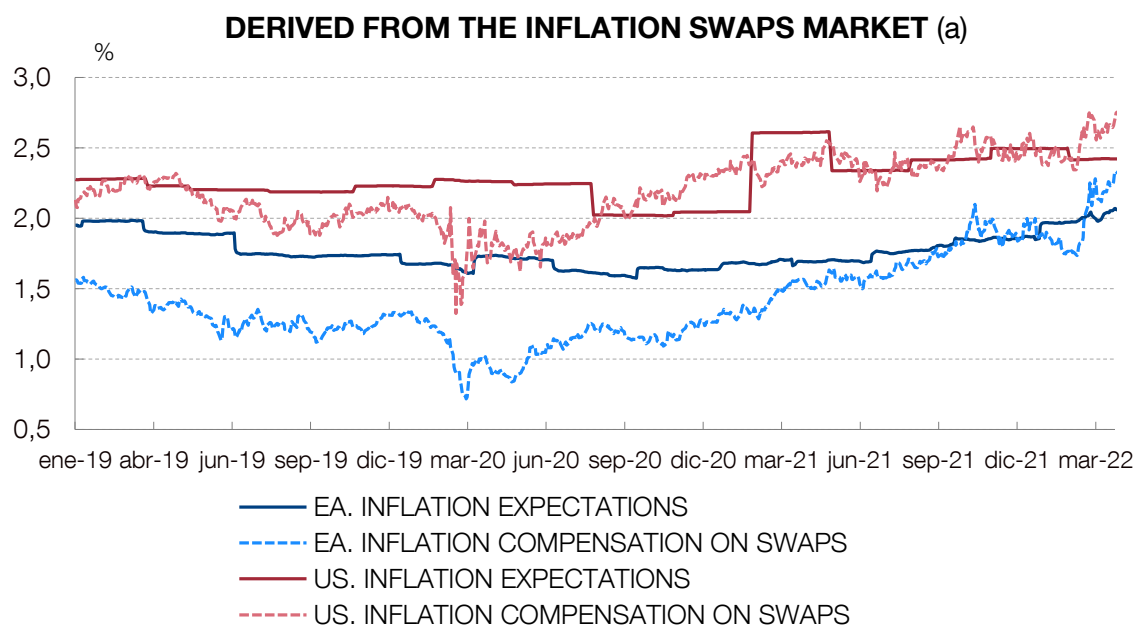
SOURCES: ECB, Eurostat and Banco de España.

a. The range of indicators includes: underlying inflation (headline inflation excl. energy and food), inflation estimated on the basis of the persistent components of inflation obtained using regime change models (see Leiva-León, Le Bihan and Pacce (2022)), underlying inflation excluding tourism and clothing, the 10% and 30% trimmed means (taking into account the HICP item breakdown), the persistent and common component of inflation and supercore inflation.

# MEDIUM AND LONG-TERM INFLATION EXPECTATIONS HAVE ALSO RISEN AND REQUIRE CLOSE MONITORING BY CENTRAL BANKS

- This increase has been sharper in the United States than in the euro area
- In the euro area, financial market-implied medium-term inflation expectations (after discounting the risk premium priced into financial products) remain anchored around the ECB's inflation target of 2%, although there are some signs that these expectations could be revised above the target which require careful monitoring

## FIVE-YEAR ON FIVE-YEAR FORWARD INFLATION EXPECTATIONS



SOURCES: Bloomberg, ECB, Federal Reserve Bank of Philadelphia and Banco de España.

a. The compensation for inflation priced into inflation swaps is, for each horizon, broken down into the sum of the inflation expectations and the risk premium by term, using the methodology in Gimeno R. and E. Ortega (2022).

## ANALYSTS' FORECASTS POINT TO A MODERATION OF INFLATION RATES IN THE COMING QUARTERS, BUT THERE IS EXTRAORDINARY UNCERTAINTY

Despite the persistent surprises on the upside in recent quarters and the greater inflationary pressures that have arisen in the short term as a result of the war in Ukraine, analysts' consensus continues to expect inflation rates to ease in the medium term, especially in light of the price dynamics signalled by the futures markets for various key commodities

