Chapter 7
National responses to the energy price hike: the case of Spain

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1. The role of energy price increases in the evolution of inflation in Spain in 2021 and 2022

Like in the rest of Europe, several supply shocks (bottlenecks related to the end of the pandemic and tensions in international gas and oil prices) led to a rise in the inflation rate in Spain after March 2021. The functioning of its energy markets, especially electricity, and the war in Ukraine amplified these shocks and price increases spread progressively to other sectors during 2022. Currently, foodstuffs are the main driver of inflation.

Harmonised annual inflation reached a peak of 10.7% in July 2022, after which there was a significant downwards trend (5.5% in December and 3.1% in March 2023). As a result, Spain ended the year as the economy with the lowest inflation rate in the euro area. Moreover, the price level remained almost constant between June and December (Figures 1 and 2). The year's average was 8.3%, very similar to the euro area (8.4%).

Figure 1  Annual inflation rate

Source: Eurostat.
Figure 3 shows the contribution to average inflation in 2022 of each of the 12 groups of the Harmonised Index of Consumer Prices (HICP) plus energy as a separate category (extracting the energy component out of groups 4 and 7). In Spain and in the euro area, the direct contribution of energy to the Index explains nearly half of the price growth (40% and 47%, respectively). Adding the categories of food (30%) and hotels and restaurants (13%), we can explain 83% of Spanish inflation in 2022.

Figure 4, on the other hand, clearly illustrates the energy origin of the inflationary process and how it has progressively spread to other products (especially food). Between March and October 2021, the average annual increase in energy prices was above 24%, accounting for more than 75% of the growth rate of the whole Index. This percentage fell to 29 in September 2022, when the part explained by food prices (34%) became higher than that of energy.\(^1\) At the end of 2022, the contribution of energy prices to inflation was negative (−0.8 percentage points), while the contribution from food was the highest (3.3 points). Finally, the fall in inflation between July and December (−4.8 points) is entirely explained by the contribution of energy (−5.6), electricity (−2.6) and fuels (−2.8) in particular, while the contribution of food rose by 0.6 points.

About 48% of the direct contribution of the cost of energy to the rise in the overall price Index between March 2021 and September 2022 is due to the rise in electricity prices.\(^2\) Wholesale electricity market prices began to rise in March 2021, mainly due to two international causes: increases in the price of CO₂ emission rights; and increases in the price of natural gas.\(^3\) The infra-marginal nature of the wholesale electricity market

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1. That month, 60% of the four-digit categories that form the Index had an inflation rate of over 6%.
2. Another 47% is due to fuel prices and only around 5% to the direct effect of higher gas prices.
3. According to Pace et al. (2021), the higher cost of CO₂ emission rights explains approximately 20% of the increase in electricity prices in the first half of 2021, while the rise in natural gas prices accounts for another 50%.
ensured that the cost increases experienced by technologies using fossil fuels were passed on to the prices of all technologies even though they were not directly affected by these causes.

Figure 3  Contribution to inflation (average 2022)

Energy
08 Communication
10 Education
03 Clothing and footwear
06 Health
02 Alcohol and tobacco
04 Housing, water (exc Energy)
09 Recreation and culture
12 Miscellaneous
07 Transport (exc Energy)
05 Household equipment
11 Hotels and restaurants
01 Food
04 Housing, water (exc Energy)
09 Recreation and culture
12 Miscellaneous
07 Transport (exc Energy)
05 Household equipment
11 Hotels and restaurants
01 Food

Source: Eurostat and own elaboration.

Figure 4  Contribution to inflation (percentage points)

Energy
Food
Rest of items

Source: Eurostat and own elaboration.
Natural gas prices went on rising, especially after the invasion of Ukraine. In August 2022, they had doubled since January 2022 and risen ninefold since early 2021. Nevertheless, the gas cap mechanism introduced in mid-June in Spain and in Portugal decoupled their wholesale prices of electricity from international gas markets and, partially, their retail prices.

The change in the contribution of energy prices to the increase in the HICP has much to do with the favourable evolution of international gas and oil prices. Nevertheless, the energy component of HICP decreased in Spain in the last quarter of 2022 but not in the euro area, with the difference mainly due to electricity prices (Figures 5 and 6).

