Box 1

MACROECONOMIC PROJECTIONS FOR THE SPANISH ECONOMY (2022-2024)

This box describes the key features of the most recent update to the Banco de España's macroeconomic projections for the Spanish economy. Compared with the previous projections, published on 17 December 2021,[1] the current projections incorporate the new information that has become available since then. This includes the revised Quarterly National Accounts (QNA) estimates up to 2021 Q3, new data available for 2021 Q4 (in particular, the QNA and the non-financial accounts of the institutional sectors for this period) and also the changes in the technical assumptions underlying the paths of the different variables (see Table A.1). Naturally, the Russian invasion of Ukraine means that these projections are surrounded by a particularly high degree of uncertainty. To illustrate some of these sources of uncertainty, this text includes a set of analyses of the sensitivity of the results of the baseline scenario to various changes in some of the key assumptions of the exercise.

In fact, apart from an enormous humanitarian crisis, the war has unleashed a very severe economic shock that has significantly impacted the growth outlook not only in Spain, but worldwide. Before the war, the world economy was on a path of gradual recovery, although its pace varied across geographical areas and sectors of activity. The Spanish economy's performance in the second half of 2021 was better than had been foreseen in December, although activity remained 3.8 pp below its pre-health crisis level.[2]

As regards 2022, the December projections envisaged that the Omicron variant would have a negative impact on GDP growth in Q1. However, according to the incomplete information available, the impact was milder than anticipated and also less pronounced than in previous waves of the pandemic: despite the elevated infection figures, high vaccination rates enabled the number of severe cases to be contained. These epidemiological developments have permitted a further gradual easing of containment measures, culminating with the introduction, at the end of March, of a new pandemic vigilance and control strategy, which dispenses with quarantine in asymptomatic and mild cases for most of the population.

The period prior to the start of the war was also characterised, in comparison with the December projections, by further surprises on the inflation front in addition to those already experienced in the second half of 2021. In early 2022, the ongoing acceleration of consumer price inflation (together with the persistence of the bottlenecks in the supply of certain inputs) was thus, increasingly, a constraint on the performance of the economy. In particular, the high global inflation was also reflected in expectations of a certain tightening of monetary policy and, in consequence, a moderate tightening of private sector financing conditions.

As a net result of these developments, the information available for the first half of the quarter pointed to a continuation of the recovery, albeit with some signs of a certain loss of momentum. Specifically, the behaviour of Social Security registrations in January was in line with the usual pattern for that month, but the rate of increase in February was somewhat lower than usual. At a longer time horizon, the economic recovery was expected to progress further during the following quarters, owing to improved epidemiological developments, the gradual disappearance of the supply chain disruptions, the persistence of relatively favourable financial conditions and the progressive deployment of Next Generation EU (NGEU) funds.

The Russian attack on Ukraine has profoundly changed this outlook. Spain's bilateral trade flows with the two countries at war are in fact modest, and the impact of the armed conflict on the Spanish economy through this direct channel will therefore be limited (see Chart 1). Specifically, in 2019 Spanish goods exports to Russia and Ukraine represented only 1.6% and 0.3%, respectively, of total Spanish goods exports, and the figures for imports were 1.1% and 0.5%.

However, this does not mean that these events will not have, foreseeably, significant economic implications. The impact will materialise through various channels, the most important of which is probably related to Russia's and Ukraine's sizeable share of global production and exports of energy, food and metal commodities. The proportion of these imports in Spain is relatively low,[3] but the war is affecting the cost of these goods on global markets regardless of their origin. Indeed, one of the factors

1 See Macroeconomic projections for the Spanish economy (2021-2024): the Banco de España's contribution to the Eurosystem's December 2021 joint forecasting exercise.

2 According to the latest QNA data published by the INE, GDP grew by 2.2% in 2021 Q4, exceeding the 1.6% growth projected by the Banco de España in December. Also, the INE has revised upwards quarter-on-quarter GDP growth in 2021 Q3, with respect to the October flash estimate, from 2% to 2.6%. The revisions to the data for the first half of 2021 were more modest.

3 In the specific case of energy goods imported from Russia, in 2019 it was 6%, considerably lower than in Germany (17%) and Italy (22%).

explaining the surge in prices observed on oil and gas markets between early 2021 and the outbreak of the war was precisely the growing geopolitical tensions in that part of Europe (see Chart 2). Amid high volatility, the armed conflict has accentuated the increase in the price of both these energy commodities, with significant repercussions for the cost of the household consumption basket and firms' production costs. In addition to their higher price, the war has also raised the question of whether the supply of these goods might potentially be disrupted. Besides the energy markets, the war is also affecting worldwide the cost, and even the supply, of some key food commodities (such as wheat) and of several metals (e.g. palladium, copper and nickel) that are essential to car and electronics manufacturing. As a result, the supply chain difficulties that already existed before the war could be compounded.

A second channel, which is also extremely important, runs through the uncertainty surrounding the duration and the course of the armed conflict and, therefore, its impact on private agents' income (see Chart 3). Amid uncertainty, households and firms tend to postpone their decisions to purchase consumer and investment goods, with the consequent negative impact on economic activity.

Third, as mentioned above, while Spain's direct trade relations with Russia and Ukraine are modest, other European countries, particularly eastern ones, are more exposed. In addition, the consequences of the conflict for the commodity markets and the heightened uncertainty will also be felt in other economies. Consequently, the war will have a significant impact on global activity (which will be particularly pronounced in Europe) and, through this channel, on the demand for Spanish exports and on GDP growth in Spain. For example, between December and March Consensus Forecasts survey respondents have revised downwards the projections for euro area GDP growth by 1 pp. A few weeks ago, the OECD also estimated that the war would subtract 1.4 pp from euro area GDP growth this year.

For the time being there is limited evidence available on the impacts that the war could already be having on the different economic aggregates in Spain through the above-mentioned channels. In March, the year-on-year rate of change of the harmonised index of consumer prices (HICP) recorded a further significant increase (of 2.2 pp to 9.8%) according to the early indicator.[4] The heightened inflationary pressures are in part a direct reflection of the war's impact, through the higher energy price channel. However, they are also the lagged result of the price acceleration in the preceding months and of other factors that bear an indirect relationship to the armed conflict, such as the shortage of some products caused by the haulage strike.

Chart 1
EXPOSURE OF FOREIGN TRADE IN GOODS TO RUSSIA AND UKRAINE
Percentage of foreign trade in 2019

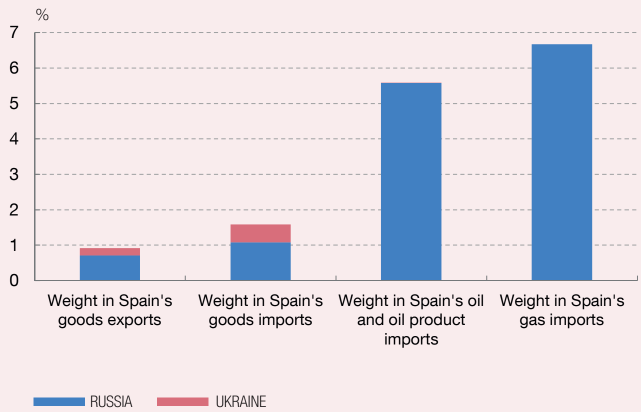
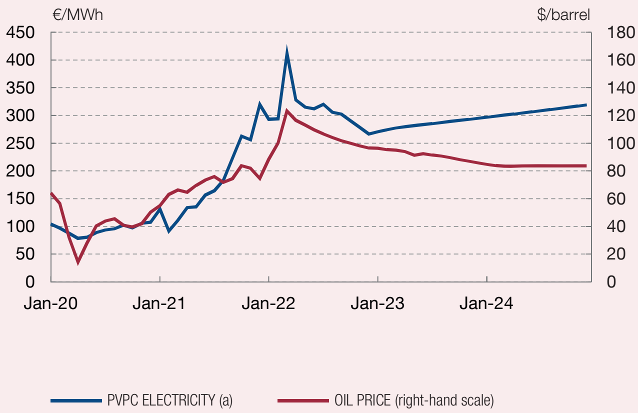


Chart 2
ENERGY PRICES



SOURCES: Aduanas, INE, Reuters and OMIP.

a Regulated rate for small consumers of electricity.