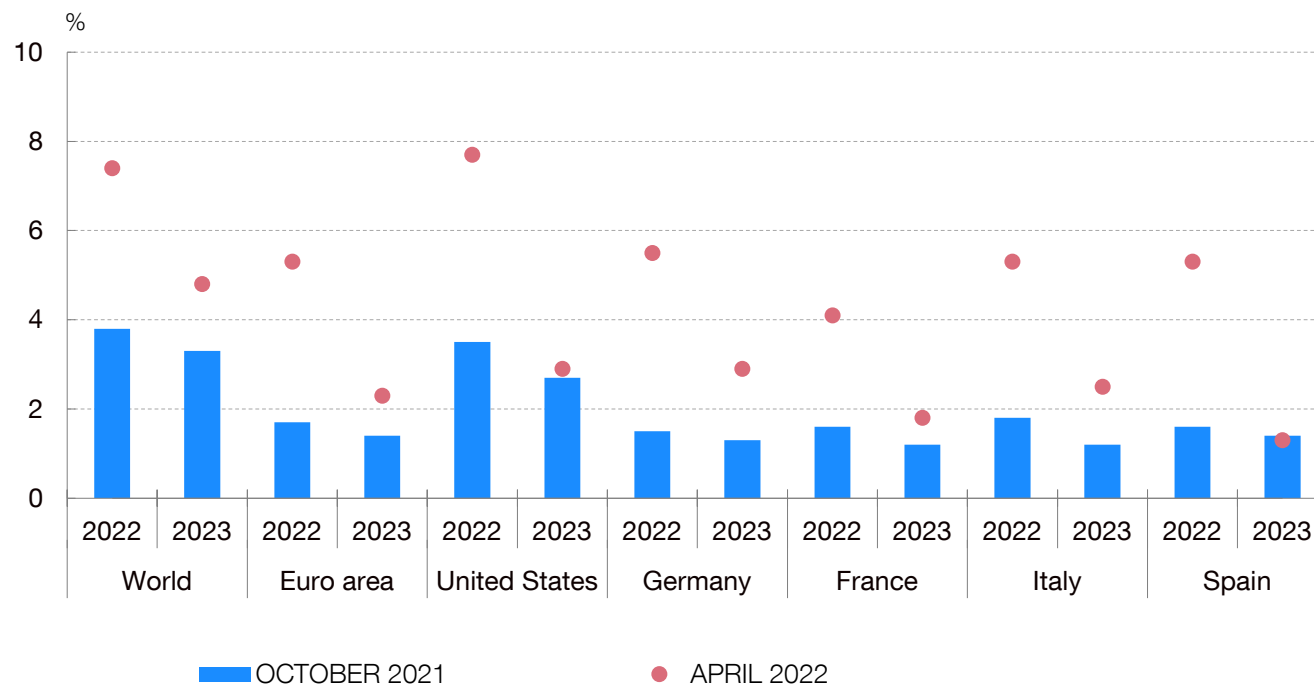
However, these forecasts are subject to considerable uncertainty and will hinge decisively on the scale and persistence of the disruptions that the war in Ukraine may entail for economic activity, commodity prices and global production chain bottlenecks overall

In any event, the potential materialisation of significant indirect and second-round effects might prolong the current inflationary episode. In Spain, an incomes agreement between social partners would help avoid a spiral of price and cost increases which would only exacerbate the harmful effects of the current shock

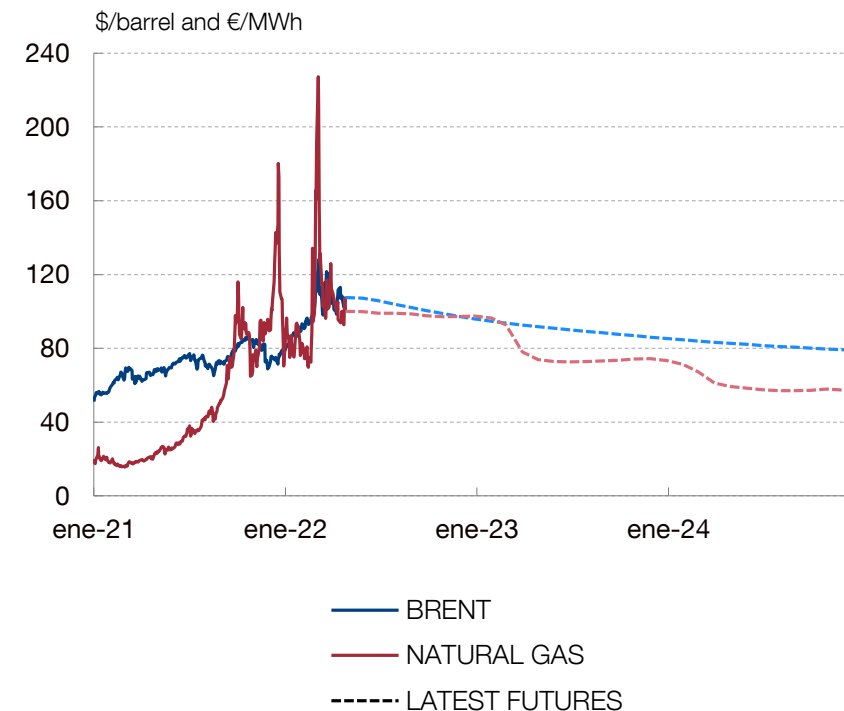
Central banks must continue the process of normalising their monetary policy and avoid a de-anchoring of inflation expectations. For its part, fiscal policy should contribute to mitigating the adverse economic effects of inflation and the war on the most vulnerable groups, albeit in a very focused and temporary manner.