It is also important to note that nominal wages hardly contribute to inflation and that employees are experiencing intense losses in purchasing power. The average nominal wage growth in 2021 (1.5%) and 2022 (2.8%) have been clearly lower than the inflation rate (3% and 8.3%). On the contrary, the gross operating surplus explains 90% of GDP deflator growth last year (Figure 7), while recent fiscal data\(^4\) regarding more than one million companies point to a generalised increase in profit margins in almost all economic sectors to levels above their pre-pandemic values. Therefore, weak nominal wage growth and the passing on by firms of higher costs to prices (maintaining or increasing profit margins) are leading to an unequal distribution of the effects of inflation.

![Energy prices (HICP, 2021Jan=100)](image)

Source: Eurostat.

Finally, the average inflation rate over the previous 12 months declined during the first quarter of 2023 to 7.6%, while the annual rate stood at 3.1% in March. This is the result of some opposing trends. On the one hand, the annual rate rose in January and February due to the end of the fuel subsidy, in place since March 2022, without this compensating for the lower value added tax levied on some foodstuffs. It also rose because of some technical adjustments in the calculation of inflation (the
inclusion of non-regulated market tariffs for electricity and gas, and changes in the Index weightings) and the acceleration in the prices of food (mainly) and non-energy industrial goods and services. On the other hand, energy prices continued to fall and the base effect in March considerably reduced the annual rate for this month. For 2023, the Bank of Spain forecasts average inflation of 3.7% (compared with the 5.5% forecast by the ECB for the euro area).

2. Measures adopted in Spain to curb energy price increases

In 2021 and 2022, the Spanish government progressively adopted different packages with numerous measures to reduce inflation and mitigate its consequences for the most affected productive sectors, households and vulnerable groups. We can order these in five categories.\(^5\)

2.1 Measures to reduce electricity and gas prices for final consumers

The electricity bill of final consumers has three main components: the cost of the energy consumed; a regulated part made up of tariffs and charges;\(^6\) and indirect taxes.

Regarding the cost of energy, there are two basic types of tariff in Spain. The first is a regulated tariff (called the Precio Voluntario para el Pequeño Consumidor (PVPC; Voluntary Price for the Small Consumer)),\(^7\) in which the price is adjusted daily in line with the evolution of the wholesale market. The second is a non-regulated tariff agreed by each energy provider directly with final consumers on the price of the energy consumed. Approximately 40% of consumers (around 10 million) have the PVPC tariff.

The first measures implemented did not affect the wholesale price but sought to offset their indirect effect on the retail price by reducing other bill components. Throughout the second half of 2021,\(^8\) the government adopted various measures to compensate for the effect on retail prices of the rise in wholesale electricity markets, modifying other components of the electricity bill:

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5. The authorities generally described these measures as extraordinary and temporary. Unless otherwise indicated, however, they have been extended until 31 December 2023.

6. Tariffs cover network costs and the return to distribution companies for their investments. The charges help to defray different costs such as renewable energy premiums; the additional costs of the electricity systems of the Canary Islands, Balearic Islands, Ceuta and Melilla; and the electricity system’s tariff deficit.

7. The regulation includes the following aspects: (i) the government establishes the bill’s components (price per kWh, charges); (ii) companies are obliged to set different prices depending on the time of day to optimise electricity production; (iii) the retail price is related to the wholesale market which is itself regulated and on which there is some capacity for intervention, as seen with the establishment of the gas price cap.

8. Except for the reduction in charges, they remain in force in 2023.
1. Cuts in indirect taxes:

   – reduction in the rate of Impuesto sobre el Valor Añadido (IVA; Value Added Tax)\(^9\) on all components of the electricity bill, first from 21% to 10% and to 5% since June 2022, once the European Commission had authorised this possibility;
   – reduction in the Impuesto Especial sobre la Electricidad (IEE; Special Tax on Electricity) from 5.1% to 0.5%;
   – exemption from the IEE on the value of electricity production for electricity generating installations.

2. Reduction of 96% in the charges levied on consumers’ electricity bills from September to December 2021. In 2022, the discount was 31%.