4 This is the highest rate since the HICP time series began in 1997. In terms of the CPI, an indicator for which longer time series are available, it is the highest value since May 1985.

Turning to the impact on economic activity, the steep monthly decline in the consumer confidence indicator in March (the biggest in the time series, which dates from July 1986) suggests that higher uncertainty has started to affect household spending decisions. The fall in the similar indicator measuring retail trade confidence points in the same direction. Furthermore, respondents to the latest edition of the Banco de España Business Activity Survey (EBAE) expected their turnover to be slightly lower in 2022 Q1 than in 2021 Q4. They also anticipated a delayed easing of the bottlenecks affecting their production. Business owners submitted their survey responses between 23 February and 10 March; therefore, the deterioration in their expectations reflects the first effects of the war.[5] Lastly, social security registration data for March show that registrations have again lost some momentum, after already doing so in February.

Against this backdrop, the Q1 GDP growth estimate is subject to a high degree of uncertainty. In addition to the scant available evidence on the war's effects on economic output, there is the further difficulty of measuring the impact of some firms being forced to suspend activity owing to the lack of certain inputs used in their production processes due to the haulage strike. Moreover, there is not enough real-time information on the implementation of NGEU projects to accurately estimate their contribution to growth. The estimated quarter-on-quarter rate of change of GDP incorporated into these projections is 0.9%, versus 2.2% in 2021 Q4. For the reasons set out above, this figure is subject to a high degree of uncertainty.

In the coming quarters, Russia's act of aggression against Ukraine is expected to adversely affect economic activity through the continued high levels of commodity prices, the impact of the uncertainty associated with the unfolding of the war on the spending decisions of Spanish agents and the slower expansion of world markets, along with the persistence of supply chain disruptions.[6] These adverse effects will be partly offset by factors such as the

Chart 3
CHANGES IN CONFIDENCE IN SEVERAL CRISES ACCORDING TO "DENSI", SINCE THE DAY THEY STARTED (a)

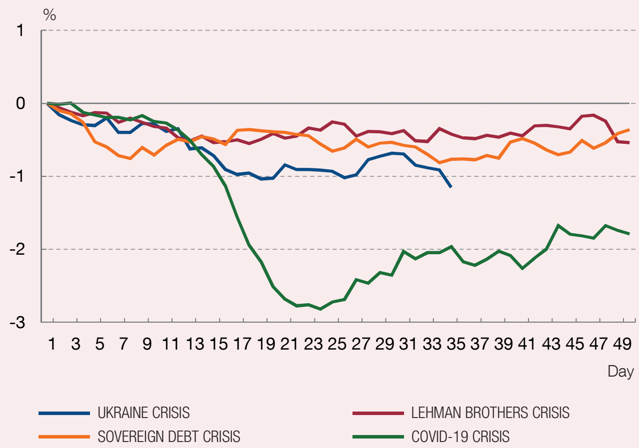
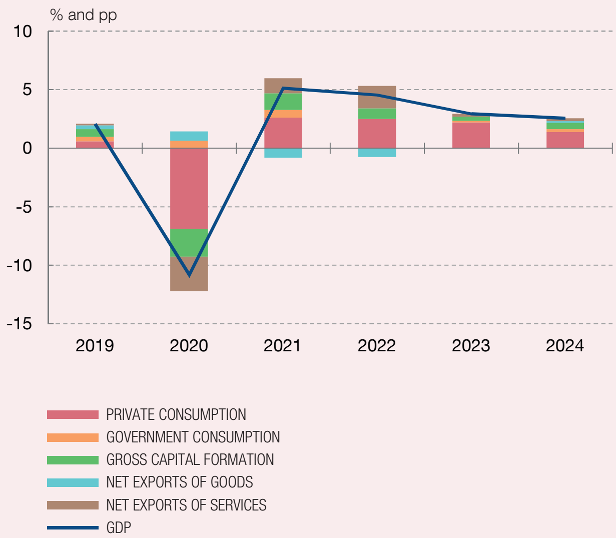


Chart 4
GDP GROWTH AND CONTRIBUTIONS OF MAIN COMPONENTS



SOURCES: Chart 3 is based on information from the main Spanish newspapers (ABC, El País, El Mundo, La Vanguardia, Cinco Días, Expansión, El Economista). Chart 4 uses information published by INE.

a The DENSI (Daily Economic News Sentiment Indicator) measures changes in economic sentiment in Spain on the basis of news published in the main Spanish economic newspapers (ABC, El País, El Mundo, La Vanguardia, Cinco Días, Expansión and El Economista). The chart shows the daily changes in this indicator in different crises from the first day onwards. This starting date is 29 September 2008 in the Lehman Brothers crisis, 9 May 2012 in the sovereign debt crisis, 29 February 2020 in the COVID-19 crisis and 21 February 2022 in the Ukraine crisis.

5 See M. Izquierdo (2022), "Encuesta a las empresas españolas sobre la evolución de su actividad: septiembre de 2022", Notas Económicas, *Boletín Económico,* 1/2022, Banco de España.

6 These assumptions take into account the adverse scenario of the March 2022 macroeconomic projections produced by ECB staff for the euro area.

support provided under the measures included in the National Plan to respond to the economic and social consequences of the war in Ukraine,[7] the execution of the projects financed under the NGEU programme, the maintenance of even more favourable financing conditions (albeit somewhat tighter than in preceding quarters) and the gradual improvement in the epidemiological situation.

The strongest macroeconomic impact of the war is expected in 2022 Q2 and, if there is no further escalation of the conflict, economic activity will gradually gain momentum in the second half of the year.[8] In annual average terms, GDP growth of around 4.5% is estimated in 2022 (see Chart 4 and Table 1). This increase is largely explained by the fact that the relatively fast pace of GDP growth in 2021 H2, from a purely accounting standpoint, boosts economic growth in 2022 in annual average terms. As an illustration of this effect, even if GDP did not post any quarter-on-quarter growth in 2022, the annual average rate would be 3.1%. In the two subsequent years, GDP would rise by 2.9% and 2.5%, respectively, in a setting of ongoing recovery following the health crisis. The projected path would delay a return to pre-pandemic levels of output until 2023 Q3 (see Chart 5). At end-2024, GDP would stand close to the level projected in December 2021, falling short by only 0.3 pp, under the assumption that the current crisis will not cause lasting damage to the productive system.[9]

Turning to consumer prices, the consequences of the war on Ukraine have, as already mentioned, exacerbated the strong inflationary pressures previously observed. Given the current oil and gas price trajectories in the futures markets, energy inflation is expected to peak in the second quarter of the year and to gradually slow thereafter. However, the persistence of the supply chain disruptions and the pass-through of past cost increases, which has recently intensified, will result in the food component and underlying inflation (and with them the headline indicator) rising somewhat more in the second and third quarters of the year. A crucial assumption underlying the projections is the moderate response of wage growth to inflation, which prevents the activation of feedback loops between wage increases and end prices and the resulting exacerbation of the inflationary process, with negative effects on external competitiveness and on economic activity and employment. As a result, headline inflation would accelerate to 7.5% in 2022 in annual average terms, but would then drop sharply to 2% and 1.6% in 2023 and 2024, respectively.