# INFLATION PROJECTIONS HAVE BEEN REVISED UP AS A RESULT OF THE WAR, BUT INFLATION IS STILL EXPECTED TO FALL IN THE COMING QUARTERS

**INFLATION PROJECTIONS**  
IMF World Economic Outlook projections



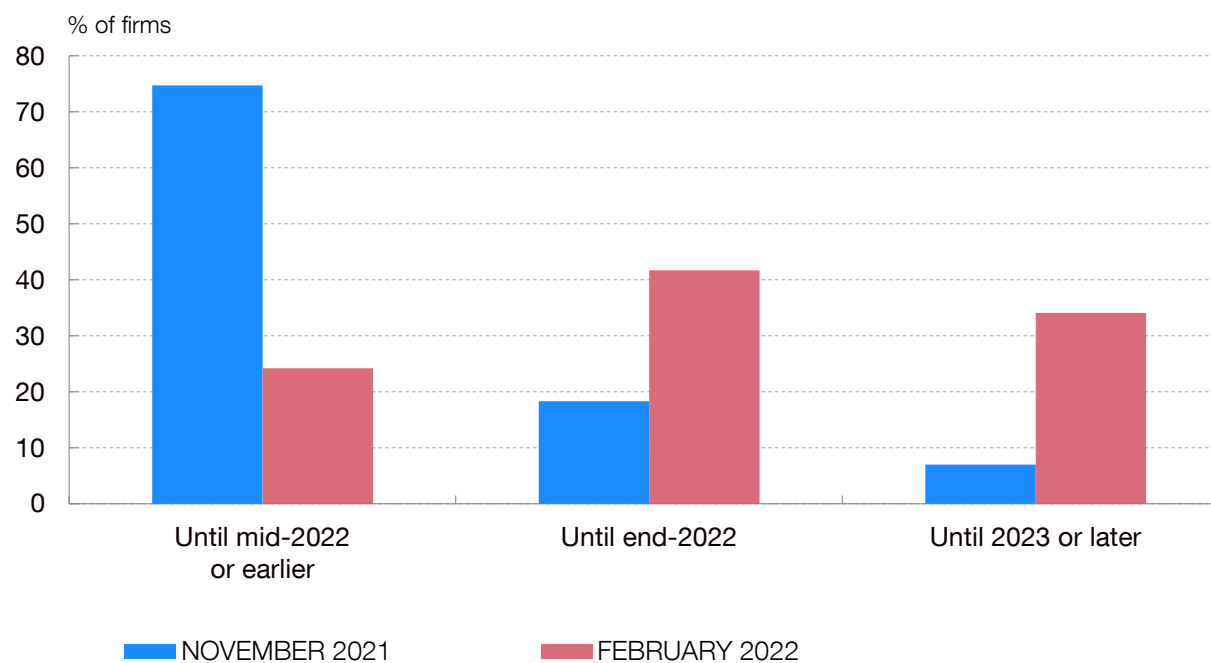
**OIL AND GAS PRICES. SPOTS AND FUTURES**



SOURCES: Bloomberg, IMF (World Economic Outlook), Eurostat and Refinitiv.

# THE IMPACT OF THE WAR ON PRODUCTION AND SUPPLY CHAIN BOTTLENECKS WILL BE KEY TO THE PERSISTENCE OF THE CURRENT INFLATIONARY EPISODE

**SPAIN. EXPECTED DURATION OF THE SUPPLY ISSUES ACCORDING TO THE EBAE (a)**



SOURCE: Banco de España.

a. Banco de España Business Activity Survey.



## What are these effects?

- **Indirect effects:** Those whereby higher energy costs are ultimately passed through to the prices of other goods and services as firms try to maintain their profit margins
- **Second round effects:** Those whereby a pick up in inflation leads to higher wage rises (which, in turn, are passed through to product prices) as workers seek to avoid a loss of purchasing power