3. Increase in the discounts associated with the Bono Social Eléctrico (Social Bonus). Families in a situation of vulnerability or at risk of social exclusion, and families with three or more children, are beneficiaries of discounts on their electricity bills known as Bono Social. In March 2023, they represented 8% of all households in Spain. In October 2021, the authorities decided to raise these discounts from 40% to 70% for severely vulnerable consumers and from 25% to 60% for vulnerable consumers and large families. In October 2022, these discounts rose to 65% and 80%, respectively. Additionally, the annual limit of energy consumption eligible for the Bono Social has been increased by 15%, and a new category of low-income households (encompassing a further 1.5 million households)\(^10\) has been developed that can benefit from a 40% discount.

In addition to these measures directly related to the electricity bill, the government has also adopted additional measures to control natural gas retail prices:

4. Limitation of increases in the Tarifa de Último Recurso (TUR; Tariff of Last Resort) for natural gas. Consumers with an annual volume of gas consumption lower than 50,000 kWh can benefit from a regulated tariff\(^11\) whose prices are periodically reviewed by the government. The applicable price is revised quarterly according to a methodology that includes the cost of raw materials. The government has introduced two main changes to reduce the burden of gas prices on consumers:

   – a limitation, initiated in October 2021, on the increase in raw material costs that can be transferred to the TUR, capping their price for these consumers.\(^12\)

\(^9\) The wholesale market price must be above 45 euros/MWh for this discount to remain in force. It applies to all electricity contracts whose fixed power term does not exceed 10 kW (practically all households and many self-employed workers).

\(^10\) Annual income between 16,800 euros and 27,200 euros.

\(^11\) This tariff covers around 2.5 million consumers (households and SMEs).

\(^12\) Usually, the part of the increase in the cost of gas not passed on to consumers’ bills accumulated in what is known as the tariff deficit. This amount is subsequently passed on more progressively to the price of gas that consumers pay to companies in the following quarters. In October 2022, however, the government decided that public budgets would fully assume this difference and compensated the companies (more than 300 million euros up to January 2023).
As a result, according to official estimates, households using the TUR have saved between 100 and 300 euros in a year compared to what they would have paid with the usual method of updating the tariff;\footnote{The TUR price fell by 30\% in the April 2023 review due to the sharp drop in the wholesale gas market.} since October 2022, homeowner communities with collective gas boilers have also benefited from this regulated tariff. Until then, this was not possible because they were treated as large consumers. According to official data, this could benefit 1.7 million households who could see their gas bills reduced by 50%.

5. A reduction in IVA from 21\% to 5\% on supplies of natural gas, pellets, briquettes and firewood. The government estimated that, from October to December 2022, consumer savings could amount to 210 million euros. This measure has been extended until the end of 2023.

2.2 Reform of the functioning of the wholesale electricity market by introducing a cap on gas prices

On 15 June 2022, the mechanism known as the gas cap, or Iberian Exception, came into force in the Spanish and Portuguese electricity markets. Initially, this measure was to run until May 2023, but it has been extended for the whole year.

Its main objective is to reduce the price of electricity paid by consumers, establishing a limit on the price charged in the wholesale market by infra-marginal technologies (solar, wind, hydroelectric and nuclear), and therefore on their extraordinary profits. In short, this cap decouples wholesale electricity market prices from the rise in international gas prices, modifying the infra-marginal nature of operations in this market. The most expensive technology continues to determine the price of all electricity generated, but with the limit set by the reference price. Therefore, this limit reduces the windfall profits obtained by electricity producers (albeit only partially) by the same amount that households save on their bills.

Specifically, the effect of this mechanism on what consumers finally pay is articulated through two procedures:

1. First, a maximum price is set for natural gas used by combined cycle and cogeneration plants, implicitly establishing a cap on the resulting wholesale electricity market price when using this technology to meet demand. The maximum established for this gas price was 40 euros/MWh until December 2022 since when it was increased by 5 euros/MWh each month, reaching 55 euros/MWh in March 2023. From then onwards, it will increase by 1.10 euros/MWh each month (reaching 65 euros/MWh in December, instead of the 70 euros/MWh initially planned for May 2023).
2. In addition, natural gas combined cycle plants, coal-fired thermal plants and some cogeneration facilities receive compensation for the difference between the actual cost of the natural gas used for electricity generation (taking the Iberian Gas Market, MIBGAS, as a benchmark) and the reference price. Part of this compensation is passed on to the bills of consumers benefiting from the existence of the gas cap:\textsuperscript{14}

- consumers on the regulated PVPC tariff, as the price they pay is directly referenced to the wholesale market price which is lower under this mechanism;
- consumers on the non-regulated tariff who renew their contracts after the implementation of the mechanism, as the price of these new contracts will also be lower than what they would have had to pay in the absence of the gas cap.

