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1 Projections for the Portuguese economy: 2024–26

In 2024–26, economic activity growth in Portugal is expected to continue close to potential and above that of the euro area, at between 2% and 2.3% (Table I.1.1 and Chart I.1.1). Inflation will continue to decline in a similar way to the euro area, converging to 2%, the monetary policy objective of the European Central Bank (ECB).

In the last two years, the Portuguese economy has faced a series of shocks of international origin, resulting in a slowdown in external demand, an increase in inflation and a tightening of monetary policy, entailing a worsening of financial conditions. Growth in activity benefited from buoyant exports, reflecting a recovery in demand for some services after the pandemic and market share gains. The increase in activity coexisted with a dynamic labour market, where labour supply constraints have been alleviated by labour force growth, notably by an increase in the participation rate and positive net migration flows.

Table I.1.1 • Projections of Banco de Portugal for 2024–26 | Annual rate of change, in percentage (unless otherwise stated)

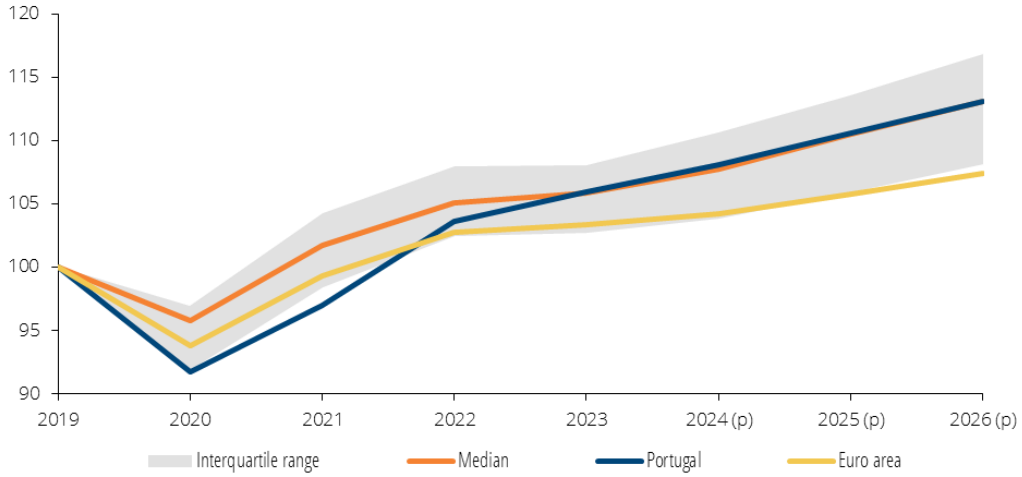
	Weights 2023	EB June 2024				EB March 2023			
		2023	2024(p)	2025(p)	2026(p)	2023	2024(p)	2025(p)	2026(p)
Gross domestic product	100	2.3	2.0	2.3	2.2	2.3	2.0	2.3	2.2
Private consumption	63	1.7	2.0	1.9	1.8	1.6	2.1	1.9	1.8
Public consumption	17	1.0	1.0	0.9	0.8	1.2	1.2	0.9	0.9
Gross fixed capital formation	19	2.5	3.3	6.1	5.0	2.4	3.6	5.4	4.1
Domestic demand	99	1.4	2.1	2.5	2.3	1.4	2.4	2.4	2.1
Exports	47	4.1	4.2	3.7	3.4	4.2	3.5	4.0	3.3
Imports	47	2.2	4.3	4.3	3.5	2.2	4.2	4.3	3.1
Employment (number of individuals) (a)		0.9	1.0	0.8	0.8	0.9	0.7	0.6	0.5
Unemployment rate (b)		6.5	6.5	6.6	6.6	6.5	6.5	6.5	6.5
Current and capital account (% of GDP)		2.7	4.4	4.4	4.5	2.7	3.6	3.9	4.1
Trade balance (% of GDP)		1.2	2.4	1.8	2.1	1.2	1.1	1.2	1.5
Harmonised index of consumer prices		5.3	2.5	2.1	2.0	5.3	2.4	2.0	1.9
Energy		-8.9	1.9	0.4	-0.6	-8.9	3.6	2.2	0.6
Food		9.2	3.1	1.8	1.7	9.2	3.0	1.3	1.5
Excluding energy		6.5	2.5	2.2	2.1	6.5	2.3	2.0	2.0
Excluding energy and food		5.4	2.3	2.3	2.3	5.4	2.0	2.2	2.2
Budget Balance (% of GDP)		1.2	1.0	0.8	0.6	–	–	–	–
Public Debt (% GDP)		99.1	92.5	87.2	82.7	–	–	–	–

Sources: Banco de Portugal and Statistics Portugal. | Notes: (p) – projected, % – percentage. The current projections are part of the Eurosystem projection exercise of June 2024, with cut-off date on May 21 and released on June 6. For each aggregate, this table shows the projection corresponding to the most likely value, conditional on the set of assumptions. Weights at current prices. (a) According to the national accounts concept. (b) In percentage of the labour force.

The impact of recent shocks is projected to dissipate and the international environment to improve (Box 1). Domestic demand benefits from lower inflation and less restrictive financing conditions,

as well as from the implementation of projects financed by European funds, accelerating from 1.4% in 2023 to 2.4% on average in 2025–26. Exports maintain buoyant growth, of 3.8% on average, with an acceleration in external demand and market share gains partly compensating for the fading impetus provided by the post-pandemic recovery in services. The labour market continues to develop favourably, with an annual increase in employment of around 0.9% and an unemployment rate of close to 6.6%, below trend.

Chart I.1.1 • GDP in Portugal and the euro area | Index 2019=100



Source: Eurosystem (June 2024 projection exercise). | Notes: (p) – projected. The median and interquartile range refer to the 20 countries that make up the euro area.

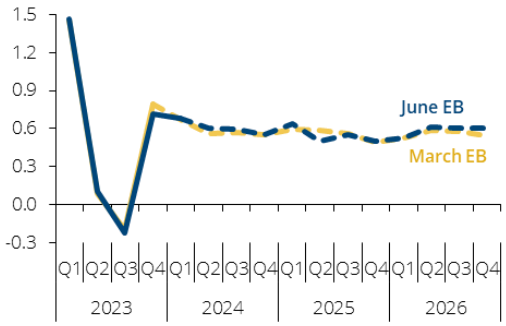
Activity grew by 0.7% quarter on quarter at the end of last year and early 2024,[1] following stagnation in the second and third quarters of 2023. The recent buoyancy reflected the behaviour of private consumption and exports. Gross fixed capital formation (GFCF) also grew over the two quarters as a whole. Quarter-on-quarter activity growth in 2024–26 fluctuates at around 0.6% (Chart I.1.2 – Panel A). Inflation stabilised in early 2024 at 2.5%, being projected to stand at 2.7% in the second quarter and decline to 2.4% in the second half of the year (Chart I.1.2 – Panel B). This fluctuation reflects base effects related to the energy component and the zero VAT measure. Inflation is expected to decline to rates close to 2% at the beginning of 2025 and to remain stable thereafter.

The composition of GDP will resume the performance recorded before the pandemic, with an increase in the share of exports and GFCF. Exports contribute (net of import content) 0.9 percentage points (p.p.) to the annual average change in GDP in 2024–26 (Chart I.1.3). The contribution of GFCF will increase over the horizon, while the contribution from consumption will remain stable. This growth pattern, characterised by buoyant exports and investment, is consistent with maintaining fundamental macroeconomic balances, with a focus on the external surplus. These components also contribute the most to maintaining a positive growth differential in comparison to the euro area (0.9 p.p. on average). Investment grows more in Portugal, largely reflecting the impact of larger inflows of European funds, while the export gap is explained by continued market share gains. However, projected GDP growth in 2024–26 is lower than in the pre-pandemic period, reflecting, among other things, more unfavourable financing conditions and lower growth in foreign demand.

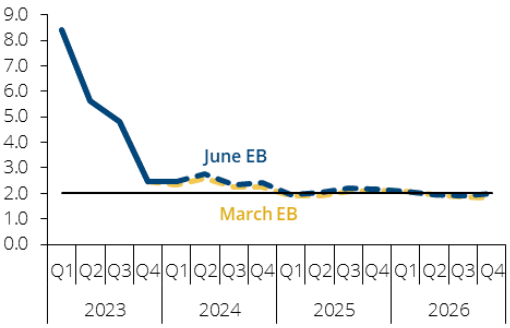
[1] After the cut-off date for this Bulletin, quarter-on-quarter GDP growth in the first quarter of 2024 was revised upwards to 0.8%.

Chart I.1.2 • Quarterly GDP and inflation projections

Panel A – GDP – quarter-on-quarter rate of change | Percentage

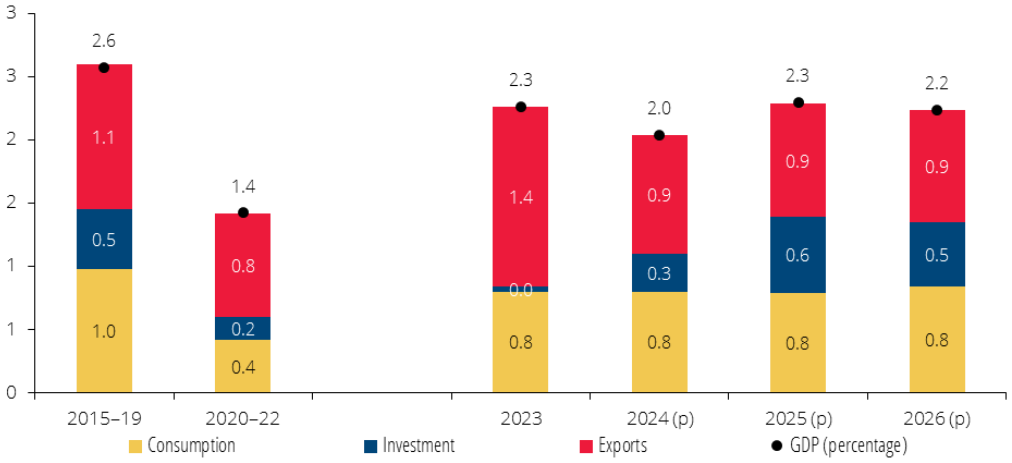


Panel B –HICP – Year-on-year rate of change | Percentage



Sources: Banco de Portugal and Statistics Portugal. | Note: The dashed lines correspond to the projected values in the EB of March and June 2024.

Chart I.1.3 • GDP rate of change and import-content net contributions of components | Percentage and percentage points



Sources: Banco de Portugal and Statistics Portugal. | Notes: (p) – projected. For information on the methodology for calculating import-content net contributions, see Cardoso and Rua (2021), "Unveiling the real contribution of final demand to GDP growth", *Banco de Portugal Economic Studies*, Volume VII, no. 3.