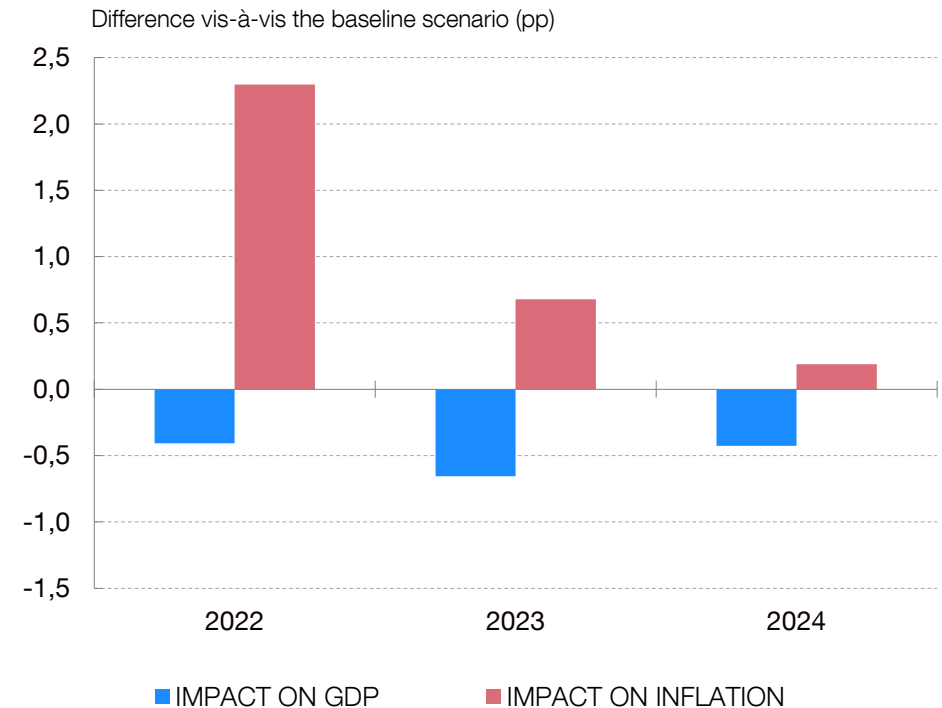
## Have these effects already materialised in Spain?

- **For the time being they have not materialised to any significant extent**
  - Various sources, including the Banco de España's Central Balance Sheet Data Office and Business Activity Survey (EBAE) suggest that, since the beginning of 2021, firms have only partially passed rising costs through to the final prices of their products. This would have **narrowed profit margins**
  - Information on collective bargaining in Spain shows that agreed wage increases are clearly below the inflation rates observed. This entails **a loss of purchasing power for workers**

## Why is the materialisation of these effects a risk?

- The higher the persistence of the current inflationary episode, the higher the probability that these indirect and second-round effects will materialise to a significant extent
- If a price-wage feedback loop were to begin, the current inflationary episode would prove more persistent and its economic cost would be greater, in terms of **sharper declines in international competitiveness, in activity and employment and in national income**

## ECONOMIC IMPACT OF A PROFIT MARGIN AND WAGE REACTION TO A RISE IN ENERGY PRICES (a)



SOURCES: Banco de España (Quarterly Report 1/2022).

a. A scenario is considered in which employers and employees seek to increase their prices and wages to counter the impact of the energy shock on their incomes

An incomes agreement as a way of mitigating this risk

- Through this agreement, firms and employees would accept to share the inevitable loss of income for the national economy resulting from higher commodity prices

What should such a pact look like?

**SENSITIVE TO THE  
ASYMMETRIC IMPACT**

The asymmetric impact of the current shocks on workers, firms and sectors should be taken into account. This means that overly sweeping measures, which would be too rigid for some segments of the workforce, should be avoided

**WAGES**

The automatic indexation of wages to past inflation and safeguard clauses should be avoided

**MULTI-YEAR**

Multi-year commitments should be envisaged relating to both wage increases (where nominal benchmarks for wage bargaining should be based on the expected trend in underlying inflation) and employment protection