This compensation is always lower than the price reduction generated by the mechanism (because it is received exclusively by technologies using natural gas, but not by the rest). Therefore, for a given gas price, the higher the percentage of electricity generated by renewables, hydroelectric or nuclear installations, the higher the savings to the consumer.

The Spanish government estimates that, from 15 June 2022 to 31 January 2023, the gas cap has meant savings of five billion euros (0.4% of GDP) for all final consumers of electricity (domestic consumers and SMEs as well as industrial consumers).\textsuperscript{15} In terms of the wholesale market, the average price from June 2022 to February 2023 stood at 127.89 euros/MWh in Spain compared to 273.23 in France, 240.48 in Germany and 306.18 in Italy. The effectiveness of the mechanism is evident looking specifically at the high levels of stress in energy markets: in August 2022, for example, the average price in Spain stood at 154.89 euros/MWh which, even when added to the cost of the compensation to marginal installations, represented a reduction of over 18% compared to the counterfactual price in the absence of the mechanism. That month, prices on wholesale electricity markets in France, Germany and Italy stood at 492.49, 465.58 and 564.14 euros/MWh, respectively. The gas cap has, therefore, made it possible for Spain to decouple the electricity market from the rise in the price of natural gas which, in August 2022, reached an average price of 162 euros/MWh (with a maximum of 200 euros/MWh).

Current gas prices in the international market are below the threshold set by this mechanism and, if they do not rise, the gas cap will not have any effect. Therefore, its extension beyond the initially foreseen date of 31 May 2023 could be seen as a kind of insurance for consumers in case of new increases in international market prices.

\textsuperscript{14} Another part is financed from the income obtained by the Spanish Transmission System Operator due to the cross-border trade in electricity between France and Spain.

\textsuperscript{15} Hidalgo et al. (2023) estimate that the gas cap has allowed electricity prices for consumers on the regulated tariff to be 31% lower on average between 15 June and 31 December. This would mean a cumulative saving of 209 euros for an average household, or 2100 million euros for the 10 million consumers covered by this tariff. The official figure includes other consumers who also benefit from the lower prices.
2.3 Measures specifically adopted to curb other prices

In addition to the above measures adopted to limit increases in electricity and gas prices, the Spanish government also implemented different additional actions during 2022 to reduce other prices:

1. Rebate of at least 20 cents per litre of fuel bought at petrol stations between April and December 2022 as a subsidy of the retail price applicable at the pump. Of this subsidy, the public budget covered 15 cents\(^\text{16}\) and the major distribution companies contributed the rest. This measure mainly benefited the transport sector and households with higher fuel volumes. Although this has been criticised, as it reduces incentives to save fossil fuels and mainly benefits high-income households, its effect on inflation has been significant, lowering the average annual inflation rate by around 1%. The discount was extended to the first part of 2023, but only for professional road transporters, farmers, shipping companies and fishers.

2. Significant subsidy of public transport fares:

   - a 30% subsidy applied to all currently existing multi-journey tickets for land public transport services, whether state, regional or local, between 1 September 2022 and 31 December 2022. This price reduction was voluntary for the administrations managing the different services and articulated through a transfer from Administración General del Estado (General State Administration) to the Comunidades Autónomas (autonomous communities) and Corporaciones Locales (city councils) that habitually provide regular urban or interurban public transport services. This was extended to the first half of 2023, provided that local authorities subsidised a further 20% of the fares, thus reaching a final reduction of 50%;
   - free multi-journey tickets for the short and medium-distance train services provided by Renfe\(^\text{17}\) from September 2022 to June 2023. These passes were intended to promote the regular use of public transport and were valid for four months. Passengers paid 10 euros at the beginning of each period and Renfe automatically refunded them at the end if they have made at least 16 trips on the selected route (same origin and destination station). The discount was 50% on tickets for the long-distance rail journeys included in the obligaciones de servicio público (public service obligations) category (and others affected by particular circumstances);
   - regarding multi-journey tickets for bus services under the jurisdiction of the Administración General del Estado, the discount was 50% in 2022 but has been extended to 100% between February and December 2023.