Table 1
MACROECONOMIC PROJECTIONS FOR THE SPANISH ECONOMY (a)

Annual rate of change

	GDP				Harmonised index of consumer prices (HICP)				HICP excluding energy and food				Unemployment rate (% of labour force) (b)			
	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
April 2022	5.1	4.5	2.9	2.5	3.0	7.5	2.0	1.6	0.6	2.8	1.8	1.7	14.8	13.5	13.2	12.8
December 2021	4.5	5.4	3.9	1.8	3.0	3.7	1.2	1.5	0.5	1.8	1.4	1.6	15.0	14.2	12.9	12.4

SOURCES: Banco de España and INE.
NOTE: Latest QNA figure published: 2021 Q4.

a Projections cut-off date: 31 March 2022.
b Annual average.

7 See Royal Decree-Law 6/2022 of 29 March 2022.

8 In particular, quarter-on-quarter GDP growth rates would move on an upward trajectory (0.1%, 0.4% and 0.7%, respectively, in the second, third and last quarters of 2022).

9 However, one of the likely consequences of the war is a degree of reversal of the increasing complexity of global value chains observed in recent decades, promoted by firms to reduce their costs. Should this reversal materialise, it could result in some efficiency losses and, consequently, in a reduction of the economy's potential output, which would tend to occur beyond the end of the projection horizon.

As mentioned, at the end of March, the Government approved a National Plan to respond to the economic and social consequences of the war in Ukraine. The Plan includes measures to counter the effects of rising inflationary pressures resulting from the war, specifically measures reducing the cost of different energy sources and setting limits on residential rental price increases.[10] According to the estimates made, these measures will lower average inflation in 2022 by between 0.5 pp and 0.8 pp.

In addition, the Spanish and Portuguese governments have sent a proposal to the European Commission that caps, within the Iberian electricity market, gas prices for gas-fired power plants at €30/MWh.[11] This measure could considerably lower wholesale electricity prices and, as a result, have a significant impact on the prices paid by consumers. However, given that how this measure will ultimately materialise is unknown, no impact whatsoever associated therewith has been incorporated into the projections.

Set against those published in December, the current projections revise GDP growth significantly downwards in 2022 and 2023, by 0.9 pp and 1 pp, respectively. These revisions are mainly driven by the negative consequences of the war. In particular, the higher commodity price levels (along with the stronger pass-through of price hikes in energy and other inputs to other goods), the weaker momentum of global activity (partly due to the production bottlenecks) and the rising uncertainty would drive down the GDP growth rate in 2022 by 0.7 pp, 0.5 pp and 0.6 pp, respectively, compared with the December projections (see Chart 6).[12] The sources of downward revision are partly offset by two positive factors, the most significant of which are the consequences of incorporating QNA information that was not yet available when the December projections were prepared. Specifically, the stronger-than-projected GDP growth in 2021 H2 results in an upward revision of 0.8 pp in the GDP growth rate for this

Chart 5
REAL GDP. LEVEL (2019 Q4 = 100)

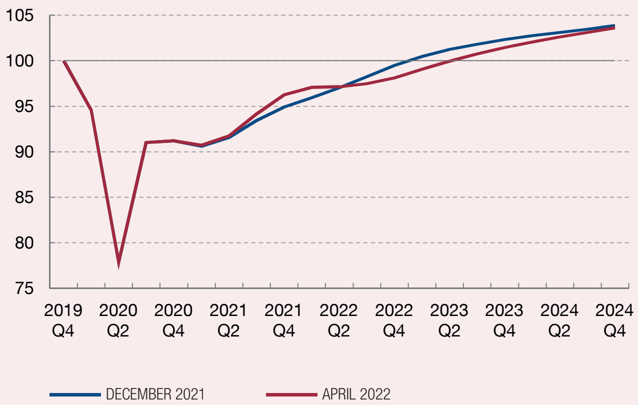
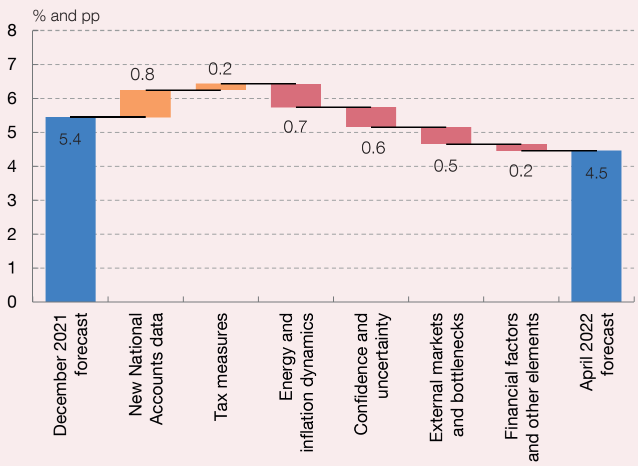


Chart 6
CHANGES IN THE 2022 GDP FORECAST



SOURCES: Banco de España and INE.

10 In greater detail, the approved measures with a direct impact on inflation include (i) an extraordinary and temporary discount of 20 euro cents per litre on the retail price of fuel (in force from 1 April to 30 June 2022), (ii) a 36% reduction in the electricity system charges affecting electricity bills, until 31 December 2022, (iii) the extension, until 30 June 2022, of the suspension of the tax levied on energy production and of the reduced VAT rates applied to electricity bills (up to 10%) and of the special tax on electricity (up to 0.5%), (iv) the extension, in the reviews of the natural gas regulated rate on 1 April 2022 and 1 July 2022, of the 15% cap on the increase in the cost of gas included in this rate and, (v) the extraordinary cap (2%), from 1 April 2022 to 30 June 2022, on the annual increase applied to residential rental contracts.

11 The proposal consists of a dual-auction system. The first auction would function as it has done up to now, such that the bids and prices offered in the interconnection with France would not be affected and the European market would not be distorted. The second auction would be conducted internally within the Iberian market. Here, the maximum price at which fossil fuel power plants could bid would be capped at a gas price of €30/MWh until December 2022.

12 In addition, compared with the December projections, the most recent developments relating to the first two factors would lead to a drop of 0.7 pp and 0.3 pp, respectively, in the average GDP growth rate in 2023.

year. Second, the measures approved at the end of March to soften the impact of the sharp rise in energy prices on the hardest-hit households and firms are expected to have a positive impact of 0.2 pp on average GDP growth in 2022.

Developments in the main macroeconomic aggregates

The war will entail adverse consequences for all components of aggregate demand. Within private domestic demand, private consumption will lose momentum in the near term due to increased uncertainty, renewed supply chain disruptions and, above all, loss of purchasing power as a result of rising inflation. The purchasing power of lower-income households, for whom energy accounts for a larger share of total spending, will suffer in particular. Further, these households tend to have comparatively lower saving rates, and a smaller proportion of them was able to build up extraordinary savings during the pandemic. This gives them less scope to cushion the effect of rising energy bills without reducing their consumption of other goods and services.