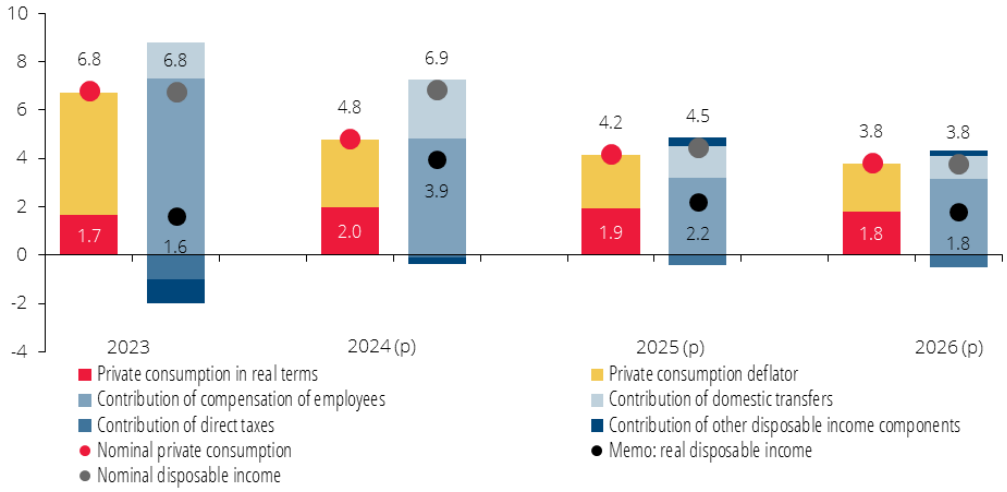
Private consumption will increase by 1.9% in 2024–26, after 1.7% in 2023, benefiting from the momentum in real disposable income (Chart I.1.4). The acceleration in real disposable income in 2024 to 3.9% reflects lower inflation and steady nominal disposable income growth, with a slowdown in wages being offset by the impact of lower direct taxes and higher domestic transfers. The fading-out of these effects and lower wage growth translate into a slowdown in real disposable income to 2% in 2025–26.

The limited pass-through of the increase in disposable income to private consumption in 2024 partly reflects the fact that higher-income households experience a greater reduction in direct taxes and that their marginal propensity to consume is lower.[2] The persistence of tight financing conditions also constrains the consumption decisions of indebted households and consumer spending on durable goods using credit. In addition, the savings cushion is smaller because, according to the ECB's Consumer

[2] See Box 3 "The impact of changes to personal income tax and social benefits in the 2024 State Budget on the income distribution in Portugal" in the December 2023 issue of the *Economic Bulletin*.

Expectations Survey, reducing it was one of the strategies used by households to overcome the recent surge in inflation. Falling inflation and higher interest rates are expected to incentivise saving. Thus, the saving rate increases in 2024 to 8.1% of disposable income, and stabilises in 2025–26 at 8.3%, which is higher than in the pre-pandemic years (6.9% on average in 2015–19), although below the euro area average.

Chart I.1.4 • Private consumption and disposable income | Rate of change in percentage and contributions to disposable income in percentage points



Sources: Banco de Portugal and Statistics Portugal. | Note: (p) – projected.

Public consumption is expected to show an average annual change of 0.9% (1% in 2023), with moderate growth in public employment.

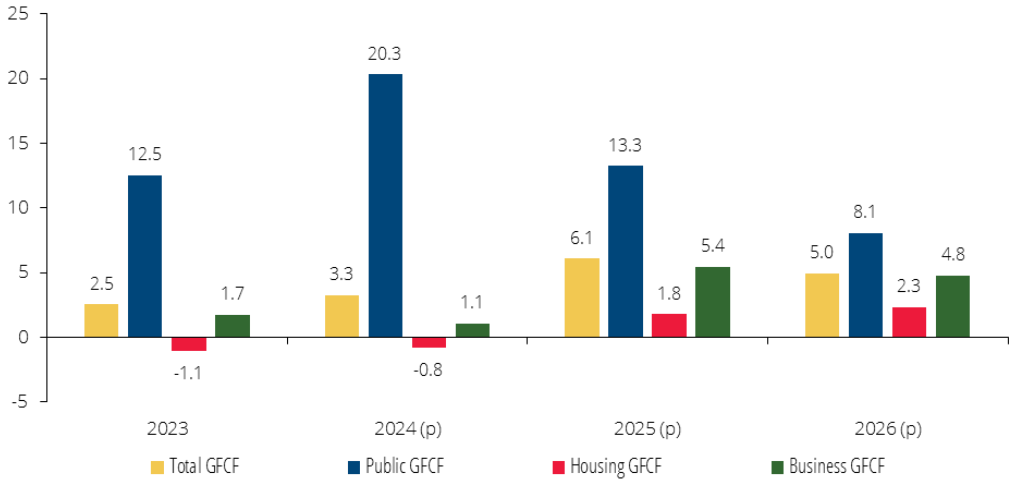
GFCF will grow by 3.3% in 2024, 6.1% in 2025 and 5% in 2026, benefiting from European funds and gradually improving financial conditions (Chart I.1.5). In 2024, the acceleration in GFCF stems mainly from developments in public investment – favoured by inflows of European funds, particularly those linked to the Recovery and Resilience Facility – whose growth will be more contained in subsequent years. Tighter financing conditions created some constraints for firms, although evidence suggests that they were not very significant in a context of increased use of internally generated funds. The gradual dissipation of these constraints, together with the impact of increased implementation of projects associated with European funds, implies an acceleration of business investment to rates of change more in line with its historical elasticity with respect to activity. Housing investment is expected to fall slightly in 2024, in a context where the construction sector continues to be affected by labour shortages and financing conditions remain tight. The fading-out of these effects and the maintenance of a favourable labour market situation should allow this GFCF component to recover in 2025–26.

Exports of goods and services will grow by 4.2% in 2024, 3.7% in 2025 and 3.4% in 2026 (Chart I.1.6 – Panel A). In 2022–23, very strong export growth benefited from the post-pandemic recovery in global demand for services, particularly tourism, a component which has a greater weight in Portuguese exports than in the euro area average. In 2024–26, the composition of exports becomes progressively more balanced between goods and services, reflecting the return of global consumption patterns to pre-pandemic trends.[3] Notwithstanding, tourism is expected to remain the most dynamic export component, favoured by decreasing global inflation and Portugal being perceived as a safe

[3] Attinasi et al, "Global trade in the post-pandemic environment", *Economic Bulletin*, ECB, 1/2024.

destination even among southern European countries.[4] Over the projection horizon, total export growth is close to that of foreign demand, implying continued, albeit gradually smaller, market share gains.

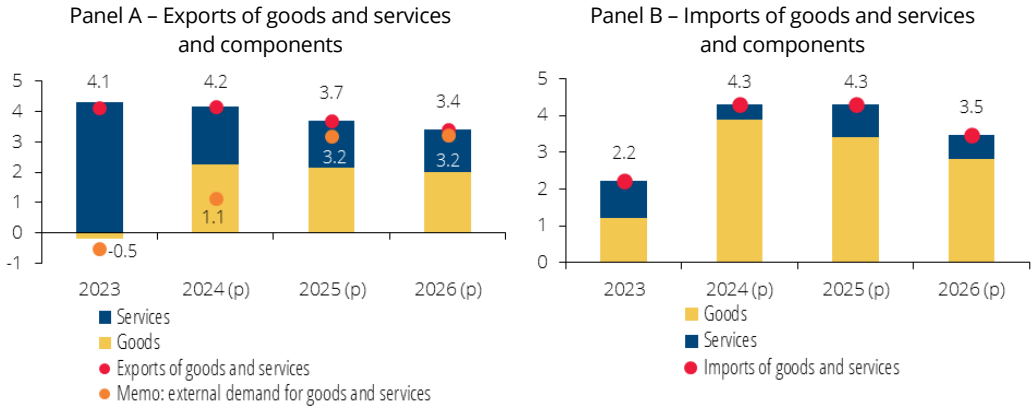
Chart I.1.5 • GFCF and components | Rate of change in percentage



Sources: Banco de Portugal and Statistics Portugal. | Note: (p) – projected.

The recomposition of exports and the acceleration of GFCF over the projection horizon translates into a shift of demand towards components with higher import content, implying average import growth of 4.3% in 2024–25 and 3.5% in 2026 (2.2% in 2023) (Chart I.1.6 – Panel B).

Chart I.1.6 • Trade in goods and services | Rate of change in percentage and contributions in percentage points



Sources: Banco de Portugal, Eurosystem and Statistics Portugal. | Notes: (p) – projected. The indicator of external demand for the Portuguese economy consists of an average of imports of trading partners, weighted by their share in Portuguese exports.

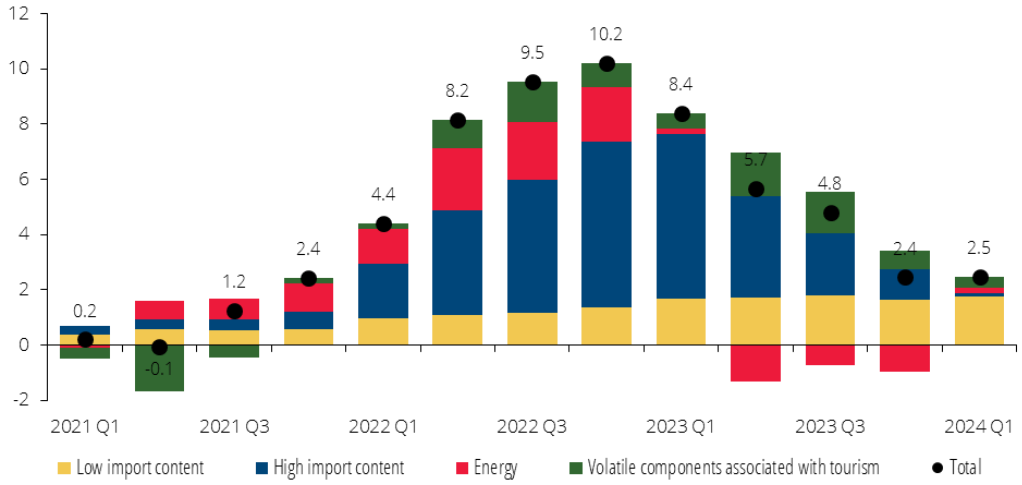
The surplus in the current and capital account increases from 2.7% in 2023 to 4.4% of GDP on average in 2024–26 (Table I.1.1). The balance of goods and services is expected to stand at 2.1% of

[4] According to the latest European Travel Commission forecasts, the number of people visiting southern Europe will grow by 8.7% in 2024, 6.4% in 2025 and 5.3% in 2026.

GDP on average over the projection horizon (1.2% in 2023), reflecting similar developments in volume between exports and imports and continued gains in terms of trade (Box 2). The balance of the secondary income and capital accounts also improves over the horizon, benefiting from inflows of European funds.