\(^{16}\) Spending on this measure during 2022 is estimated to be around five billion euros, or 0.4% of GDP.

\(^{17}\) Public railway company.
3. Limitation on the review of housing rent. Rent is usually indexed by inflation but, in 2022 and 2023, cannot be higher than the annual rise in the Índice de Garantía de la Competitividad (IGC; Competitiveness Guarantee Index), which is capped at 2%.

4. Temporary reduction in IVA on selected food products. Specifically, during the first semester of 2023, the rate applicable to basic foodstuffs hitherto subject to the reduced rate of 4% will be 0% and the rate applicable to oils and pasta will be 5% instead of 10%. Monitoring of the prices of these foods in supermarkets seems so far to show a high level of passing on of these cuts in IVA, somewhere close to 90% (Almunia et al. 2023). However, the magnitude of the impact on the aggregate inflation rate and household savings is small.\textsuperscript{18} Given that, as explained above, rising food prices primarily explain current inflation in Spain, there is considerable debate about the need for additional measures at the time of writing.

2.4 Measures to support economic sectors particularly affected by price rises

After Russia invaded Ukraine, a decree establishing a Plan Nacional de Respuesta (PNR; National Response Plan) to the economic and social consequences of the war was passed in March 2022 (Royal Decree-Law 6/2022),\textsuperscript{19} including measures to support the most affected productive sectors. Doing so also reinforces price stability because companies in these sectors could bear the increased costs without passing them on to their final prices. García-Miralles (2023) estimates that direct transfers to productive sectors could amount to around two billion euros in 2022 and a further one billion in 2023.

1. One of these sectors is transport, which was severely affected by the restrictions on economic activity introduced during the pandemic and by the rise in fuel prices. It is a highly fragmented sector (more than half the companies with heavy goods vehicles have just the one) which makes it difficult to adapt to these cost increases. To help them, for example, companies operating in the urban and road transport sector can request a deferment of social security contributions, both for employees and self-employed workers, with more favourable conditions than those provided in general. Besides this, there were in 2022 direct aids to guarantee company liquidity in all modes of road transport and to compensate them for the extraordinary costs being borne, as well as direct aids to private companies whose main activity is goods transport by rail. Regarding sea transport, port taxes in Ceuta, Melilla, the Canary Islands and the Balearic Islands have been reduced to maintain the quality and frequency of services connecting with the mainland and to guarantee security in the supply chain for the population and thus the economic fabric of these territories.

\textsuperscript{18} The Bank of Spain (2023) estimates that the VAT reduction would have reduced inflation by 0.2 percentage points in January.

\textsuperscript{19} Most measures were renewed and subsequently extended in June, August, October and December 2022.
2. The primary sector is also among those most affected by the economic situation due to the higher production costs resulting from the rising price of raw materials (wheat, maize, barley and sunflower oil), energy, fertilisers and transport services. For example, agricultural diesel, fishing diesel and fertiliser prices have been at their highest since 2010. To support the agricultural, livestock and fishing sectors, the PNR included in 2022 various direct aid measures: for milk production by cattle, sheep and goat farms; to ensure the viability and operation of farms in the face of possible severe distortions in the supply of raw materials caused by fluctuations in the world market; to cover the increase in the production costs of fishing and aquaculture companies; subsidised credits for fishing activities; and various exceptions and reductions in taxes and fees. To increase both food and feed production, several derogations have been allowed for crop diversification obligations and the establishment of ecological focus areas. In 2023, there will be a new line of direct aid to compensate for the increase in fertiliser prices and a six-month exemption from the port tax for fresh fish when entering the port by sea.

3. Electricity-intensive industries benefited from an 80% reduction in the costs corresponding to access tolls to electricity transmission and distribution networks in 2022, which has been extended to the first semester of 2023. Gas-intensive industries, on the other hand, received 125 million euros of direct aid in 2022.

Besides these measures focused on specific sectors, a line of guarantees on behalf of the state for companies and the self-employed to ensure liquidity has been implemented. The total amount is 10 billion euros.