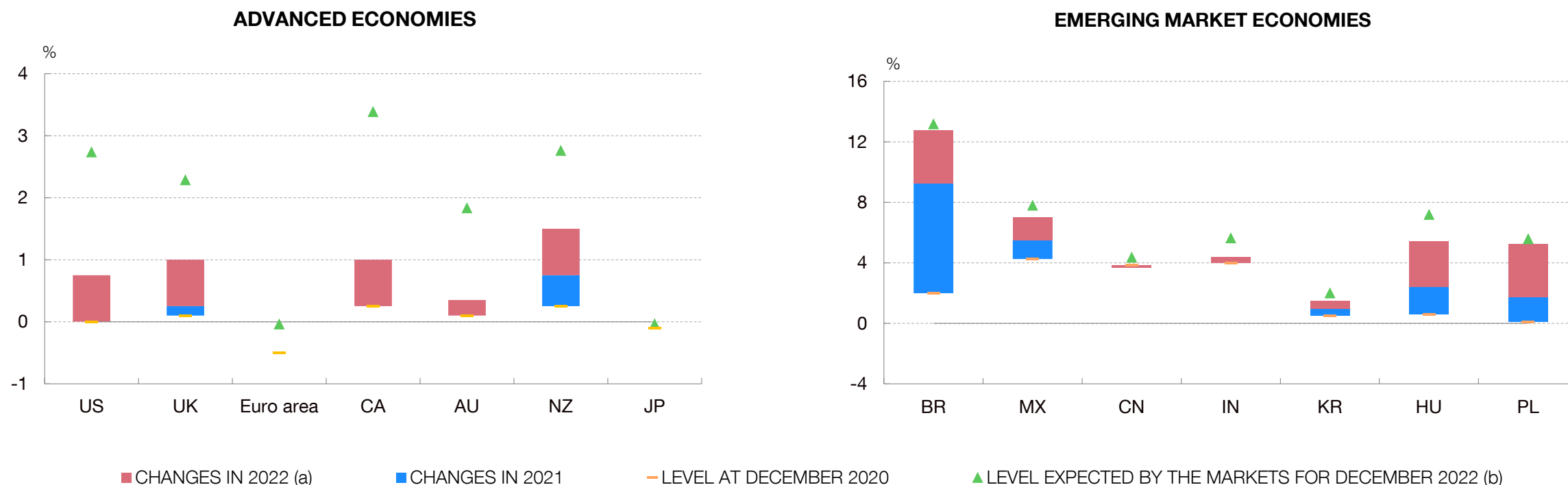
**PROFIT MARGINS**

These wage guidelines should be accompanied by explicit profit margin moderation commitments

# THE ADVANCED ECONOMIES ARE MOVING TOWARDS MONETARY POLICY NORMALISATION AND THE EMERGING MARKET ECONOMIES CONTINUE TO TIGHTEN IT

- Progress in this normalisation process, in response to the heightening of inflationary pressures, could lead to capital market tensions and, although this is not yet strongly apparent, to a tightening of bank financing conditions and an increase in agents' financial burden

## POLICY INTEREST RATES



SOURCE: National central banks.

a. Includes changes to policy rates adopted before 13 May 2022.

b. Based on futures for the interbank overnight rate, interest rate swaps and the OIS rate for the euro area, in April 2022.

# SINCE LATE 2021, THE ECB HAS TAKEN SEVERAL MEASURES CONSISTENT WITH A GRADUAL NORMALISATION OF ITS MONETARY POLICY STANCE

## Some recent decisions

- The end of **net purchases under the PEPP** in March 2022 was announced in December 2021
- In April it was announced that **net purchases under the APP** are expected to end in Q3

## Key aspects of the ECB's response

In the current extraordinarily uncertain setting, and provided that euro area medium-term inflation expectations remain anchored around its 2% target, the ECB has emphasised that its monetary policy response will depend on the performance of economic indicators, will be gradual and will retain all the optionality and flexibility provided by its various instruments

The ECB will adopt whatever measures are necessary to fulfil its price stability mandate and to help safeguard financial stability

Within the ECB's mandate, under stressed conditions, flexibility will remain an element of monetary policy whenever threats to monetary policy transmission jeopardise the attainment of price stability

The first interest rate rise will take place some time after the end of the net purchases under the APP

## THE IMPACT OF THE RISE IN PRICES ON THE DIFFERENT TYPES OF SPANISH HOUSEHOLDS AND FIRMS IS VERY UNEVEN

The sharp rise in prices in recent quarters has already had an appreciable impact on activity in aggregate terms, as regards both the Spanish economy's growth rate in 2021 and its outlook for 2022-2024

Beyond the impact of this episode on the main macroeconomic variables, the rise in prices seems to have affected households differently depending, among other aspects, on household structure, age, education, income and net financial position

Some of the measures approved in recent months would have an impact on the distributional effects of inflation

The impact of the inflationary episode is also highly uneven across sectors of activity, depending mainly on how intensely energy inputs are used in their production processes

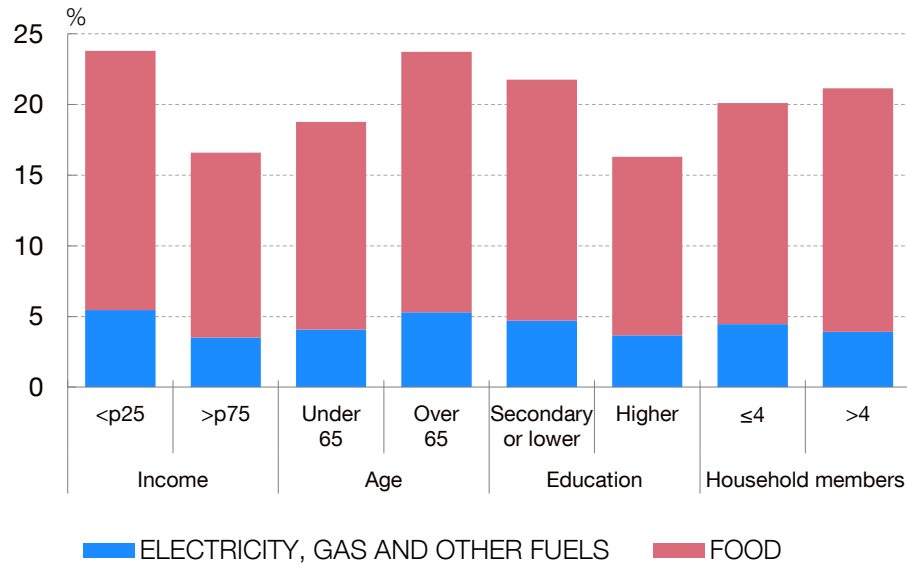
Furthermore, within each sector, smaller firms are relatively more reliant on energy inputs, making them more vulnerable to the current inflationary pressures