Over the course of the year, the gradual abatement of these constraints on household spending will allow private consumption to strengthen, driven by the sustained labour market recovery and by relatively accommodating financial conditions, albeit somewhat less favourable than anticipated some months ago. In annual average terms, consumption growth would stand at 4.5%, 3.9% and 2.4%, respectively, in 2022, 2023 and 2024 (see Table 2). In any event, there is considerable uncertainty as to the near-term dynamism of this aggregate, since anticipating saving rate developments in the current context of significant uncertainty and high inflation is no easy task. On the one hand, if households perceive that the upturn in prices will be relatively limited, they will tend to respond to the rising cost of their basket of goods and services by temporarily reducing saving rather than consumption (measured in real terms). However, on the other hand, the heightened uncertainty will tend to incentivise greater precautionary saving and discourage recourse to the extraordinary savings built up during the pandemic, having an adverse impact on consumption. The last section of this box assesses the macroeconomic effects of households adopting a less cautious attitude to spending decisions.

The growth in residential investment is likely to be curbed in the short term by rising costs and the reduced availability of certain construction materials, issues that the war has accentuated, and the relative shortage of labour for certain occupations (in turn somewhat related to sluggish migratory flows).[13] Over the projection horizon, the dynamism of this aggregate will be increasingly driven by the expected favourable labour market developments (strengthening households' future income expectations), relatively benign financing conditions and the deployment of NGEU funds, given that the Recovery, Transformation and Resilience Plan (RTRP) allocates a significant proportion of the grants received under the European Recovery and Resilience Facility to housing rehabilitation.

Investment by non-financial corporations will suffer in the near term due to increased uncertainty stemming from the war, higher production costs adversely affecting profit margins and the persistence of supply chain disruptions. The impact of rising energy prices may be particularly pronounced in the most energy-intensive sectors (such as metallurgy, steel, transport, chemicals and mining and quarrying). In any event, assuming that the energy cost increase will prove temporary, Banco de España estimates suggest that the proportion of firms struggling to cover those rising costs will grow modestly. However, that growth will be somewhat more marked precisely in the most electricity-intensive sectors and those reliant on certain other inputs whose prices have risen more sharply. Once the worst of the armed conflict is in the past, investment is expected to return to positive growth rates, in step with the gradual recovery in confidence, the lessening of inflationary pressures, the easing of bottlenecks, the increased plant capacity utilisation (already exceeding pre-health crisis levels in various manufacturing sectors), the stimulus provided by projects under the NGEU programme and the need, heightened by the pandemic, for further digitalisation.

As regards trade with the rest of the world, the growth in goods exports will tend to moderate in the coming months owing to slower growth in overseas markets and intensifying supply chain disruptions, which are translating into delayed order deliveries. Subsequently, the easing of the current difficulties will allow global trade to gain

13 High electricity costs have prompted sporadic production stoppages in the steel and cement industries, whose hypothetical persistence could lead to supply shortages in construction materials. For a discussion of the recent effects of the reduction in net migratory flows on the labour market, see Box 5 "Migratory flows in Spain during the COVID-19 crisis and their impact on labour supply" in this Quarterly Report.

momentum, which will be reflected in stronger growth in sales of goods to the rest of the world. Meanwhile, uncertainties linked to the war may also affect flows of tourist arrivals in the near term. However, the improving epidemiological situation should allow the recovery path observed in recent quarters to continue, providing for a return to pre-pandemic levels in early 2024. The pace of growth in imports of goods and services will suffer in the coming months, reflecting the adverse impact of the war on activity and supply chain disruptions. Subsequently, purchases by the rest of the world are expected to remain on a rising path, in step with growth in final demand.

The upward trajectory of hours worked and employment will extend across the projection horizon, albeit with less robust growth in 2022-2023 than projected in December. In line with the recovery in employment, the unemployment rate will continue to decline, reaching 12.8% in 2024.[14]

The war represents an additional source of pressure on public finances. The end-2021 budget balance was more favourable than anticipated in the December projections. The budget deficit as a proportion of GDP has been revised upwards over the projection horizon due to the deteriorating outlook for activity, the measures adopted in the short term to mitigate the impact of the war, and to certain spending items being updated to reflect a higher path of inflation (see Annex 1). Consequently, in the absence of corrective measures, the general government deficit will remain very elevated

Table 2
PROJECTIONS FOR THE MAIN MACROECONOMIC AGGREGATES OF THE SPANISH ECONOMY (a)

Annual rate of change in volume terms and % of GDP

		April 2022 projections			December 2021 projections		
	2021	2022	2023	2024	2022	2023	2024
GDP	5.1	4.5	2.9	2.5	5.4	3.9	1.8
Private consumption	4.6	4.5	3.9	2.4	5.1	5.2	2.2
Government consumption	3.1	-0.3	0.8	1.2	-0.2	0.7	1.5
Gross fixed capital formation	4.3	4.5	2.1	2.5	7.8	3.7	2.1
Exports of goods and services	14.7	12.0	3.8	3.7	9.1	4.6	3.1
Imports of goods and services	13.9	9.0	3.3	2.9	6.5	4.8	3.7
National demand (contribution to growth)	4.6	3.3	2.7	2.1	4.4	3.9	1.9
Net external demand (contribution to growth)	0.5	1.2	0.2	0.4	1.0	0.0	-0.1
Nominal GDP	7.4	9.1	4.8	4.3	8.1	5.6	3.6
GDP deflator	2.2	4.4	1.9	1.7	2.5	1.7	1.7
Harmonised index of consumer prices (HICP)	3.0	7.5	2.0	1.6	3.7	1.2	1.5
HICP excluding energy and food	0.6	2.8	1.8	1.7	1.8	1.4	1.6
Employment (hours)	7.0	1.9	2.0	1.6	3.8	2.8	1.3
Unemployment rate (% of labour force). Annual average	14.8	13.5	13.2	12.8	14.2	12.9	12.4
Net lending (+)/net borrowing (-) of the nation (% of GDP)	1.9	2.7	3.3	3.2	2.9	2.7	2.1
General government net lending (+)/net borrowing (-) (% of GDP)	-6.9	-5.0	-5.2	-4.7	-4.8	-4.0	-3.4
General government debt (% of GDP)	118.4	112.6	112.8	113.5	115.7	113.7	113.5

SOURCES: Banco de España and INE.
NOTE: Latest QNA figure published: 2021 Q4.

a Projections cut-off date: 31 March 2022.

14 The weaker employment growth now forecast as compared with the December projection exercise is consistent with the downward revision of the unemployment rate forecast for 2022. This owes to the projections having a more benign starting point following the publication of data for 2021 Q4, in turn explained by lacklustre labour force developments in that period.

in 2024 (4.7% of GDP), more than 1 pp higher than that forecast last December. Based on the paths projected for the general government budget balance and for nominal GDP, the government debt-to-GDP ratio will decline moderately to 113.5% of GDP in 2024 (6.5 pp below the all-time high reached in 2020 and 18 pp above the end-2019 level).

Prices and costs

The aggression against Ukraine has exacerbated the inflationary pressures that had built up over the course 2021. In February 2022, consumer prices increased year-on-year by 7.6%, up from -0.6% in December 2020, with recurrent surprises on the upside from the summer of 2021. There are three main reasons for this sharp pick-up in inflation. The first is the recovery in activity. The steep fall in demand in 2020 caused a significant slowdown in the prices of many products. The subsequent normalisation of these prices led to significant base effects from spring 2021 (see the red bars in Chart 7). Second, disruptions in global production chains, coupled with higher shipping costs worldwide and increased demand for certain goods (in particular electronics), have led to a rise in the prices of numerous commodities and inputs, which has partially fed through to final goods prices. A third key factor behind recent inflation developments has been the increase in energy prices, particularly electricity, which in turn is mainly explained by the surge in natural gas prices on European markets.