In 2024–26, employment grows at an annual average rate of 0.9%, similar to that recorded in 2023. Projected developments in employment are in line with the elasticity observed in the past with respect to activity growth. Employment growth in recent years has been supported by an increase in the labour force, associated with a rising participation rate and with population growth, boosted by positive net migration (Special issue – Characterisation of foreign employees in Portugal). Both the population and the participation rate are expected to continue on an upward path throughout the projection horizon. The unemployment rate is projected to remain stable, at 6.6%, like that observed in 2019. The latest business surveys signal contained pressures from labour supply bottlenecks, with a reduction in the share of firms reporting labour shortages as a factor limiting activity in most sectors. Only in construction does this percentage remain above the average of the last 10 years. Against this background, real wages, after increasing by 2.8% in 2023 and 2.2% in 2024, are expected to resume growth in line with labour productivity of close to 1.5% in 2025–26.

Chart I.1.7 • Observed HICP | Rate of change in percentage and contributions in percentage points



Sources: Banco de Portugal and Statistics Portugal. | Notes: Import content includes the direct and indirect content of private consumption in 2017. HICP items with a high import content correspond to those with an estimated import content of more than 20% of consumption expenditure. For more details on calculating the HICP by level of import content, see the June 2022 *Economic Bulletin*.

Inflation is projected to decrease to 2.5% in 2024, 2.1% in 2025 and 2% in 2026, reflecting lower external and internal price pressures. The dissipation of shocks to international prices of commodities and other goods is visible in the reduction in the contribution of the HICP components with larger import content to total inflation (Chart I.1.7). Inflation excluding energy and food will also decline from 5.4% in 2023 to 2.3% in 2024-26. These developments benefit from the fading out of the indirect effects of past shocks, notably energy prices (Box 3), as well as the projected deceleration in unit labour costs and more moderate growth in firms' gross operating surplus. In 2025–26, these factors are offset by an increase in the import deflator (average annual rate of change of 1.6% in 2025–26, after -1.3% in 2024).

The balance of risks underlying the projections for activity is balanced. Inflation risks are skewed upwards over the projection horizon. On the international side, more unfavourable developments in external demand could result from increased geopolitical tensions, caused by

ongoing wars or fragmentation of global trade.[5] The possibility of very different developments than anticipated in monetary policy outside the euro area, particularly in the United States, as well as the behaviour of activity in the Chinese economy, create some factors of uncertainty surrounding the current projection. Growth in real disposable income could be stronger and could feed into consumption more strongly than assumed in the current projections.

In the case of inflation, heightened geopolitical conflicts may lead to a rise in prices of some commodities. Recent upward surprises in services prices suggest that indirect and second-round effects of the inflation cycle may be more persistent, postponing convergence towards the ECB's inflation objective.

The Portuguese economy has benefited from a stable institutional and financial environment. Macroeconomic balances have been maintained, leading to a reduction in public and private indebtedness, which continues over the projection horizon. Some structural factors, such as the increase in the participation rate and the average qualification of the population, also explain recent robustness. However, there are global challenges of an economic, geopolitical, climate and demographic nature that reinforce the need to deepen the multilateral cooperation framework of the European Union.

[5] IMF, *World Economic Outlook*, April 2024.

Box 1 • External environment, financing conditions and policies

Global GDP growth remains at 3% over the projection horizon (Table B1.1). Growth in non-euro area advanced economies is expected to stabilise at 1.9% in 2024 and decline marginally in 2025–26, reflecting weaker momentum in private consumption amid the depletion of savings accumulated during the pandemic, gradual cooling of the labour market and the lagged impact of monetary policy tightening. Emerging economies gradually slow down over the projection horizon, reflecting the deceleration in the Chinese economy.

By contrast, economic activity projected for the euro area accelerates to 0.9% in 2024, 1.4% in 2025 and 1.6% in 2026. These developments rest on the recovery in real disposable income, given the decline in inflation, the gradual normalisation of financing conditions and higher global trade growth. Euro area growth displays significant cross-country dispersion. In particular, there is low growth in the larger economies, except for Spain, which contrasts with higher growth in smaller economies. Compared with the March projection exercise, growth in euro area activity was revised upwards by 0.3 p.p. in 2024 and downwards by 0.1 p.p. in 2025.

Table B1.1 • Eurosystem staff projection assumptions

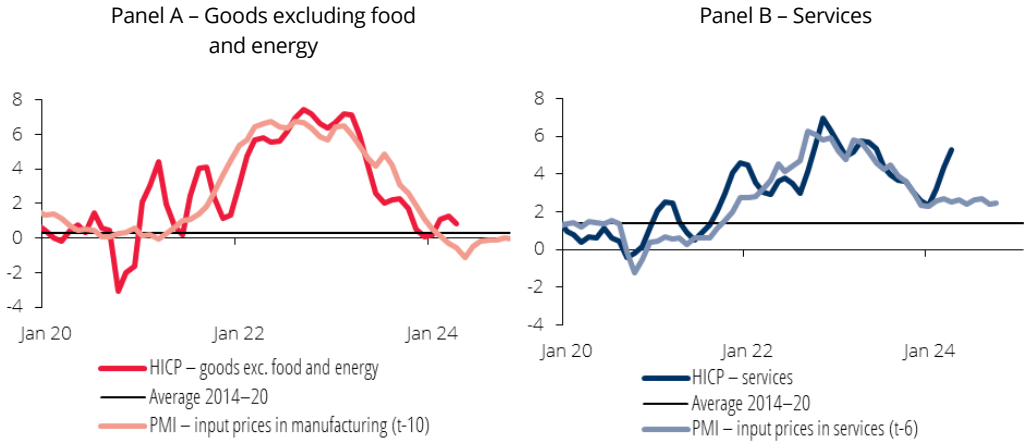
		EB june 2024				Revisions from EB march 2024			
		2023	2024	2025	2026	2023	2024	2025	2026
International environment									
World GDP	yoy	3.1	3.0	3.0	3.0	0.0	0.0	0.0	0.0
Euro area GDP	yoy	0.6	0.9	1.4	1.6	0.1	0.3	-0.1	0.0
World trade	yoy	0.4	2.1	3.3	3.2	-0.1	-0.2	0.1	0.0
External demand	yoy	-0.5	1.1	3.2	3.2	0.0	-0.4	0.1	0.1
International prices									
Oil prices	aav	77.5	77.7	72.4	69.2	0.0	3.9	3.1	2.3
Gas prices (MWh)	aav	40.6	30.8	35.4	29.9	0.0	0.8	3.3	0.4
Non-oil commodity prices	yoy	-14.5	11.7	4.1	0.9	0.0	11.1	2.0	0.8
Competitors' import prices	yoy	-1.6	0.8	2.6	2.3	-0.2	-0.2	0.0	-0.1
Monetary and financial conditions									
Short-term interest rate (3-month EURIBOR)	%	3.4	3.6	2.8	2.5	0.0	0.2	0.4	0.1
Implicit interest rate in public debt	%	2.1	2.4	2.5	2.6	0.0	0.1	0.2	0.2
Effective exchange rate index	yoy	4.9	1.8	0.1	0.0	0.0	0.7	0.1	0.0
Euro-dollar exchange rate	aav	1.08	1.08	1.08	1.08	0.0	0.0	0.0	0.0

Sources: Banco de Portugal and Eurosystem (Banco de Portugal calculations). | Notes: yoy – year-on-year rate of change, % – in percentage, aav – annual average value, MWh – megawatt-hour. Technical and external environment assumptions, as well as projections for euro area GDP and inflation, coincide with those in the ECB projection exercise released on June 6 (see "Eurosystem staff macroeconomic projections for the euro area", june 2024), which include information up to May 21. International prices are in euros. The technical assumptions for the price of oil, gas and non-energy commodities is based on futures markets. The import price of competitors corresponds to a weighted average of the export deflators of the countries from which Portugal imports, weighted by their share on total Portuguese imports (for more information, see "Trade consistency in the context of the Eurosystem projection exercises: an overview", *ECB Occasional Paper* 108, March 2010). The evolution of the 3-month EURIBOR is based on expectations implied in futures contracts. The implicit interest rate on public debt is computed as the ratio of interest expenditure for the year to the simple average of the stock of debt at the end of the same year and at the end of the preceding year. An increase in the exchange rate corresponds to an appreciation of the euro. The effective exchange rate of the euro is computed against 42 trading partner countries. The technical assumption for bilateral exchange rates assumes that the average levels observed in the 10 business days prior to the cut-off date are maintained over the projection horizon.

Following weak developments in 2023, global trade is expected to accelerate over the projection horizon (Table B1.1). In 2025–26, it evolves in line with global GDP, but remains below the level that would have been achieved had it maintained the average growth rate of 2015–19 after the outbreak of the pandemic. Moderate trade developments appear to be partly related to structural changes in trade relations between economies caused by heightened geopolitical tensions. Compared to global trade, the recovery in external demand for Portuguese goods and services is less pronounced in 2024 (rate of change of 1.1%, after -0.5% in 2023) – reflecting the reduced momentum observed in intra-EU trade – but growth is close to that of global trade in the following years (3.2% in 2025–26).

Global inflation declines over the projection horizon and more markedly in 2024–25. In 2024, the decline will mainly result from lower underlying inflation in advanced economies. Inflation in the euro area is expected to decrease to 2.5%, 2.2% and 1.9% in 2024, 2025 and 2026 respectively (excluding food and energy, to 2.8%, 2.2% and 2.0%). In early 2024 there were some upward pressures on prices, particularly for services , but PMI indicators point to stabilisation in the coming months (Chart B1.1).

Chart B1.1 • HICP and PMI indicator for the price of inputs in the euro area | Annualized quarter-on-quarter variation rate of 3-month moving average and seasonally adjusted data

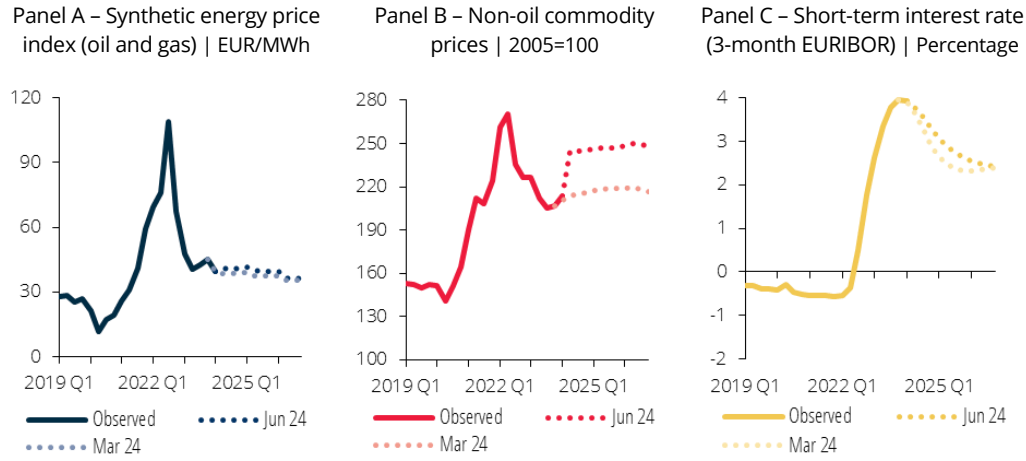


Sources: Eurostat and S&P Global (Banco de Portugal calculations). | Notes: The quarter-on-quarter variation rate of the 3-month moving average considers information from the seasonally adjusted HIPC over a period of six months, corresponding to the variation of the average of the last 3 months over the average of the immediately preceding 3-month period. The scale of PMI indicators for input prices in manufacturing and services was changed so that they present the mean and standard deviation of the corresponding underlying inflation indicator, and were lagged by 10 and 6 months, respectively.