2.5 Measures to address the effects of inflation on vulnerable households

Although the authorities focused mainly in 2021 on lowering the price of electricity for all consumers, they also adopted some decisions to support the most vulnerable parts of the population, such as creating a Suministro Vital Mínimo (Minimum Vital Supply) of energy. Spanish legislation establishes four months for vulnerable consumers to pay their electricity bill without their supply being interrupted. In addition, this new norm sets down that, during the six months following this period, such households will continue to be entitled to sufficient power to guarantee minimum conditions of comfort (3.5 kW). Additionally, the amount corresponding to the Bono Social Térmico (an annual direct aid to vulnerable families to help them heat their houses) has been increased. In 2023, the minimum amount for each beneficiary is 40 euros and the average aid, which varies according to climate zone, is 375 euros.
Additionally, the PNR includes a set of measures aimed explicitly at compensating households and vulnerable groups for the loss of purchasing power derived from higher prices:

1. Increase of 15% in the amount received by beneficiaries of the Ingreso Mínimo Vital (IMV; Minimum Living Income)\(^{20}\) and in non-contributory retirement and disability pensions.\(^{21}\)

2. A payment of 200 euros in 2022 to employees, the self-employed or unemployed with low incomes and assets.\(^{22}\) This transfer focuses on people who have not benefited from the increase in the IMV or in non-contributory pensions and who do not receive a contributory pension (which is indexed in line with inflation, according to a new Law passed in 2021).

3. In 2023, a new direct payment of 200 euros has been approved, in a single payment, for those who were employees, self-employed or unemployed in 2022 and who had an annual income lower than 27,000 euros and assets of less than 75,000 euros. Therefore, as these limits are higher than in 2022, the number of the possible beneficiaries is higher.

4. Increase of 100 euros per month from September to December 2022 (400 euros in total) for scholarships, grants and subsidies received by students over 16. This guarantees equal opportunities in access to education by preventing the most vulnerable working age people from being forced to abandon their studies due to the worsening economic situation.

5. Finally, companies receiving public aid cannot objectively justify redundancies based on increased energy costs. Furthermore, those that benefit from schemes to reduce working hours or suspend contracts for reasons related to the invasion of Ukraine cannot justify redundancies using these same reasons.

### 2.6 Fiscal measures and mechanisms to reduce extraordinary profits generated in the electricity market

To raise funds to finance these measures, different taxes were approved during 2022 that increase the contribution of companies making extraordinary profits or of the owners of substantial wealth. At the same time, the Budget for 2023 includes tax reductions for those on lower incomes.

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20. A non-contributory benefit that guarantees a minimum income for households in severe poverty.
21. This increase will be maintained in 2023.
22. The following conditions must be met to benefit from this measure: 1) have a legal and effective residence in Spain and have held it continuously and uninterruptedly during the immediately preceding year; 2) carrying out an activity as a self-employed or employed person, being registered in the corresponding social security or mutual insurance scheme; or being registered as unemployed at the employment office, whether or not receiving unemployment benefits or subsidy; 3) the income obtained in 2021, including that received by cohabitants, must be less than 14,000 euros and the assets, excluding the usual residence, must be, at most, 43,196.40 euros.
Since September 2021, the government has tried to tackle the problem of windfall profits through a mechanism to reduce the excess remuneration that certain installations, which do not emit CO₂, receive because of the rise in the price of gas and the infra-marginal nature of the market. According to Royal Decree-Law 17/2021, these companies must pay a percentage of the difference between the price of natural gas and a reference rate of 20 euros/MWh. These payments will contribute to the cost of the functioning of the electricity system, reducing the consumer contribution. Royal Decree-Law 6/2022 also includes measures to update the specific remuneration regime for electricity generation from renewable energy sources, high-efficiency cogeneration and waste which were excluded from the previous mechanism. It is recognised that the increase in the wholesale market price means extraordinary income for these generators. On the one hand, installations receive revenues for their electricity on the markets, while they also receive other revenues from the specific remuneration system, ensuring 'reasonable profitability' for their investments. However, the parameters calculated before the rise in gas prices now result in total remuneration well above this figure. Therefore, it was decided to review these and to reduce this specific remuneration. Nevertheless, the most effective way to address windfall profits has been the gas cap, explained above (see Section 2.2).