For the time being, firms appear to have only passed through a limited part of their cost increases to selling prices, as suggested by the latest round of the EBAE for 2022 Q1.[15] At the same time, wage growth remains moderate.

The protracted and increasingly rapid rise in energy and non-energy commodity prices would have seen a more persistent inflationary episode included in the projections even had the war not broken out. However, the war has led to an additional increase in commodity prices, against a background of heightened volatility, which has been reflected in a sharp pick-up in inflation, with HICP rising to 9.8% in March. According to the futures market, oil and gas prices will remain much higher in the first half of the year than they were three months ago.

Accordingly, these projections assume a somewhat more marked pass-through of intermediate cost increases to final prices. However, this pass-through remains moderate, in line with EBAE data. In the same vein, the projections maintain the assumption that the pass-through of the pick-up in inflation to wage growth is low. On data available to February, collective bargaining agreements reveal a slight acceleration in wage settlements for 2022, although they still mostly reflect the outcome of negotiations conducted in a lower inflation environment.[16] Specifically, the wage increase for 2022 negotiated in collective bargaining agreements up to February was 2.3%. Looking ahead, the assumption of a limited pass-through of the upturn in inflation to wage growth is based on three arguments: (i) medium-term inflation expectations remaining at around 2%; (ii) the multi-year nature of collective bargaining (meaning that inflation in a specific year is estimated to have the capacity to influence wage increases in only around one-third of agreements); and (iii) the limited presence of indexation clauses. However, the latter are becoming increasingly prevalent. This, coupled with the possibility that, in a context of high inflation rates, wage demands will incorporate expectations of higher inflation, raises the risk of price-wage feedback loops known as second-round effects. The persistence of the inflationary episode also increases the likelihood of firms passing through the cost of inputs to final prices to a greater extent than has been the case so far.

With these ingredients, inflation would remain very high until 2022 Q3 but would start to decline thereafter, when the factors that have fuelled the recent pick-up begin to correct. In particular, energy commodity prices on the futures markets follow a downward path, such that by early 2023 the gradual decline in oil and gas prices, according to these markets, would bring them to levels only slightly higher than at the beginning of 2022. Thus, the energy component will foreseeably slow from 46.2% in 2022 Q1 to 9.1% in 2023 Q1 (and fall to negative rates from the second half of the year). Over 2022, inflation is projected to average 7.5% (see Chart 8). In 2023, the annual rate would fall to around 2% and the contribution of the energy component to price increases would turn negative. From end-2023, HICP growth would be on a slightly upward trend, largely reflecting developments in non-energy components, and would

15 Specifically, although 81.6% of all respondent firms reported an increase in input costs, only 41.2% of them raised their selling prices. See M. Izquierdo (2022), "Encuesta a las empresas españolas sobre la evolución de su actividad: primer trimestre de 2022", Notas Económicas, *Boletín Económico* 1/2022, Banco de España.

16 See Box 6 "An initial analysis of the impact of inflation on collective bargaining in 2022" of this Report.

average 1.6% in 2024. Underlying inflation would peak a few months after the headline index. Specifically, this indicator would not start to decline until end-2022, once the upward pressures on firms' costs associated with energy prices and bottlenecks are corrected, rebounding, on average, to 2.8% over the year as a whole. Subsequently, the gradual reduction in the degree of cyclical slack would give rise to a sustained, albeit moderate, increase in the prices of services and non-energy industrial goods, with underlying inflation standing, on average, at 1.8% in 2023 and 1.7% in 2024.

Compared with the December projections, the upward revision of inflation projections for 2022 is substantial due mainly to their higher starting point as a result of recent surprises, particularly in the energy component. Specifically, this year the energy component is revised up 22.7 pp. However, current projections also include the expectation that non-energy industrial goods prices will be subject to stronger inflationary pressures in the coming months, owing to higher and more persistent cost increases. The inflation rate for 2023 is also revised up, albeit to a much lesser extent. Underlying inflation is revised in the same direction, but on a far lower scale.

Sources of uncertainty surrounding the baseline scenario

Overall, given that the foregoing scenario assumes that the persistence of the effects of the Ukraine crisis will be limited, the risks to the baseline scenario of the projections are tilted to the downside in the case of activity and to the upside in that of inflation. The reason for this lies primarily in the developments surrounding the aggression against Ukraine. Indeed, the complexities of the war's repercussions and the uncertainty surrounding how it will unfold make it difficult to prepare macroeconomic projections. One way of illustrating these difficulties is to conduct various sensitivity analyses, which make it possible to evaluate the implications of different risks materialising.

Specifically, four potential sources of risk are considered: three adverse supply-side risks (which would lower output growth but push up inflation) and one favourable risk, which would entail a positive demand-side shock (boosting activity, albeit with higher consumer price increases). The three adverse risks are (i) a more marked and lasting increase in commodity prices, (ii) a complete suspension of bilateral trade flows between Russia and the European Union (EU), and (iii) the hypothetical emergence of second-round effects of the hike in energy prices. The fourth risk is an increase in household demand, associated with a swifter reduction in the surplus saving built up during the pandemic.

The analytical tools available at the Banco de España have been used to assess the impact of these four risks (as deviations from the baseline scenario) on key variables

Chart 7
BASE EFFECTS AND MECHANICAL IMPLICATIONS ON THE INFLATION RATE

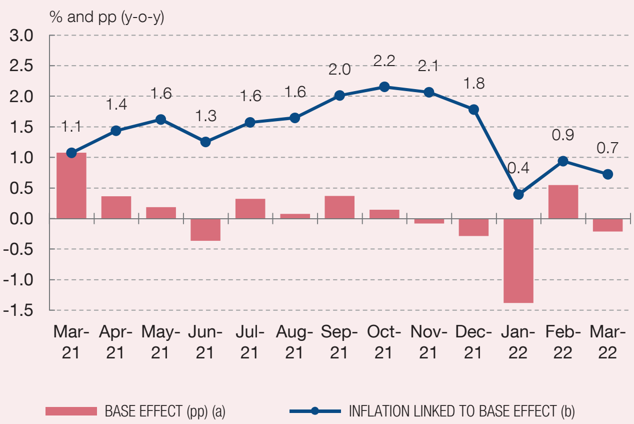
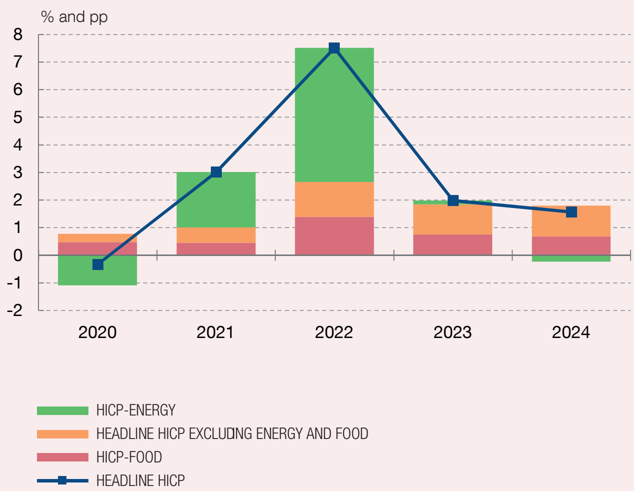


Chart 8
CONTRIBUTIONS TO HICP GROWTH BY COMPONENT



SOURCES: Banco de España and INE.

a Calculated as the deviation of the month-on-month rates in t-12 from the period averages (Jan 2012-Feb 2020), changing the sign.
b Mechanical inflation obtained by accumulating the base effects over the following months.