International energy prices remain moderate over the projection horizon, while non-energy commodity prices increase significantly (Chart B1.2 – Panels A and B). According to the June exercise assumptions, non-energy commodity prices increase by 17.3% cumulatively over 2024–26 (reflecting a marked upward revision compared to the March projections). In particular, food commodity prices increase by 20.1% in 2024 and remain high in 2025–26. Changes in import prices of Portugal's competitors in external markets are expected to recover in 2024, from -1.6% to 0.8%, and to stand at around 2.5% in 2025–26.

Expectations implicit in futures contracts point to a reduction in short-term interest rates over the projection horizon, despite being revised upwards from the March projections (Chart B1.2 – Panel C). On annual average terms, the three-month EURIBOR is expected to fall from 3.6% in 2024 to 2.8% in 2025 and 2.5% in 2026 (Table B1.1). The implicit interest rate on Portuguese debt will gradually increase from 2.1% in 2023 to 2.6% in 2026, reflecting the replacement of debt issued at lower interest rates before 2022 with more recently issued debt (Chapter I.2 – Public finance analysis and projections). The nominal effective exchange rate of the euro will appreciate by 1.8% in 2024.

Chart B1.2 • Projection assumptions for the prices of energy and other commodities and for the short-term interest rate



Sources: Eurosystem and Refinitiv (Banco de Portugal calculations). | Notes: The dashed lines encompass the period after the last complete quarter at the closing date of the technical assumptions of the projection exercise. Technical assumptions for the price of oil, gas and other commodities are based on futures markets. The synthetic energy price indicator is a weighted average of oil and gas prices, both expressed in EUR/MWh (with weights for Portugal based on the respective net imports).

Box 2 • Terms of trade in goods

Terms of trade measure the relative price of exports compared to the price of imports and represent the purchasing power of domestically produced goods and services. A gain (loss) in terms of trade will lead to an increase (decrease) in the ability to purchase imports with the same volume of exports and has a positive (negative) impact on the goods and services account balance.

The terms of trade of an economy such as Portugal are largely exogenous, being mainly driven by global price developments. For instance, an increase in the international price of oil or other commodities of which Portugal is a net importer worsens terms of trade. However, terms of trade also have an endogenous component, associated with the structure of exports and imports, reflecting the availability and quality of inputs vis-à-vis other countries, i.e. capital, human and natural resources, knowledge and technology. Moreover, exported goods may profit from changes in quality, the incorporation of higher value added and a better market positioning, reflected in higher export prices.

Terms of trade in goods in Portugal remained stable between 2015 and 2020 (Chart B2.1). In 2021–22, there was a marked deterioration, followed by only a partial recovery in 2023.[6] Conversely, the cumulative change in terms of trade, excluding energy, was positive in the 2015–23 period (2.3%). These

[6] The change in terms of trade in goods and services implicit in national accounts does not differ significantly from that of total goods, given the higher weight of this component in international trade. In 2023, the services component is likely to also have made a favourable contribution to terms of trade gains. However, the information available does not allow this effect to be broken down by type of service.

developments continue a trend already seen in previous years: between 2006 and 2017, the cumulative change in terms of trade in goods excluding fuel was 12%.[7] Terms of trade in goods are heavily affected by oil price volatility in international markets as oil and its derivatives account for a larger share of imports and their demand is not very price-sensitive (i.e. it has low elasticity). In 2021 and 2022, terms of trade deteriorated markedly (-6.6%), reflecting the contribution of the energy component (-8 p.p.) associated with the sharp rise in oil prices over this period (66% in 2021 and 64% in 2022, measured in euro) (Chart B2.2). The reverse was observed in 2023, when oil prices fell (-21%).

Chart B2.1 • Terms of trade | Index 2015 = 100

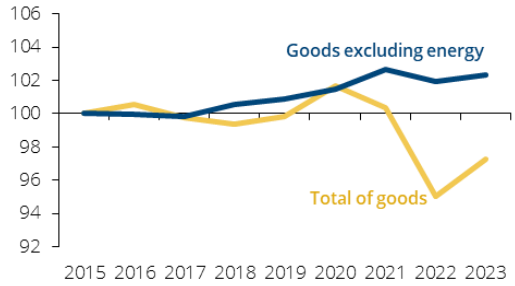
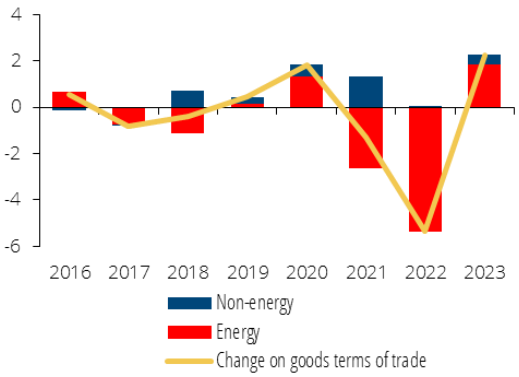


Chart B2.2 • Terms of trade in goods change – contributions of energy and non-energy | In percentage points



Source: Statistics Portugal – Goods International Trade Statistics (Banco de Portugal calculations). | Notes: Regarding the terms of trade breakdown, see note to chart B2.3.

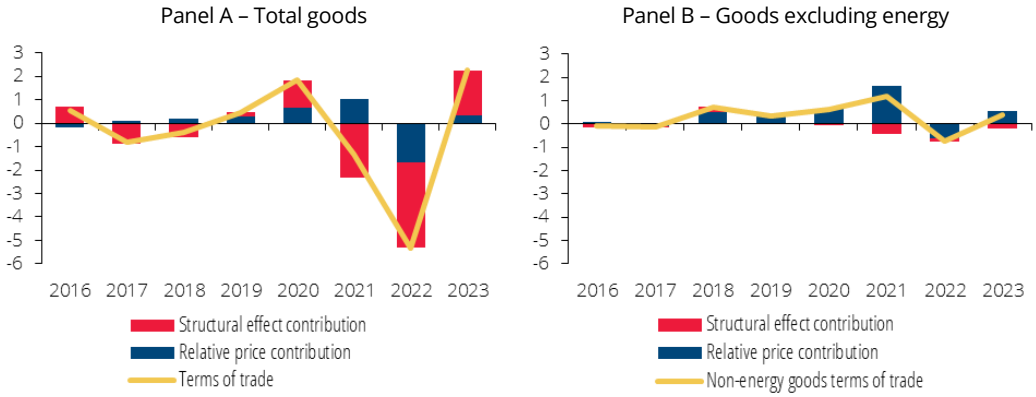
It is possible to break down developments in terms of trade in goods into two effects – structure and relative price – by product group (see the description of the methodology in the note to Chart B2.3). The structural effect measures the impact of the economy's sectoral specialisation. The country tends to have gains in terms of trade if it is relatively more specialised in products whose prices in international trade record higher growth. The relative price effect measures the effect of relative developments in export and import prices for the same product. The country tends to have gains in terms of trade if, for each product, the change in export prices is greater than that of import prices.

Chart B2.3 presents a breakdown of the annual change in terms of trade in goods (total and excluding energy goods) throughout the period 2015–23. For total goods, developments mainly reflected structural effects. In turn, when energy goods are excluded, positive developments in terms of trade were determined by relative price effects.

Table B2.1 details the breakdown by product group of terms of trade for the period 2015–23. Over this period, the cumulative change in terms of trade for goods was -2.7% and reflected a negative contribution from the energy component (-5.9 p.p.) and a positive contribution from non-energy goods (+3.2 p.p.) (Table B2.1). In the case of energy, there was a negative structural effect – associated with the large weight of this type of goods in Portuguese imports and the sharp rise in oil prices over this period – and, to a lesser extent, an also negative relative price effect. In the case of non-energy goods, the relative price effect was dominant (2.8 p.p.), with the structural effect contributing 0.3 p.p. (Table B2.1).

[7] For an analysis and breakdown of terms of trade for the period 2006–17, see the box entitled "Analysis of developments in Portuguese terms of trade in the recent period" in the May 2018 issue of the *Economic Bulletin*.

Chart B2.3 • Terms of trade in goods change and contributions of structure and relative price effects | In percentage points



Source: Statistics Portugal - Goods International Trade Statistics (Banco de Portugal calculations). | Notes: The terms of trade change may be broken down into the sum of contributions of different types of products i in the following way:

$$\Delta ToT_t = yrc_t^X - yrc_t^M = \underbrace{\sum_i (\omega_{i,t}^X - \omega_{i,t}^M) \cdot \overline{yrc}_{i,t}}_{\textit{Structural effect}} + \underbrace{\sum_i (yrc_{i,t}^X - yrc_{i,t}^M) \cdot \bar{\omega}_{i,t}}_{\textit{Relative price effect}}$$

$$\overline{yrc}_{i,t} = \frac{yrc_{i,t}^X + yrc_{i,t}^M}{2}; \bar{\omega}_{i,t} = \frac{\omega_{i,t}^X + \omega_{i,t}^M}{2}$$

being $yrc^X_{i,t}$ and $w^X_{i,t}$ ($yrc^M_{i,t}$ and $w^M_{i,t}$) the annual rate of change of prices and the weight in total exports (imports) of each component i in t. The structural effect measures the impact on the terms of trade of the sectoral specialization of the economy. The relative price effect measures the effect of the different export and import price evolution within each sector. For further details, see Cardoso, F. and Esteves, P. (2008), "Globalisation, Structural Changes in Exports and the Portuguese Terms of Trade", *Economic Bulletin* Spring 2008, Banco de Portugal.

The products that contributed positively to the change in terms of trade in the period under analysis include textiles and clothing, wood, cork and paper products, and rubber and plastic products (Table B2.1). In textiles and clothing, which have a greater weight on the export side, the positive contributions (0.5 and 1.6 p.p. respectively) mainly reflected the relative price effect, with export price changes substantially higher than import price changes. Wood, cork, and paper products contributed 1.6 p.p. to the change in terms of trade, mainly reflecting a positive structural effect resulting from the Portuguese economy's specialisation in this sector, which was increased by higher relative growth in export prices. Rubber and plastic products also made a positive contribution to the 1 p.p. change in terms of trade in goods, largely driven by favourable developments in relative prices.