The government expects to collect 10 billion euros in total in 2023 and 2024 through three extraordinary taxes. The first will tax 4.8% of financial institutions' net margin on commission and interest in 2022 and 2023. The second establishes a temporary tax of 1.2% on the total income of electricity, gas and oil companies that the Comisión Nacional de los Mercados y la Competencia (CNMC; National Markets and Competition Commission) considers 'main operators' (all of them Spanish). Finally, there is the Impuesto de Solidaridad a las Grandes Fortunas (Solidarity Tax on Substantial Wealth) which will be in force in 2023 and 2024 and levied on net wealth above 3 million euros.

The 2023 budget includes, on the one hand, measures to ensure that the effective tax rate for large companies is close to the rate of 15% on actual profits as well as a rise in the tax rate on capital gains. On the other, it also cuts taxes on incomes below 21,000 euros per year (the median wage in Spain) and reduces the corporate tax rate for smaller companies.

### 3. Concluding remarks

The average inflation rate in Spain in 2022 was 8.3%, in line with the euro area. Nevertheless, a downwards trend started in August and, in March 2023, Spain was the economy with the second lowest annual inflation in the euro area (3.1%).

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23. Installations receiving a specific remuneration scheme (renewables, cogeneration and waste) and those of small size (<10 MW, given their high fixed costs) are excluded.

24. Specifically, those financial companies that earned at least 800 million euros from these concepts in 2019.

25. These companies must also have had revenues of more than one billion euros per year in 2019 and their main activity must be energy.
The origin of high inflation in Spain during 2021 and 2022 is the energy price shock. Between March and October 2021, the increase in energy prices (especially electricity) accounted for more than 75% of the inflation rate. Thereafter, price increases spread to other products, especially food, explaining 60% of the inflation rate at the end of 2022, although energy prices have been decreasing in Spain since August 2022.

The government has promoted a wide range of measures to reduce inflation and alleviate its consequences on the disposable income of households, especially the most vulnerable, and on the viability of companies in the most affected sectors. Measures to reduce inflation have focused on energy markets, mainly electricity prices: lowering indirect taxes; reducing the regulated part of the bill; and increasing the discounts for vulnerable consumers. Action has also been taken to limit the rise in international gas prices being passed on to natural gas consumers. The most relevant decision, however, has been the introduction of a cap on the price of gas in the wholesale electricity market which has allowed the decoupling of its price from the evolution of the international gas market price. This could have led to a reduction of nearly 20% in the retail price of electricity.

According to official estimates, the adopted measures have allowed the electricity bill of an average domestic consumer on the regulated tariff to be reduced by 30% compared to what it would have been without them. Vulnerable consumers pay 67% less than before the price crisis while severely vulnerable ones pay 75% less.

The subsidy of 20 cents per litre of fuel purchased at petrol stations between April and December 2022 has also had a significant effect on inflation. Other measures directly aimed at lowering inflation are the cap on the review of housing rent (2%), the reduction in public transport prices and the reduction in IVA on some foodstuffs (since January 2023).

The Bank of Spain (2022) calculates that general inflation in November 2022 would have been reduced by approximately two percentage points due to these measures, in comparison with a hypothetical alternative scenario without them.

Measures to compensate households for inflation costs have also been numerous, although a debate exists in Spain on the appropriateness of prioritising measures targeted at vulnerable groups instead of more generalised ones. Indeed, the Bank of Spain (2023) estimates that only between 15% and 20% of the anticipated fiscal cost of all these measures between 2021 and 2025 relate to actions targeted at specific groups of firms and households that have been particularly affected by the inflationary shock. Nevertheless, a systematic analysis of those decisions adopted in 2022 with more impact on households\textsuperscript{26} concludes that their joint effect is redistributive and has reduced poverty (Badenes 2023).

In absolute terms, and as might be expected, most of the benefit of the non-targeted measures which the government has implemented accrues to higher income households.

\textsuperscript{26} Those that translate into increases in income and reductions in the price of transport and energy.
as they consume more. However, in order to analyse whether or not the measures are redistributive, it is also necessary to take into account the weight in household budgets of the consumption of the goods affected by the different measures. For example, lower income households spend a much higher percentage of their income on energy and food consumption. Therefore, the amounts received also represent, in relative terms, a higher percentage of their income which justifies the conclusion that, taken as a whole, the effect of the measures has been redistributive. In another similar study, AIREF (2022) calculates that the aid received by households in the lowest income decile accounts for 17% of their income and that this percentage would be 7% for households in the second decile. In contrast, for the top two income deciles these percentages would be 1.6% and 0.9% respectively.