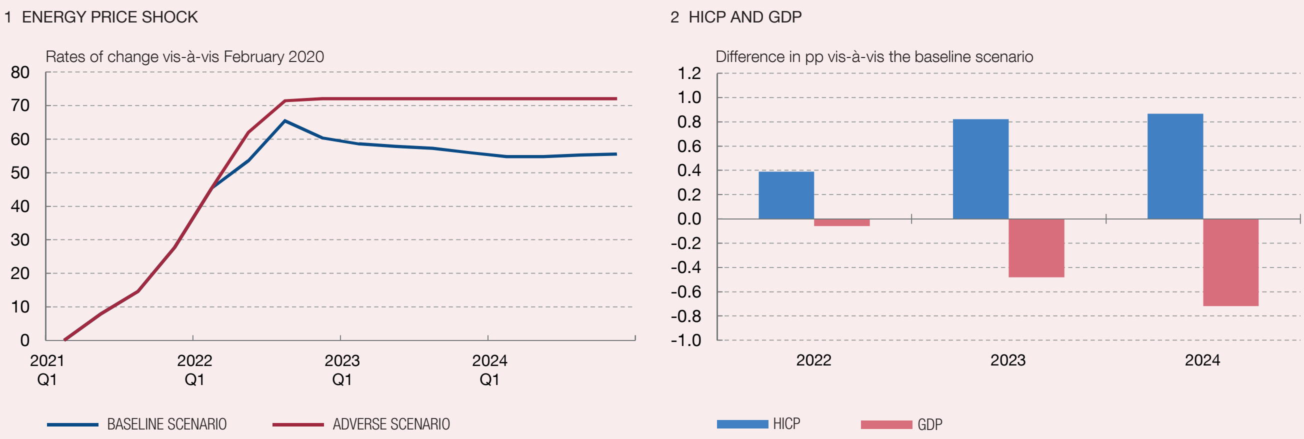
of the projections, such as GDP, inflation and employment. All the exercises have been conducted using the Quarterly Macroeconometric Model of the Banco de España (MTBE, by its Spanish abbreviation),[17] except for the exercise considering supplies from Russia being cut, for which a multi-country sectoral model is used.[18]

The first sensitivity exercise assumes that the increases in energy commodity prices become more significant and persistent. Specifically, in the short term, energy prices are assumed to stand at their highest level since the war broke out (observed in mid-March 2022) and to remain at that level throughout the entire projection horizon. Under this assumption, GDP would fall by 0.7 pp in cumulative terms to 2024, while inflation would be 0.4 pp higher in 2022 and 2023 (see Chart 9).

The second exercise envisages Russia-EU trade flows being suspended owing to a hypothetical escalation of the war. This would disrupt the supply of energy products and, as a result, require resorting to alternative suppliers in order to meet demand. EU countries have a limited capacity to replace such energy inputs from Russia. Doing so would be costly in the short term and have potentially severe effects on GDP and inflation, including in Spain, despite its lesser reliance on such imports. Specifically, depending on the degree to which the Russian energy imports could be replaced, suspending Russia-EU trade could lead to Spanish GDP being between 0.6 pp and 1.3 pp lower than in the absence of such a cut-off of supply, and consumer prices being between 1 pp and 1.5 pp higher (see Chart 10). In any event, such effects would be significantly smaller than in other European economies that are more reliant on Russian gas.[19]

The third exercise illustrates the extent to which the medium-term effects of higher energy prices on the Spanish economy depend on how much this increase passes through to other prices and wages. The projections presented in this box consider a partial and delayed response from wages to rising energy prices, while that of other prices (represented by underlying inflation) is expected to be very limited. The MTBE makes it possible to simulate the impact on activity and employment of a greater reaction in other domestic prices and private wages, in line with the direct effect of the energy price increase on the general price level. The cumulative adverse impact on activity and employment (in terms of difference from the current projections) could be

Chart 9
WHAT IF HIGH ENERGY PRICES PROVED MORE PERSISTENT?



SOURCES: INE and Banco de España.

17 See A. Arencibia Pareja, S. Hurtado, M. de Luis López and E. Ortega (2017), "New Version of the Quarterly Model of Banco de España (MTBE)", *Occasional Paper* No 1709, Banco de Espana.

18 See D. Baqaee and E. Fahri (2022), "Networks, Barriers, and Trade", NBER *Working Paper* No 26108.

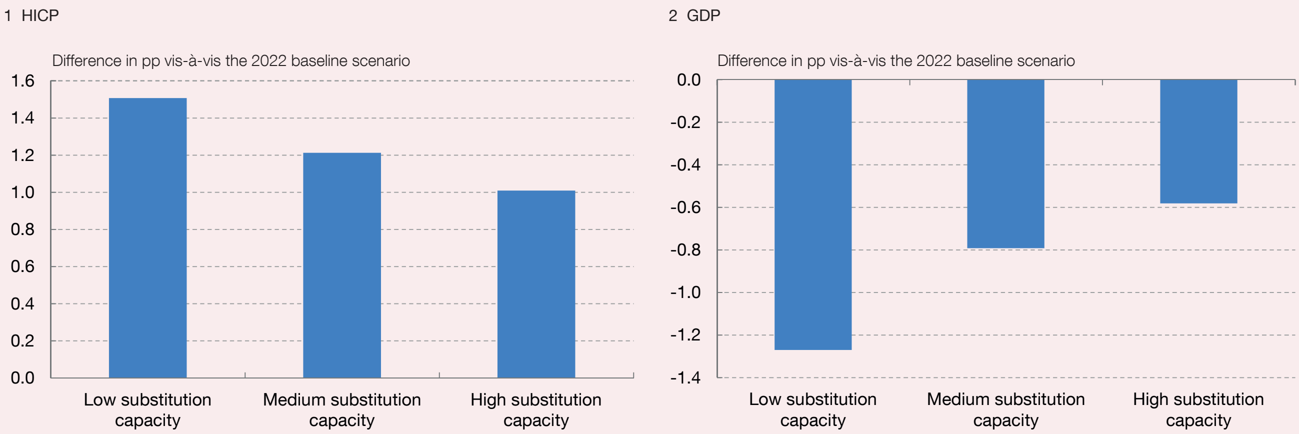
19 See J. Quintana (2022), "Consecuencias económicas del cierre comercial entre Rusia y la Unión Europea", *Artículos Analíticos*, Banco de España (forthcoming).

approximately 1.5 pp in 2024 (see Chart 11).[20] These adverse consequences are associated with the resulting loss of external competitiveness, reducing exports and private productive investment.

The fourth sensitivity exercise considers the possibility of households making greater use of the extraordinary savings built up during the pandemic, which at end-2021 were estimated at around €85 billion. Specifically, this alternative scenario assumes that two-thirds of these savings (double that considered under the baseline scenario) are used. The resulting increase in consumption would push up GDP and employment levels by 0.4 pp in 2022 and by a further 0.2 pp between 2023 and 2024 (see Chart 12).