# THE ASYMMETRIC IMPACT OF RISING INFLATION ON HOUSEHOLDS

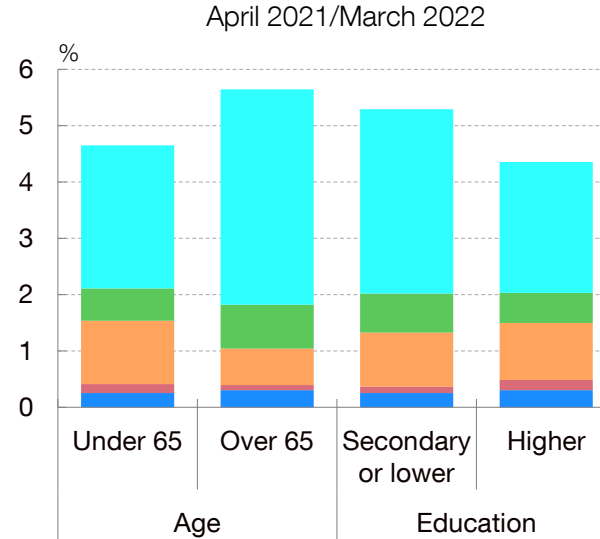
- In recent months, lower-income households, households where the reference person was older than 65 and households with secondary education or less experienced higher inflation than that borne by higher-income households, those where the reference person was younger and those with a higher level of educational attainment
- All of this is a consequence of the differences between these types of households in the share of spending in staple goods, whose prices have shown a greater relative increase recently

## HOUSEHOLD-SPECIFIC INFLATION

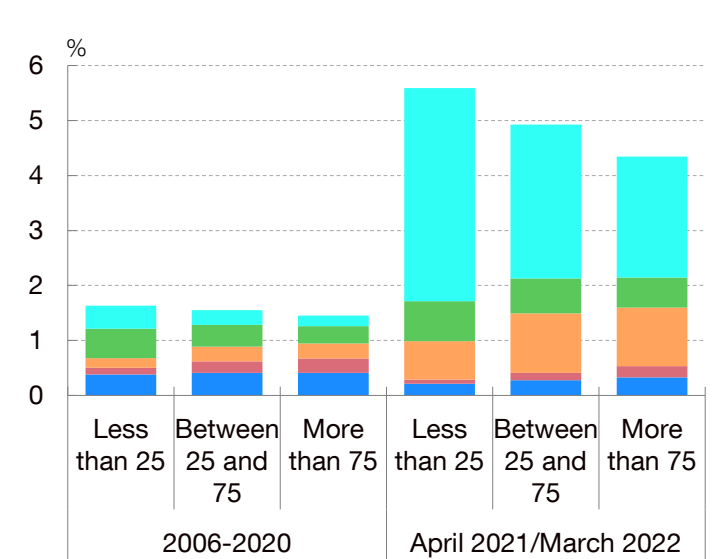
SHARE OF EXPENDITURE ON FOOD AND ELECTRICITY, GAS AND OTHER FUELS (2006-2020)



BY EDUCATIONAL ATTAINMENT LEVEL AND AGE



BY INCOME PERCENTILE



SOURCES: Household Budget Survey, INE and Banco de España.