One measure where this is clearly not the case is the generalised fuel subsidy which was in force between April and December 2022. In this case, expenditure by lower income households is indeed less than that of higher income households in both absolute and relative terms. It should also be borne in mind, however, that this measure may have a different effect territorially since the public transport network in the less populated areas of Spain is less developed, meaning that these people have fewer alternatives for reducing private vehicle use despite the rise in fuel prices.

Finally, while it is true that the targeted measures might have even improved the distributional character of the equivalent amount of public spending or tax reduction, some measures specifically targeting lower income households – such as the two payments of 200 euros – have encountered implementation difficulties. The available data seem to show that they have actually reached significantly fewer households than the number of potential beneficiaries that was initially estimated. Additionally, these measures would probably also have a more negligible impact on inflation.

Another relevant question is whether measures such as the fuel subsidy or the reduction of indirect taxes on electricity and natural gas can remove the incentive to reduce energy consumption that derives from the rise in their prices.

Even if this is true, it should be borne in mind that the estimated past price elasticities of demand for fuel and electricity in Spain are relatively low. Moreover, the data for 2022 show that the response of demand to the price increases that have finally occurred, despite the measures deployed, has been even weaker than expected from these historical estimates (Lacuesta et al. 2022). For example, in the first half of 2022, petrol and diesel prices were respectively 31% and 33% higher than in the same period in 2021. This should have reduced consumption by 8%, but demand for petrol actually rose by 7% while diesel fell by 6%.

On the other hand, the objective of energy saving has been present in other measures approved in recent months, together with those aimed directly at reducing prices.

In August 2022, the government approved an energy saving plan and, in October 2022, the Plan +Seguridad Energética (More Energy Security Plan). This includes 73 measures (of which 49 have been implemented so far) and which has, as one of
its main objectives, the reduction of energy consumption in order to comply with the objectives agreed in the European Union (Ministerio para la Transición Ecológica y el Reto Demográfico (Ministry for Ecological Transition and the Demographic Challenge) 2023).

Between August 2022 and March 2023, the demand for natural gas has been reduced by 21%\textsuperscript{27} compared to the average for the last five years, well above the voluntary target (15%) and the target that would be mandatory for Spain in the event of a security of supply alert (6–7%). Concerning electricity demand, the European Union has established a voluntary reduction of 10% (5% at peak hours). In this case, the reduction in total electricity consumption has been 7% (10% at peak hours). In the case of the demand for natural gas in electricity generation, there has been an increase in this same period compared to the average of the last five years due to the increase in the net balance of electricity exports to France and Portugal, the effect of the drought and other factors such as the closure of coal-fired plants. On the other hand, the decrease in electricity consumption and the increase in the installed capacity of electricity generation from renewable sources have contributed favourably.

In addition to these measures directly aimed at energy savings, these plans and the initiatives adopted since 2021 to address the rise in energy prices also include various measures to facilitate the installation of renewable energies for self-consumption\textsuperscript{28} and, in general, actions to speed up projects to expand electricity generation capacity using renewable sources.

Likewise, a significant percentage of the amounts from the NextGenerationEU funds will be invested in strategic projects related to the energy transition (renewable energies, green hydrogen and storage, the decarbonisation of industry, the circular economy and electric vehicles).

Finally, the subsidisation of public transport fares has contributed favourably – together with the end of all remaining health restrictions – to the increase observed in 2022 in the use of public transport. According to Instituto Nacional de Estadística (INE; the National Institute of Statistics), passenger numbers increased by 29% in 2022, although the 2019 figure has yet to be regained. Intercity transport – free on local and medium-distance trains since September – has significantly increased, especially in the latter. Urban transport has also seen a significant increase in users (27%).

Two final remarks are that food prices are still experiencing a rapid increase and that weak nominal wage growth and the passing-on by firms of higher costs to their prices (maintaining or increasing profit margins) are provoking an unequal distribution of the effects of inflation. Changing both these situations should now be the focus of economic policy.

\textsuperscript{27} Excluding quantities linked to exports of electricity.

\textsuperscript{28} For example, the maximum distance between the generation facility and the point of consumption has been extended from 500 metres to 2000 metres to facilitate the development of shared self-consumption energy communities.
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