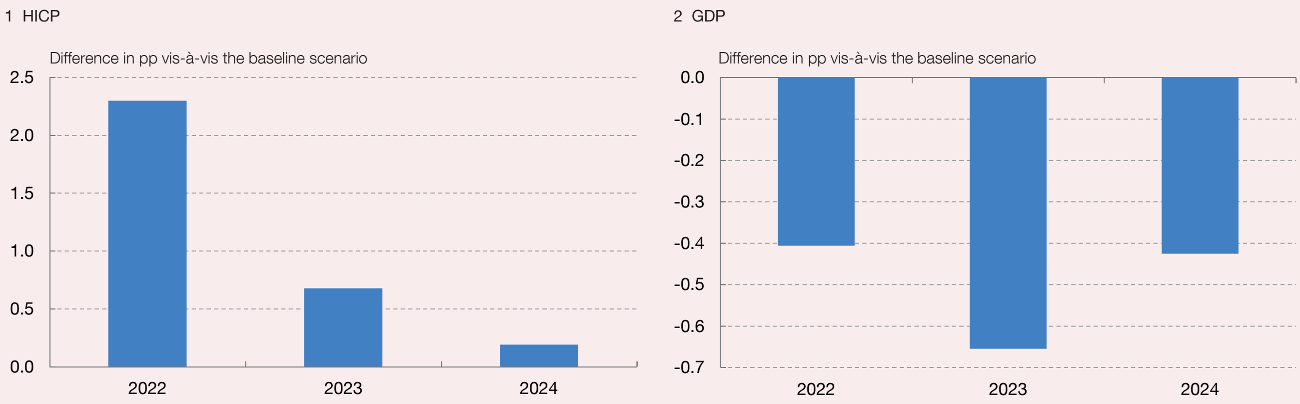
The risks considered are not mutually exclusive, such that two or more of them may materialise simultaneously (and with a severity that differs from that considered). In any

Chart 10
WHAT IF TRADE WITH RUSSIA WERE SUSPENDED?



SOURCES: INE and Banco de España.

Chart 11
WHAT IF SIGNIFICANT SECOND-ROUND EFFECTS WERE TO ARISE?



SOURCES: INE and Banco de España.

20 Note that the wage response to avoid the erosion of purchasing power does not prevent a reduction in households' real disposable income, given that the fall in employment is extended and inflation increases further.

event, should this occur, the complexity of the interrelatedness between output, employment and inflation means that the overall impact of the shocks would not be the mere sum of their individual effects. Lastly, as indicated, the current setting is marked by the predominance of downside risks to activity and of upside risks to inflation. For this reason, the possibility that a worsening of the war's macroeconomic consequences may potentially result in temporary drops in activity cannot, in principle, be ruled out.

ANNEX 1
Assumptions underlying the projections

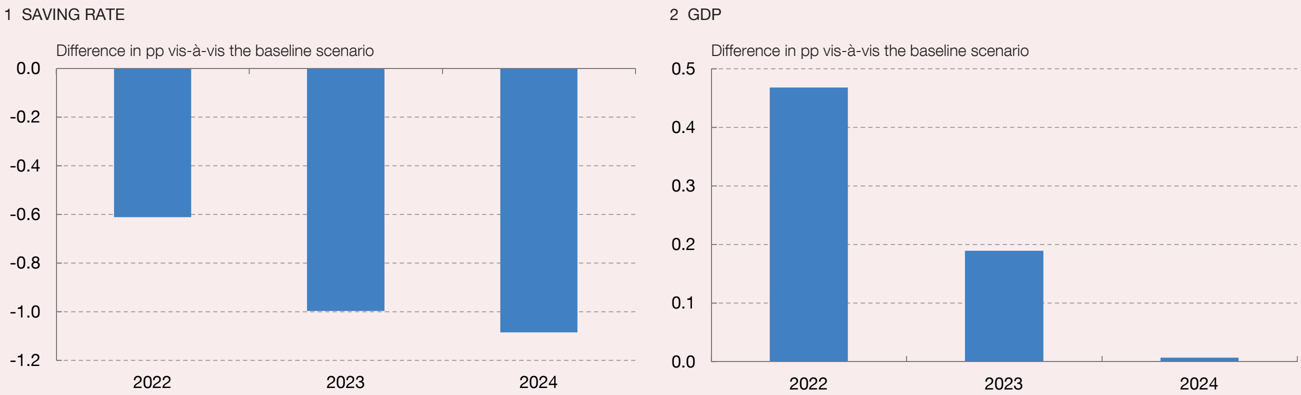
The construction of projections is based on certain assumptions about the trajectory of a set of variables relating to the Spanish economy's external markets for goods and services, prices in the financial and commodity markets and fiscal policy. The assumptions regarding export markets and competitors' prices in domestic currency have been taken from the ECB's March 2022 macroeconomic projections for the euro area. Given that the economic outlook has worsened since that exercise was completed, it was decided to take as reference the adverse scenario set out in such projections, which envisages, in particular, a significant downward revision to the euro area's projected 2022 GDP growth with respect to December (1.7 pp in 2022, as shown in Table A.1), in line with the global demand forecasts published by other organisations.

The assumptions regarding the paths of interest rates, exchange rates and oil and other commodity prices are based on the prices observed in the respective markets in the ten working days prior to the cut-off date for each projection exercise (in this case, 31 March). In the specific case of exchange rates, the spot market rate is used. For the other variables, futures market values for each point in time of the projection horizon are considered.

As far as oil prices are concerned, the surge seen in 2022 so far is expected to be partially reversed once the year has passed the halfway mark. In annual average terms, following a rise of 47.4% in 2022, to $104.8 per barrel, the price of crude is expected to fall thereafter to $91.4 per barrel in 2023 and to $83.6 per barrel in 2024. For electricity prices, the assumptions are based on wholesale futures market prices for the next twelve months, to March 2023. However, since there is scant information on those market prices beyond that horizon, a relatively neutral assumption has been used (as in September and December), based on month-on-month price increases equal to the average observed in the run up to the pandemic. As can be seen in Table A.1, the current assumptions entail a slight upward revision to the electricity price growth path.

Interest rate futures have been revised substantially upwards since the last projection exercise. The three-month EURIBOR is expected to rise progressively over the projection horizon, to 1.2% in 2024, 1.7 pp above the 2021 rate and 1.2 pp above December's projection for that period. The assumptions regarding 10-year sovereign bond yields have also tightened since the outbreak of war in Ukraine. On average, the 10-year sovereign bond yield is expected to stand at 1.4% in

Chart 12
WHAT IF HOUSEHOLD CONSUMPTION WERE MORE BUOYANT?



SOURCES: INE and Banco de España.

2022, 0.7 pp higher than anticipated in December, and is expected to rise to 1.7% in 2023 and to 1.9% in 2024. For its part, the exchange rate is expected to be somewhat lower than in the December projection. Specifically, the nominal effective exchange rate of the euro over the projection horizon is expected to fall 1.2% with respect to the average rate observed in 2021. Against the dollar, the depreciation of the euro exchange rate is somewhat higher (2.1%).

Changes in agents' confidence and rising uncertainty are captured by two indicators. The first of these, the DENSI (Daily Economic News Sentiment Indicator) developed by the Banco de España, seeks to measure changes in economic sentiment in Spain (see Chart 3 of this box), while the second, the EPU (Economic Policy Uncertainty) index, captures uncertainty over the direction of economic policy. In both cases, news published in the press is used as the base data. Looking ahead, the future course of such indicators is projected based on the developments observed during other crises, and both are therefore expected to improve gradually once the worst phase of the war is over.