Negative contributions to developments in terms of trade in goods excluding energy were concentrated in agricultural products (-1.1 p.p.), machinery (-0.9 p.p.) and chemical products (-0.6 p.p.) (Table B2.1). In the case of primary sector goods, the contributions of the relative price and structural effects were similar, reflecting higher import price growth and the fact that the country is a net importer of this type of goods.

Gains in terms of trade in non-energy goods over the recent period are underpinned by favourable relative price developments in most of the product groups under review. This suggests, on the one hand, deepening structural changes in the exporting sector, shifting towards higher quality and value-added products. On the other hand, it suggests that the favourable impact of the globalisation process on import price developments has persisted.

Table B2.1 • Groups of products' contribution to the terms of trade total variation – 2023 vs. 2015 | Cumulative growth as a percentage and contributions in percentage points

			2023 vs 2015					
	Average weight (%)		Cumulative growth (%)			Contributions (pp)		
	Exports	Imports	Export prices	Import prices	Terms of trade	Structural effect	Relative price effect	Total effect
Agriculture, hunting and fishing	3.1	5.7	14.6	27.7	-13.0	-0.5	-0.6	-1.1
Mining and quarrying	1.1	0.2	35.8	11.6	24.2	0.2	0.1	0.3
Manufacturing	89.4	82.1	21.6	18.6	3.0	1.3	2.7	3.9
Food and beverages	8.9	9.4	30.3	29.4	0.8	-0.1	0.1	0.0
Rubber and plastic products	5.6	3.2	21.2	5.0	16.2	0.3	0.7	1.0
Textiles, clothing and footwear	11.9	7.0	20.7	1.4	19.3	0.5	1.8	2.3
Textiles	3.3	2.3	13.9	-1.4	15.2	0.1	0.4	0.5
Clothing	5.7	3.8	28.1	-1.2	29.3	0.2	1.4	1.6
Footwear and leather	3.0	0.9	14.8	18.8	-3.9	0.3	-0.1	0.2
Wood, cork, pulp and paper products	7.2	2.8	31.2	18.9	12.3	1.0	0.6	1.6
Machinery and equipment	15.3	18.0	19.8	23.7	-3.8	-0.4	-0.5	-0.9
Transport equipment	14.0	13.7	18.6	16.9	1.7	0.1	0.2	0.3
Mineral and metal products	12.3	9.3	22.7	26.9	-4.2	0.6	-0.4	0.1
Chemical products	8.1	14.4	24.8	16.7	8.2	-1.6	1.0	-0.6
Other	6.2	4.3	11.4	11.6	-0.2	0.2	0.0	0.1
Non-energy	93.6	88.0	21.4	19.1	2.3	0.3	2.8	3.2
Energy	6.4	12.0	87.5	113.6	-26.1	-3.8	-2.1	-5.9
Total	**100.0**	**100.0**	**22.9**	**25.6**	**-2.7**	**-3.5**	**0.8**	**-2.7**

Source: Statistics Portugal – Goods International Trade Statistics (Banco de Portugal calculations). | Notes: Regarding the terms of trade breakdown, see note to chart B.2.3.

Box 3 • The pass-through of energy prices to the HICP

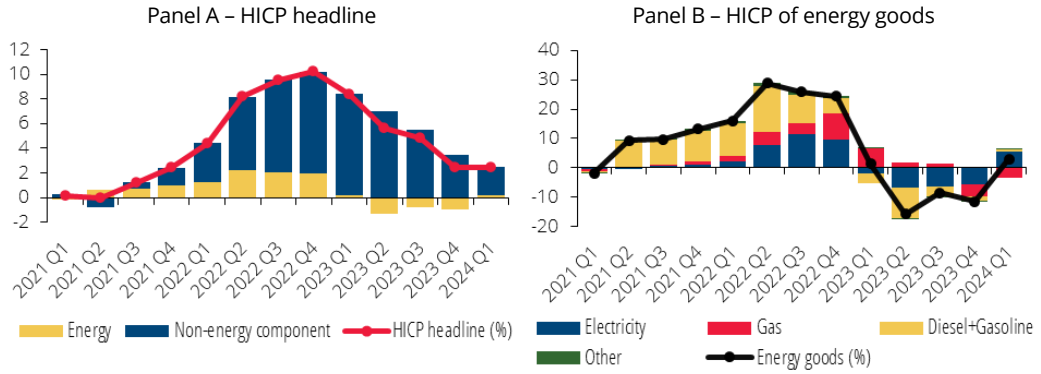
Energy consumer prices increased by 25.7% between the second quarter of 2021 and the last quarter of 2022, largely reflecting the rise in international prices of energy commodities. In 2023 the HICP for energy goods decreased by 8.9%. Total HICP grew by 8.1% in 2022 and 5.3% in 2023, with the energy component contributing 1.9 p.p. and -0.7 p.p. respectively (Chart B3.1 – Panel A). In the first quarter of 2024 the HICP for energy increased further – largely due to rising electricity prices (Chart B3.1 – Panel B) –, with its contribution to inflation standing at 0.2 p.p. (the year-on-year change in the HICP was 2.5%).

This box examines the impact of a shock to the HICP for energy goods and its pass-through to inflation in Portugal, distinguishing the direct effects, which affect the energy component of the HICP, from indirect effects, which affect the prices of the remaining goods and services.[8] An example of

[8] This box looks at first-round indirect effects only, i.e. it does not assess any impact on wages, which subsequently affect price formation. For further information on first-round effects, both direct and indirect, and second-round effects, see Esteves and Neves (2004), "Economic effects of oil price fluctuations," *Economic Bulletin*, December 2004.

these indirect effects is the impact on transport prices, which in turn tends to affect a large share of other consumer prices.

Chart B3.1 • HICP headline and HICP of energy goods | Year-on-year change rate in percentage and contributions in percentage points



Source: Eurostat (Banco de Portugal calculations).

Direct and indirect impacts are quantified resorting to a Bayesian Vector Autoregressive (BVAR) model, estimated with monthly data for the Portuguese economy for the period from January 2004 to March 2024. The model, in line with Corsello and Tagliabracci (2023) and Neri et al. (2023),[9] includes five variables, defined in year-on-year rates of change: HICP for energy, real GDP, compensation per employee, HICP for food and underlying HICP (headline HICP excluding food and energy). The responses of the various inflation components to a shock of one standard deviation in energy prices, corresponding to a 2.2% increase, are illustrated in Chart B3.2.

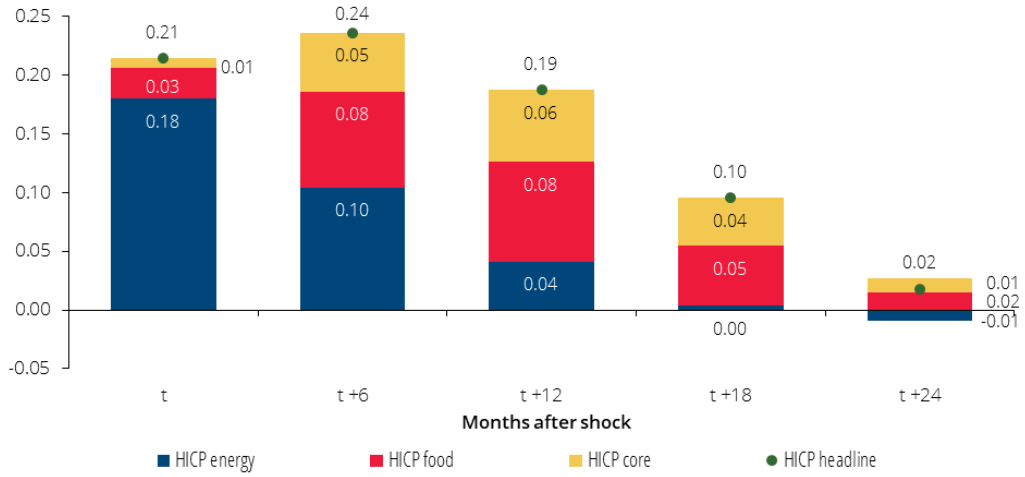
At the time of the increase, the predominant effect occurs via the energy component (0.18 p.p.) and translates into a total impact of 0.21 p.p. on inflation. The maximum effect of the shock occurs after six months, with inflation rising by 0.24 p.p. However, the contribution of energy falls to 0.1 p.p. The intertemporal profile of the inflation response shows that, unlike the contribution from energy goods, which has progressively fallen, the contributions of food goods and underlying inflation are lagged and persistent. The impact of rising energy prices on food price dynamics is, on average, four times greater than the impact on underlying inflation dynamics. Considering the weight of each component in headline inflation – 24% for food and 68% for core inflation in 2023 – their contributions to inflation after the shock end up coming close over the horizon.

The estimated model can be used to quantify direct and indirect effects of the energy shock of 2021–22 (Chart B3.3).

In October 2022 inflation peaked at 10.6% and, according to the estimated model, the direct impact via the price of energy component was around 1.9 p.p., while the contribution from indirect effects was 2.4 p.p., 1.5 p.p. via food and 0.9 p.p. via underlying inflation. The overall impact of energy goods accounted for 41% of inflation that month. Chart B3.3 also illustrates the persistence of the indirect effects of energy prices on the price of food and other goods and services, which remain positive, while the direct contribution of energy prices to inflation dynamics turns negative from March 2023.

[9] Corsello and Tagliabracci (2023), "Assessing the pass-through of energy prices to inflation in the euro area", Occasional Paper No 745, Banca D'Italia; and Neri, Busetti, Conflitti, Corsello, Delle Monache and Tagliabracci (2023), "Energy price shocks and inflation in the euro area", *Occasional Paper* No 792, Banca D'Italia.

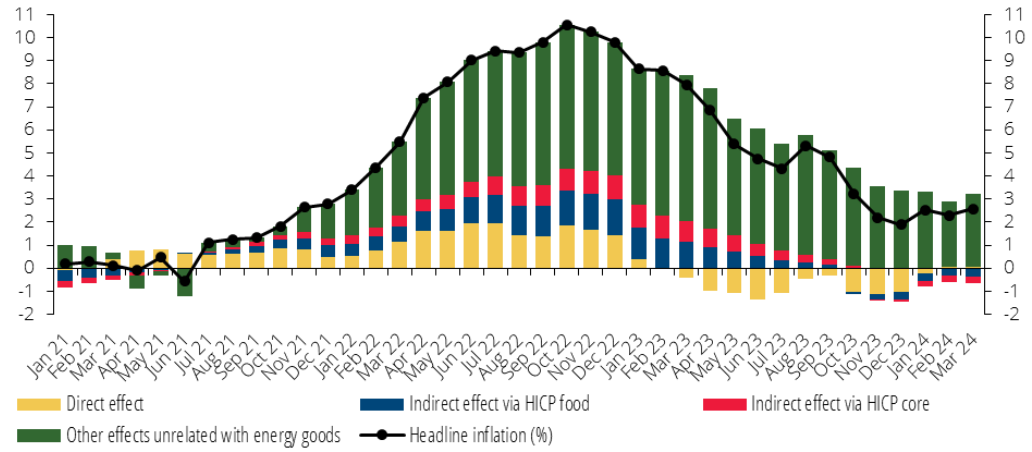
Chart B3.2 • Response of inflation and its components to a shock of 1 standard deviation in energy prices | Percentage points



Sources: Eurostat and Statistics Portugal (Banco de Portugal calculations). | Notes: Response to a positive one standard deviation shock in the year-on-year growth rate of the HICP for energy goods, which corresponds to an increase of 2.2%. A BVAR model with stochastic volatility and random inertia was estimated using monthly data. The variables were transformed into year-on-year growth rates. The estimation sample was Jan 04–Mar 24. The model included 12 lags of each variable. The variables real GDP and wages per worker were converted to a monthly frequency using the Litterman method. The identification of shocks was obtained using the Cholesky decomposition of the variance-covariance matrix of the residuals, following the order of the variables as presented in the main text. The total HICP is obtained through the aggregation of the subcomponents using their respective annual weights.