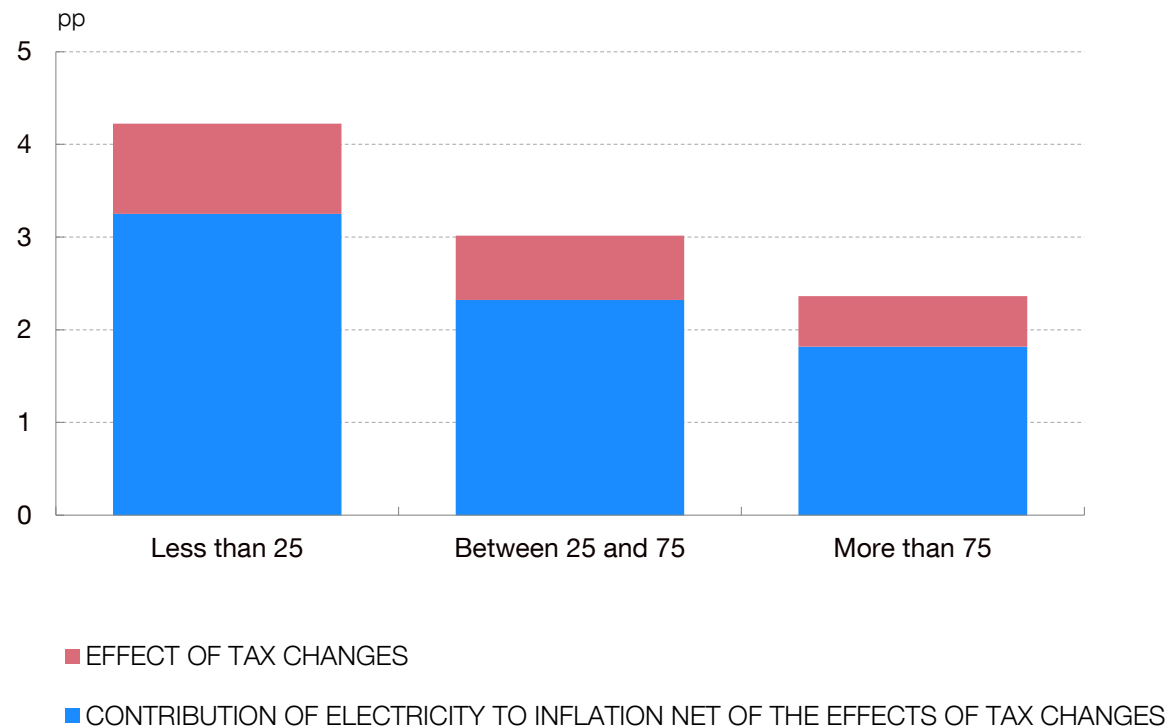


## SOME OF THE MEASURES APPROVED IN RECENT MONTHS WOULD HAVE AN IMPACT ON THESE DISTRIBUTIONAL EFFECTS OF INFLATION

- Banco de España estimates suggest that the indirect tax cuts approved in 2021 reduced average inflation more for lower-income households than for households in the top quartile of the income distribution
- Conversely, according to preliminary estimates of the impact of the recently approved fuel discount (€0.20 per litre of fuel) the reduction of the inflation borne by higher-income households could be greater than that experienced by lower-income households

### CONTRIBUTION OF RECENT CHANGES IN ELECTRICITY TAXES TO HOUSEHOLD-SPECIFIC INFLATION BY INCOME PERCENTILE

April 2021/March 2022 (a)



SOURCES: Household Budget Survey, INE and Banco de España.

a. The tax changes considered are the reduction of VAT on electricity from 21% to 10% (Royal Decree-Law 12/2021) and the reduction in the excise duty on electricity from 5.1% to 0.5% (Royal Decree-Law 17/2021).

## THE UPTURN IN PRICES ALSO SEEMS TO BE AFFECTING HOUSEHOLDS DIFFERENTLY DEPENDING ON THEIR NET FINANCIAL POSITION

- Indeed, the findings of a recent paper suggest that middle-aged people (aged 36 to 45) with high labour income, who have a net debtor position on average, have benefitted from the rise in inflation, mainly owing to the lower real value of their debts

### MEDIAN EFFECT OF UNEXPECTED INFLATION ON SAVING CAPACITY THROUGH NET NOMINAL POSITIONS AND CONSUMER SPENDING (a)

%	PERCENTILE OF THE LABOUR INCOME DISTRIBUTION				
	p10 - p25	p25 - p50	p50 - p75	p75 - p90	> p90
Age					
False < 36	0.06%	0.04%	-0.06%	-0.45%	-0.30%
36-45	0.37%	0.62%	1.58%	3.43%	3.17%
46-55	0.05%	0.11%	-0.04%	-0.12%	-0.18%
56-65	-1.04%	-1.24%	-1.94%	-2.44%	-2.70%
> 65	-5.15%	-5.38%	-5.47%	-4.90%	-4.70%

SOURCE: Cardoso et al. (2022).

a. The table presents the effect of the year-on-year inflation of December 2021 (calculated using the aggregate composition of spending in the sample) on the saving capacity of 4.2 million bank customers with directly credited salaries, by age group (rows) and percentile of the conditional distribution of labour income in the database (columns). The total effect is the sum of: (1) the effect through net nominal positions (NNPs) and (2) the effect through consumer spending. The values in each cell are the median of the distribution of effects for the corresponding age-income group, calculated as a percentage of the annual labour income of each customer.