The impact of the war on disruptions to productive processes is estimated using an analytical framework based on global input-output tables. This approach makes it possible to examine the consequences of shocks to global trade flows, such as those observed as a result of the war, for a very granular set of sectors, identifying both their direct and indirect impacts (i.e. cross-sector spillover effects), be they domestic or international. This is necessary since, in a context in which global economies are closely intertwined, any assessment of the impact on Spanish industries of the shock triggered by the war calls for specific reference to the way in which such shocks affect the activity dynamics in Spain's main trading partners, whose Russian imports account in some cases for a sizeable share of the total.

In the fiscal policy sphere, the main new features compared with December are the better than expected public finances

Table A.1
INTERNATIONAL ENVIRONMENT AND MONETARY AND FINANCIAL CONDITIONS (a)

Annual rates of change unless otherwise indicated

		April 2022 projections			Difference between the current projections and the December 2021 projections (b)		
	2021	2022	2023	2024	2022	2023	2024
Euro area GDP growth (c)	5.4	2.5	2.7	2.1	-1.7	-0.2	0.5
Regulated rate component of energy in €/MWh (level) (d)	180.5	309.7	283.9	307.7	8.4	-0.3	9.1
Oil price in $/barrel (level)	71.1	104.8	91.4	83.6	27.3	19.1	14.3
Monetary and financial conditions							
$/€ exchange rate (level)	1.18	1.11	1.10	1.10	-0.02	-0.03	-0.03
Nominal effective exchange rate against non-euro area (e) (2000 = 100)	120.7	115.3	115.0	115.0	-1.4	-1.7	-1.7
Short-term interest rates (3-month EURIBOR) (f)	-0.5	-0.2	0.9	1.2	0.2	1.1	1.2
Long-term interest rate (10-year government bond yield) (f)	0.3	1.4	1.7	1.9	0.7	0.9	0.8

SOURCES: Banco de España and ECB.

a Cut-off date for assumptions: 31 March 2022. The figures expressed as levels are annual averages. The figures expressed as rates are calculated based on the relevant annual averages.
b The differences are expressed as rates for euro area GDP, as levels for electricity and oil prices and the $/€ exchange rate, as percentages for the effective nominal exchange rate and as percentage points for interest rates.
c Obtained from the ECB staff macroeconomic projections for the euro area, March 2022.
d Regulated rate for small electricity consumers.
e A positive percentage change in the nominal effective exchange rate denotes an appreciation of the euro.
f For the projection period, the figures in the table are technical assumptions, prepared following the Eurosystem's methodology. These assumptions are based on futures market prices or approximations thereto, and should not be interpreted as a Eurosystem prediction as to how these variables will trend.

position at end-2021 and the package of measures approved by the Government on 29 March to address the consequences of the war in Ukraine.[21] The more positive performance of public finances in 2021 was underpinned by the lower COVID-19 related expenditure and the more positive revenue outturn in the last few months of the year. Thus, the €7 billion envisaged in Royal Decree-Law 5/2021 of 12 March 2021 to finance direct assistance to firms in 2021 was ultimately not fully taken up.[22] Moreover, the strong tax revenue momentum (including social security contributions) drove up the revenue-to-GDP ratio, which stood 1.6 pp higher than in 2020 and 3.7 pp higher than in 2019. It is assumed that much of this exceptional increase will be reversed in 2022–2024.

The new package approved includes various measures to soften the impact of the higher energy costs on consumers and firms, help the sectors hardest hit by this increase and the most vulnerable households, and allocate the necessary resources for taking in refugees, with a total cost for general government, according to Government estimates, of €6 billion.[23] These are short-term measures, effective from April to June 2022, and so only affect the general government deficit forecast for the current year. But they could be

Figure 1
SUMMARY OF THE MACROECONOMIC PROJECTIONS FOR THE SPANISH ECONOMY (2022-2024)

	2022	2023	2024
GDP	4.5% ↓ 0.9 pp	2.9% ↓ 1.0 pp	2.5% ↑ 0.7 pp
Inflation	7.5% ↑ 3.8 pp	2.0% ↑ 0.8 pp	1.6% = 0.0 pp

MAIN REASONS FOR THE REVISION
(compared with the December projections)

- Upward surprise in the economic growth data for 2021
- Adverse impact of the armed conflict in Ukraine through three main channels:
  - — Commodities channel: surge in energy prices; higher and possibly more persistent inflation rates
  - — Trade channel: sanctions against Russia; worsening of certain bottlenecks; deterioration in global growth outlook
  - — Confidence channel: increase in uncertainty, which weighs on the consumption and investment decisions of households and firms

MAIN SOURCES OF UNCERTAINTY

— Duration and intensity of the armed conflict in Ukraine
— Developments in energy prices and global value chain bottlenecks
— Intensity of the indirect and second-round effects on inflation
— Household consumption developments and recourse to the stock of savings built up by households in recent years
— Developments in financial conditions in a context of monetary policy normalisation globally
— Implementation and macroeconomic impact of European funds
— Course of the pandemic

SOURCE: Banco de España.

21 See Royal Decree-Law 6/2022 (Spanish version only).
22 The €3 billion earmarked for debt restructuring also remained untouched, although these funds are available to firms until June 2023.
23 Plus €10 billion to guarantee loans granted to firms.

extended if the tension on the energy markets persists, and this would pose a risk to these projections.

The assumption regarding the expenditure financed out of the NGEU funds has been revised down slightly, as the take-up rate in 2021 was somewhat lower than initially expected. For 2022, this expenditure is projected to increase considerably, based on the Government's announcements and the information on calls for applications on the RTRP's website. A further increase is expected in 2023. This expenditure primarily affects public investment and aid granted for investment in other sectors, and also, albeit to a lesser extent, public consumption and social welfare benefits. The estimated positive impact on the 2022 GDP growth rate is 1.4 pp, slightly lower than that forecast in December.

Also, for the current year, the measures approved in the budgets of the various tiers of general government are included, such as the increases in public sector wages and pensions and other social welfare benefits. For the other years and all the other variables, the projections are based on the usual technical assumptions. Accordingly, the items subject to greater discretionality (such as procurement and transfers in kind) are expected to evolve in accordance with prices and with the potential growth of the Spanish economy. Public revenue is projected to grow in line with its tax bases, which mainly depend on the macroeconomic setting, although the forecast also includes, as indicated above, a correction in the exceptional increase in the revenue-to-GDP ratio in 2021. Pension expenditure in 2023 and 2024 is determined by demographic trends and by the indexation of pensions to the CPI,[24] while unemployment benefits essentially depend on unemployment numbers and interest payments reflect moves in government debt and interest rates.

In view of these assumptions and projections relating to the fiscal variables, and given the output gap estimated consistently with the other macroeconomic projections, the fiscal policy stance, measured by the change in the primary structural balance net of the European funds,[25] will be expansionary in 2022 and 2023 (increasing by 1.6 pp and 1.1 pp of GDP, respectively), and will then turn contractionary in 2024 (decreasing by 0.7 pp), as a consequence of the decline in NGEU-financed expenditure.

24 Specifically, under Law 21/2021 of 28 December 2021, pensions are updated every year in accordance with the average year-on-year rates of the 12 months to November of the previous year.

25 The NGEU funds to be received entail a lower structural deficit, but not a more contractionary fiscal policy stance, as they do not stem from taxes collected from resident agents. In consequence, to correctly measure the fiscal policy stance, the change in the primary structural balance must be corrected for this effect, by subtracting the change in the net balance of funds received from the European Union.