Table B3.1 summarises the direct, indirect and total contributions to annual inflation from structural shocks to the HICP for energy, based on the estimated model. Calculations for 2023 show that the reduction in inflation benefited from a negative but contained direct contribution from energy goods (-0.7 p.p.), showing a partial reversal of the 2022 effect. The indirect effects of energy via food and underlying inflation stood at 0.5 p.p. each. Recent inflation dynamics in early 2024 and the impacts estimated using the model point to the indirect effects of energy prices on inflation turning negative in the first quarter of the year, while the direct effect was nil (Chart B3.3 and Table B3.1).

Chart B3.3 • Historical decomposition of inflation and direct and indirect contributes of structural shocks to energy prices | Y-o-y rate of change in percentage and contributions in percentage points



Sources: Eurostat (Banco de Portugal calculations). | Notes: The source of the contributes is the historical decomposition of the estimated BVAR model, which is conditioned by the assumed method of identification of structural shocks (Cholesky method). The direct effect of energy on inflation dynamics corresponds to the contribution of structural shocks in the HICP of energy goods to the dynamics of total HICP. The indirect effects refer to the contribution of structural shocks in the HICP of energy goods to the dynamics of the remaining components of the HICP.

Table B3.1 • Contributions to inflation from structural energy price shocks | Percentage points

	Direct effect	Indirect effect		Total effect on inflation	memo: headline inflation (%)
		via HICP food	via HICP core		
2021	0.6	0.0	0.0	0.6	0.9
2022	1.4	1.1	0.7	3.3	8.1
2023	-0.7	0.5	0.5	0.3	5.3
2024 Q1	0.0	-0.3	-0.3	-0.6	2.5

Source: Eurostat (Banco de Portugal calculations).

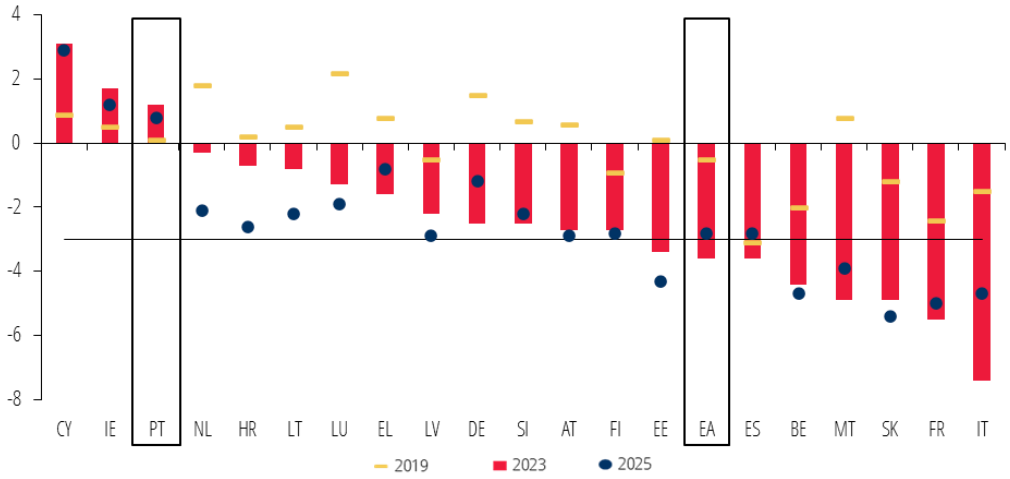
2 Public finance analysis and projections

The budget surplus will decline by 2026, considering only measures complying with the Eurosystem projection guidelines and the cut-off date.[10]

The approval and announcement of new measures with a budgetary impact in the weeks preceding the publication of this Bulletin affect the assessment of Portugal's public finance situation in the coming years. The magnitude of these measures and their nature – revenue decrease and/or increase in expenditure – imply a reduction in the budget balance. Based on the available information, a return to a deficit situation is likely, putting at risk the desirable path for public expenditure under the new European fiscal rules (Box 4).

The budget balance of 1.2% of GDP in 2023 (1.6% excluding temporary measures) was the third highest surplus in the euro area (Chart I.2.1). The primary balance, which excludes interest expenditure, reached 3.4% of GDP. In the following years, the overall balance is projected to decrease to 1% in 2024, and to 0.8% and 0.6% in 2025 and 2026, without taking into account the measures announced meanwhile and/or already approved. These measures refer to the reduction in personal income tax, the support package for young people, the extension of the VAT reduction in electricity, housing support and health enhancement, as well as wage revisions of various public service careers (Box 5).

Chart I.2.1 • General government balance outturn and projections in Portugal and the euro area | Percentage of GDP



Sources: Statistics Portugal and Banco de Portugal (Portugal) and European Commission (remaining countries and euro area aggregate). | Notes: Countries are ordered by the 2023 budget balance. The values projected by the European Commission for Portugal are 0.4% and 0.5% of GDP in 2024 and 2025.

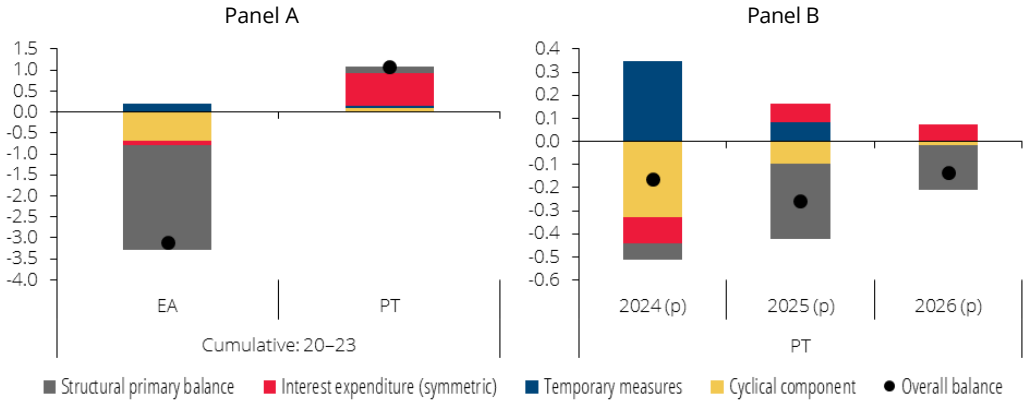
In contrast to the euro area, the structural primary balance reached its pre-pandemic level in 2023. Compared to 2019, the budget surplus benefited from a substantial reduction in interest expenditure, despite the increase observed in 2023 (Chart I.2.2 – panel A). In the euro area, the

[10] The fiscal projections for Portugal presented in this Bulletin are prepared according to the guidelines of the Eurosystem projection exercises, incorporating only those measures that have been approved by the parliament or already been defined in detail by the government and are likely to pass the legislative process. The cut-off date for the current projections was May 21.

deficit exceeded the 3% threshold in 2023 and is 3.1 p.p. higher than before the pandemic, reflecting a deterioration in structural terms and a more unfavourable economic situation.

Over the projection horizon, even without considering the additional measures already approved and/or announced, the structural primary balance deteriorates. In 2024–26, the contribution of the cyclical component to the change in the budget balance is negative (-0.4 p.p.), reflecting a slowdown in economic activity (Chart I.2.2 – panel B). Conversely, measures classified as temporary make a favourable contribution to the change in the balance (+ 0.4 p.p.).[11] The ratio of interest expenditure stabilises. Thus, the structural primary balance is projected to deteriorate by 0.6 p.p. Structural primary expenditure is expected to increase by 0.9 p.p. of GDP, exceeding the 0.2 p.p. increase in structural revenue.

Chart I.2.2 • Breakdown of the change in the general government balance in Portugal and the euro area | Percentage points of GDP and potential GDP



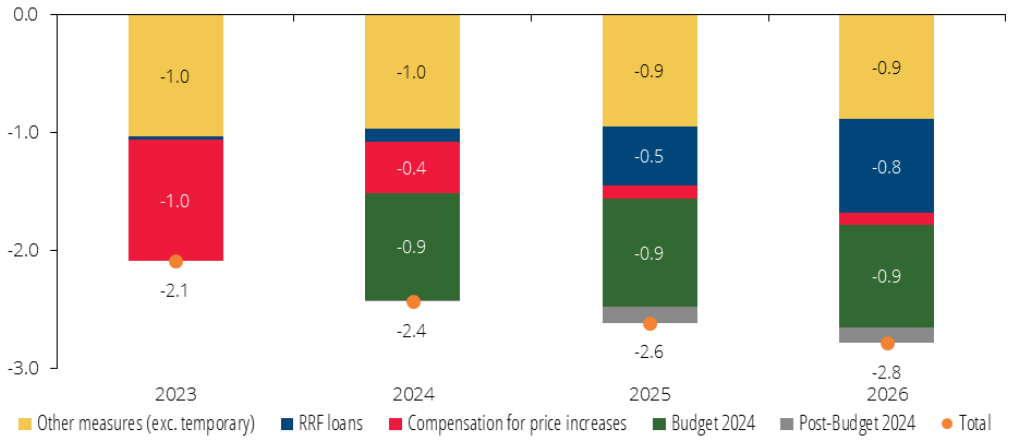
Sources: Statistics Portugal, European Commission (euro area) and Banco de Portugal. | Note: Correction for cyclical effects and temporary measures is calculated by Banco de Portugal in accordance with the methodology and definitions used in the ESCB. For more details, see Braz et al. (2019), "The new ESCB methodology for calculating cyclically adjusted budget balances: an application to the Portuguese case", *Review of Economic Studies*, Volume V, no. 2, April, Banco de Portugal.