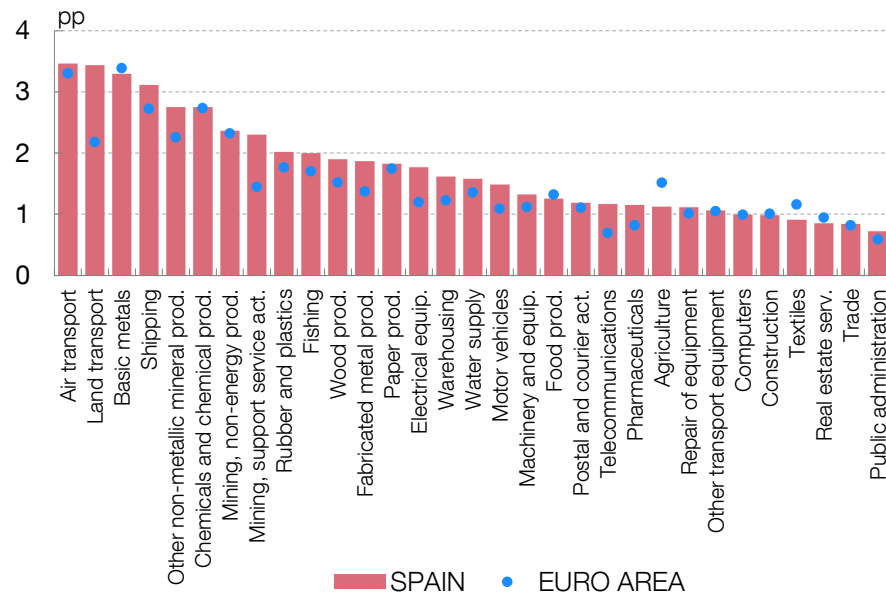
# THE ASYMMETRIC IMPACT OF RISING INFLATION ON FIRMS

- The simulations conducted by the Banco de España suggest that the sectors most affected in Spain (through direct and indirect channels) by the increase in energy costs would be air transport, land transport, basic metals and shipping
- This increase in total production costs is expected to lead to a moderate increase in the share of financially vulnerable firms in Spain, albeit with high sectoral heterogeneity.

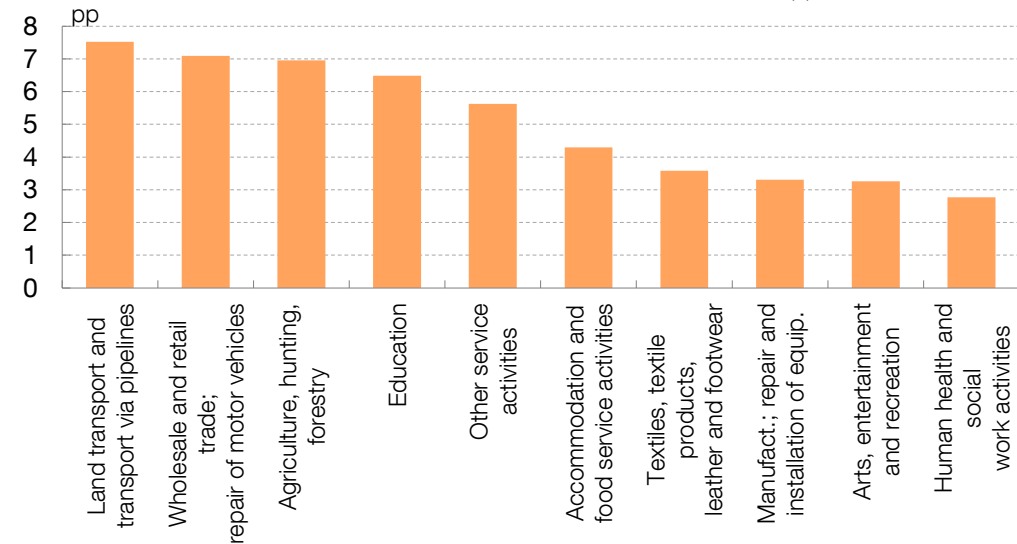
## 22% INCREASE IN THE PRICE OF ENERGY (a)

Sectors with the highest increase

### INCREASE IN SECTORAL COSTS (b)



### INCREASE IN THE SHARE IN EMPLOYMENT OF FIRMS WITH NEGATIVE PROFITABILITY IN 2022 (c)



SOURCES: OECD and Banco de España

a. The increase in energy prices observed between the Banco de España projections published on 5 April 2022 and those published on 17 December 2021

b. See Izquierdo, Moral-Benito, Prades and Quintana (2022).

c. Simulation using individual data. Profitability is defined as (ordinary net profit + financial costs) / assets net of non-interest-bearing liabilities.