The measures adopted in the 2024 State Budget and the implementation of the RRP justify the expansionary policy stance. In 2023, compensation measures for the increase in prices amounted to 1% of GDP and are expected to reverse over the projection horizon (Chart I.2.3). However, in 2024, this reversal (expected to reach €1.5 billion) is more than offset by the measures approved in the 2024 State Budget, notably those related to the personal income tax and the strengthening of social benefits to combat poverty (€2.5 billion as a whole). In 2025 and 2026, the balance is adversely affected by the impact of the RRP programmes financed by loans.

Regarding the recently presented measures, the projection exercise includes only the abolition of tolls in some highways (former SCUT) (€180 million from 2025 onwards) and the changes to the solidarity supplement for the elderly (€220 million in a full year).

[11] In 2023, following the Eurosystem's definition, these measures included the recording of additional losses on non-recoverable loans held by Parvalorem S. A. (€916 million) and a ruling by the Supreme Administrative Court, determining the payment of €228 million by the State to EDP, as a refund for the amount paid in 2009 for the exploitation rights of the Fridão dam concession, which was never constructed. In 2024, a €236 million compensation was accounted for to be payable by Infraestruturas de Portugal in the event of a litigation. No temporary measures were considered in 2025 and 2026.

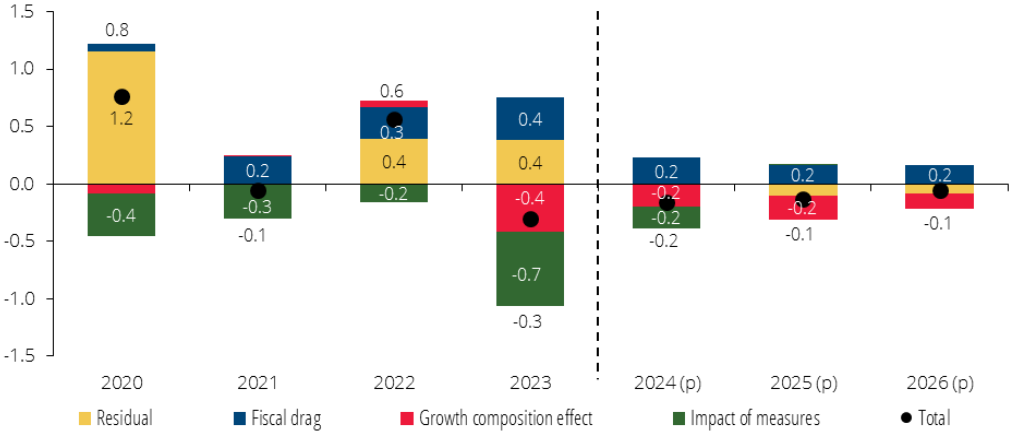
Chart I.2.3 • Direct impact of policy measures on the budget balance in Portugal | Percentage of GDP



Source: Banco de Portugal. | Note: The 'Post-Budget 2024' component refers to recently adopted measures, including the abolition of tolls on former SCUT roads and changes to the solidarity supplement for the elderly.

For 2024, the revenue from taxes and social contributions as a ratio to GDP is projected to decline, as was the case in 2023. Revenue from taxes and contributions is expected to grow by 5.4% in 2024, which is less than expected for nominal GDP (Chart I.2.4). As regards the impact of the measures adopted, the reduction in personal income tax (€1.3 billion) is mitigated by the end of the "the zero" VAT on essential goods (€520 million) and the partial reversal of the tax rates on oil products (Imposto sobre os Produtos Petrolíferos – ISP) (€205 million). It is expected that ISP rates before support will be reached by mid-2025 (cumulative estimated impact on revenue of €650 million in 2024–25), assuming more gradualism than foreseen in the 2024 State Budget. For this effect to materialise, the regulations governing the ISP must be updated in 2024 and again in 2025. The composition of growth adversely affects the revenue of indirect taxes mainly through private consumption growth below GDP. Personal income tax progressivity continues to make a positive contribution to the change in the revenue ratio, albeit lower than in 2023 (Box 6). In 2025 and 2026, the revenue-to-GDP ratio stabilises, although the projection does not consider the new policy measures adversely affecting these developments.

Chart I.2.4 • Breakdown of the change in revenue from taxes and social contributions in Portugal | Percentage points of GDP



Source: Statistics Portugal and Banco de Portugal. | Note: For more details, see Braz et al. (2019).

Primary current expenditure grows by 7.4% in 2024, increasing as a percentage of GDP. In 2024, the significant contribution of this aggregate to the improvement in the budget balance that took place in the two previous years is reversed, as a result of strong nominal GDP growth and the unwinding of pandemic-related support measures (Chart I.2.5).

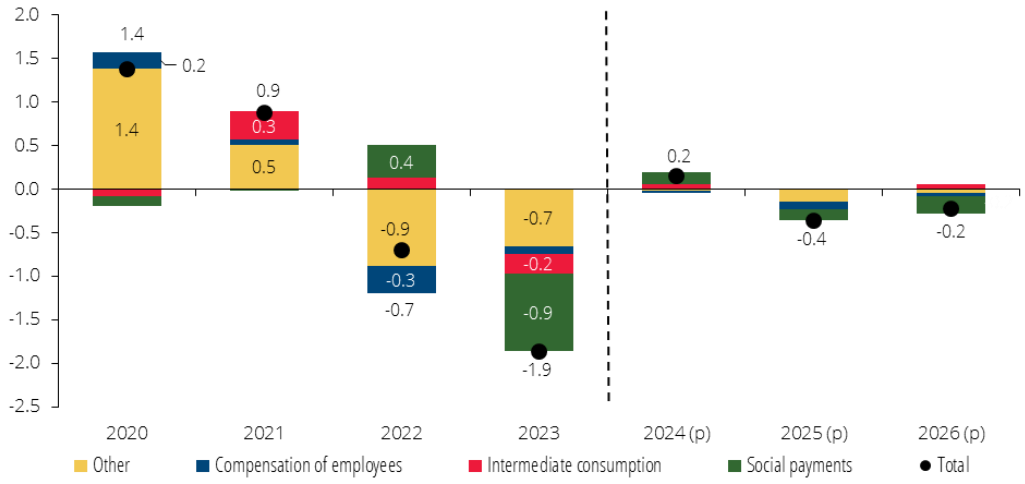
The analysis of developments in expenditure over the projection horizon is hindered by the successive announcement of measures, in some cases unassessed as to their budgetary cost. From 2025 onwards, the path of government expenditure, as well as discretionary decisions on tax reductions, are of particular relevance in the context of the new European fiscal rules. The relevant aggregate for applying these rules is primary expenditure net of discretionary revenue measures, expenditure programmes financed by European funds, the cyclical component of unemployment benefits and measures classified as temporary by the European Commission.

Based on current information, and considering nominal potential GDP growth as a benchmark, there is no room for policy measures that could deteriorate the fiscal position unless they are implemented with offsetting measures to reduce expenditure and/or increase taxes. The timely assessment of these measures is crucial for the smooth conduct of fiscal policy (Box 5).

A significant part of primary current expenditure growth is explained by developments in pension expenditure. In 2024, this expenditure will grow by 9.5% in the general scheme, decelerating to 4% under the existing legal framework in the following years. The increase in social benefits linked to price increases was fully reversed in 2024, but in contrast, permanent measures were approved in the 2024 State Budget to support children and combat poverty, mitigating the impact of this reversal.

Public sector wage bill increases 6.4% in 2024. Based solely on the information included in the 2024 State Budget and a rise in the number of civil servants by 0.3% per year, lower than in recent years, an increase in staff costs of €1.6 billion is estimated. Intermediate consumption grows 8% in 2024.

Chart I.2.5 • Breakdown of the change in structural primary current expenditure in Portugal
| Percentage points of GDP and potencial GDP

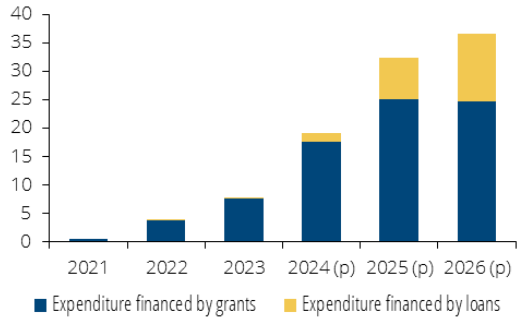


Sources: Statistics Portugal and Banco de Portugal.

With the implementation of the RRP, the public investment-to-GDP ratio increases from 2.5% in 2023 to 3.4% in 2026. The projection incorporates the implementation profile of the RRP provided for in the recent update of the Stability Programme, notably with an increase in the component financed

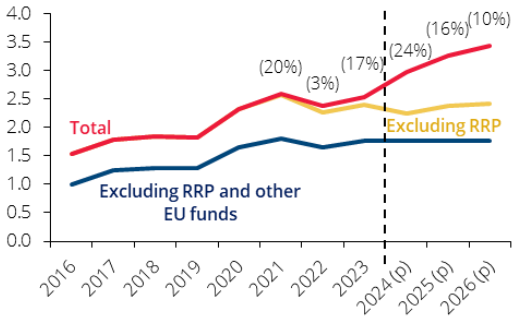
by loans in 2025 and 2026 (Chart I.2.6). With the impetus of the RRP, public investment grows by 24% in 2024, albeit mitigated by the effect of the transition between EU frameworks, followed by 16% and 10% in 2025 and 2026 (Chart I.2.7).

Chart I.2.6 • Temporal allocation of public expenditure within the scope of the RRP in Portugal | Percentage of total RRP in 2021–2026



Sources: Statistics Portugal, Ministry of Finance and Banco de Portugal.

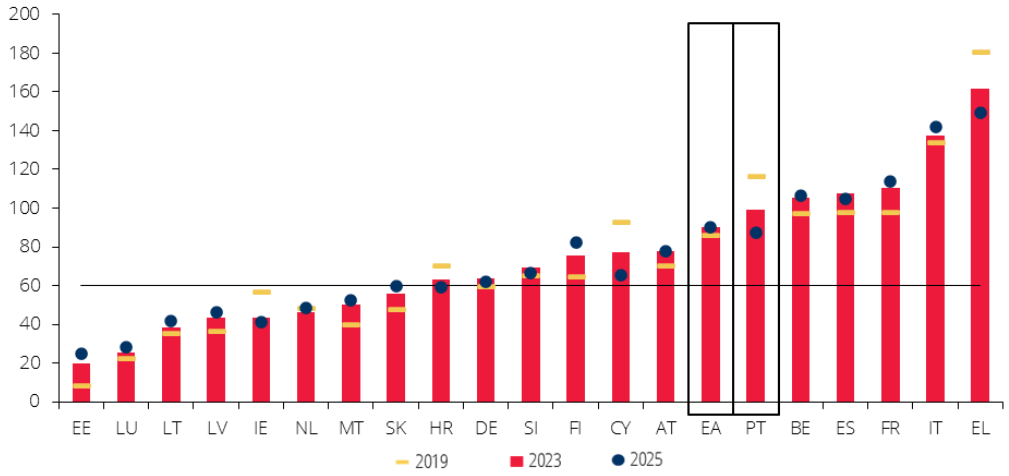
Chart I.2.7 • Public investment in Portugal | Percentage of GDP



Sources: Statistics Portugal and Banco de Portugal. | Note: The values in parentheses correspond to the rates of change in total public investment, in nominal terms.

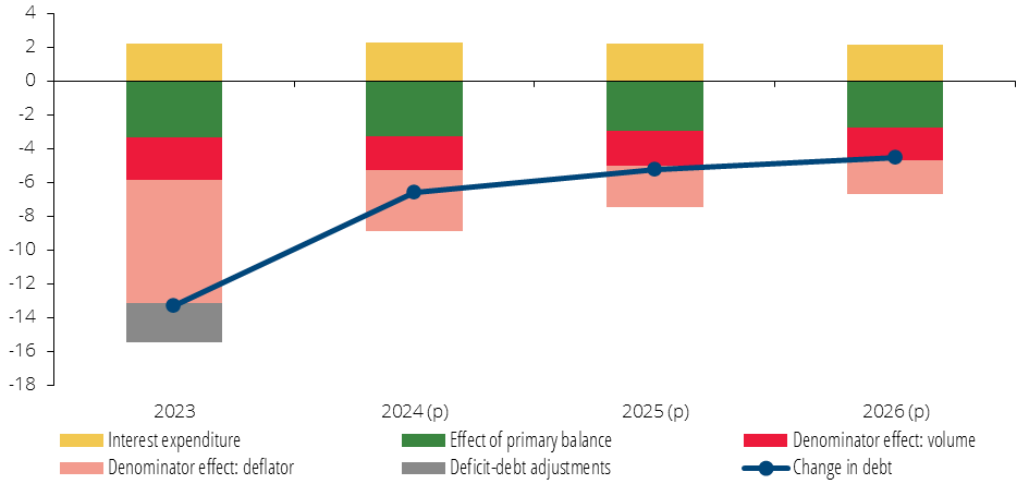
Portuguese public debt stood at 99.1% of GDP in 2023, marking the second largest reduction in the euro area compared to 2019. Over the projection horizon, the debt ratio is expected to continue to decline, standing below the euro area average in 2025 and 2026 (Charts I.2.8 and I.2.9). In subsequent years and considering only the deterioration of the structural primary balance due to the budgetary costs of ageing, the maintenance of the downward path of the debt ratio is very likely (Box 7). However, unfavourable scenarios with lower economic growth or an expansionary policy with a return to fiscal deficits would interrupt that path, preventing compliance with the minimum reduction requirement for the debt ratio laid down in the new fiscal rules.

Chart I.2.8 • Public debt observed and projected in Portugal and the euro area | Percentage of GDP



Sources: Banco de Portugal (Portugal) and European Commission (remaining countries and euro area aggregate). | Notes: Countries are ordered by the 2023 debt ratio. The values projected by the European Commission for Portugal are 95.4% in 2024 and 91.5% of GDP in 2025.

Chart I.2.9 • Breakdown of the change in the debt ratio | Percentage points of GDP



Sources: Statistics Portugal and Banco de Portugal. | Notes: The projection considers a technical assumption of zero deficit-debt adjustments. The difference between interest expenditure and the total denominator effect corresponds to the 'snowball effect'.

To address future challenges, it is recommended to maintain the good fiscal results achieved. Portuguese public finances have significantly improved their relative position in the euro area, as recognised by international markets and rating agencies. Despite the budget surplus recorded in 2023, there should be no room, under the new fiscal rules, for expenditure increases or tax cuts that are not offset by other measures, especially if adverse macroeconomic scenarios materialise. The government debt ratio is still very high and the already visible effects of ageing on government expenditure are likely to intensify in the coming decades.

Box 4 • The reform of European fiscal rules

The reform of economic governance in the European Union (EU) started formally in February 2020, and the new rules entered into force on April 30, 2024. The primary objectives of the new framework are to strengthen debt sustainability by reducing current high levels and to promote sustainable growth based on investment and structural reforms. Simultaneously, efforts were made to ensure a simpler framework tailored to each country's situation, promoting greater national ownership of budgetary targets and more effective implementation. Table B4.1 provides a straightforward comparison of the new rules with the previous ones.

The corrective arm

The Maastricht fiscal criteria remained unchanged at 3% of GDP for the deficit and 60% of GDP for public debt. The changes to the corrective arm are minor, especially in the case of the excessive deficit procedure based on the deficit criterion. For a country with a deficit exceeding 3% of GDP, a structural adjustment of at least 0.5% of GDP will be required each year and, temporarily until 2027, interest expenditure will not be considered. The debt-based excessive deficit procedure is reformed and it is initiated when the debt ratio exceeds the reference value, the budgetary position is not close to balance or in surplus, and when the deviations recorded in the control account (a new concept, see below) of the Member State exceed either 0.3 p.p. of GDP annually, or 0.6 p.p. of GDP cumulatively.

The preventive arm

As regards the preventive arm, the main novelty focuses on the preparation of medium-term fiscal-structural plans by each Member State. The plans cover a period of four years but may be extended for a maximum of three more years when associated to relevant reforms and investments, following the established criteria. These plans may be revised if objective circumstances prevent their implementation, but the new technical trajectory should not allow for postponing or reducing the fiscal adjustment effort.

The fiscal adjustment trajectory is anchored in the expenditure benchmark as the single operational indicator. This indicator is defined as primary government expenditure net of discretionary revenue measures and temporary measures, as defined by the Commission, expenditure programmes financed by European funds and the cyclical component of unemployment benefits. The European Commission will beforehand transmit a technical reference trajectory to Member States having a general government debt ratio exceeding 60% or a deficit exceeding 3%, which will take into account a debt sustainability analysis based on a common methodology to be defined. Based on this trajectory, the Member States will establish a dialogue with the Commission to ensure that medium-term plans meet the requirements.

To ensure that the adjustment trajectory is sufficiently ambitious, and that fiscal room is created, two safeguards have been introduced. The first is a deficit resilience safeguard that seeks to ensure that fiscal adjustment continues until a structural deficit of 1.5% of GDP is reached. The annual improvement in the structural primary balance to achieve this target is 0.4% of GDP (0.25% in the case of an extension to the adjustment period). This safeguard replaces the previous convergence towards the medium-term budgetary objective. The second is a debt sustainability safeguard that establishes an average annual adjustment of 1 p.p. of GDP for Member States with a debt ratio exceeding 90% and 0.5 p.p. of GDP for those with a debt ratio between 60% and 90%.

The control account

As regards the monitoring of each Member State's progress, the Commission will set up a control account to keep track of cumulative positive and negative deviations in the expenditure benchmark from the trajectory set in the fiscal plans. In addition, each Member State must submit an annual

progress report to the Commission on the implementation of its medium-term fiscal-structural plan, which will be made public.

Table B4.1 • Previous and new European fiscal rules

Previous rules	New rules
Corrective arm	
Excessive deficit procedure based on the deficit criterion	
For a Member State with a budget deficit in excess of 3% of GDP, provided that the excess over the reference value is not only exceptional and temporary and the deficit does not remain close to the reference value.	
The correction takes place in the year following its identification except in the case of special circumstances.	
Adjustment in the structural balance should be at least 0.5% of GDP per year.	
Excessive deficit procedure based on the debt criterion	
For a Member State with a debt ratio exceeding 60%, and if the difference between this ratio and the reference value has not declined over the past three years at an average pace of 1/20 per annum.	For a Member State with a debt ratio exceeding 60%, without a budgetary position close to balance or in surplus and when discrepancies recorded in the control account exceed 0.3 p.p. of GDP annually, or 0.6 p.p. of GDP cumulatively.
Preventive arm	
Countries should reach their medium-term budgetary objective (MTO).	The fiscal adjustment trajectory is set in the medium-term fiscal-structural plans and is based on the expenditure benchmark.
Convergence towards the MTO considers the cyclical conditions and the debt ratio or the assessment of sustainability of each Member State (0.5% of GDP of structural adjustment during normal times and for debt below 60% of GDP or low sustainability risk).	This trajectory must comply with two safeguards: (i) the fiscal adjustment is maintained until a structural deficit of 1.5% of GDP is reached (change in the structural primary balance of 0.4% of GDP per year in the 4-year plans); (ii) the debt ratio has to decrease by a minimum annual average of 1 p.p. for Member States with a ratio >90% and 0.5 p.p. for those with a ratio between 60% and 90%.
Compliance is assessed based on changes in the structural balance and developments in the expenditure benchmark. This benchmark refers to primary government expenditure net of discretionary revenue measures, expenditure programmes financed by European funds, the cyclical component of unemployment benefits and temporary measures.	Deviations in the expenditure benchmark from the plan trajectory are calculated annually and recorded in the control account.

Source: Compilation by Banco de Portugal.

To sum up, the new set of rules is more specific to each Member State's situation and its effective implementation may be facilitated, as the required fiscal adjustment is less demanding. The multiannual perspective is positive, but there are risks regarding the compliance with the intended trajectory, particularly given the extended horizon and the possibility of revising the plans. Finally, the simplification goal has not been fully achieved, given the degree of complexity that still exists in the new rules and procedures.

Box 5 • The expenditure benchmark used in European fiscal rules and the budgetary policy measures for the coming years

The expenditure benchmark was introduced into the European fiscal rules as part of the 2011 reforms, known as the "six-pack", with its role being reinforced from 2016. Until the activation of the general escape clause following the pandemic crisis, compliance with the requirements of the preventive arm was assessed through a two-pillar approach based on the convergence of the structural balance towards the medium-term objective and compliance with a limit for expenditure growth. With the reform of the fiscal rules, which came into effect at the end of April 2024, the budgetary adjustment trajectory, to be included by each Member State in its medium-term plans, will be anchored exclusively on this expenditure benchmark.

The expenditure benchmark refers to primary government expenditure net of discretionary revenue measures, expenditure programmes financed by European funds, the cyclical component of unemployment benefits and temporary measures. Public investment nationally financed is smoothed with a four-year average. The underlying rationale is to focus on expenditure that: (i) is not dependent on cyclical conditions (by netting out the cyclical elements of unemployment benefits); (ii) is under government control (by netting out interest expenditure); (iii) has to be paid with tax revenues (by netting out expenditure on directly EU-funded programmes); and, at the same time, (iv) avoids penalising investment peaks (by averaging investment over a number of years).

This Box presents two illustrative exercises, retrospective and prospective. First, developments in the expenditure benchmark in Portugal from 2015 to 2023 are estimated. Second, the situation in 2025 – the year the new European fiscal rules will start to be implemented – is assessed considering (i) regular developments in expenditure, (ii) revenue and expenditure measures already approved with effects in 2025, and (iii) officially announced and quantified revenue and expenditure measures. Note that the new European rules will entail minor adjustments to the calculation of the expenditure benchmark that are not considered in this analysis.

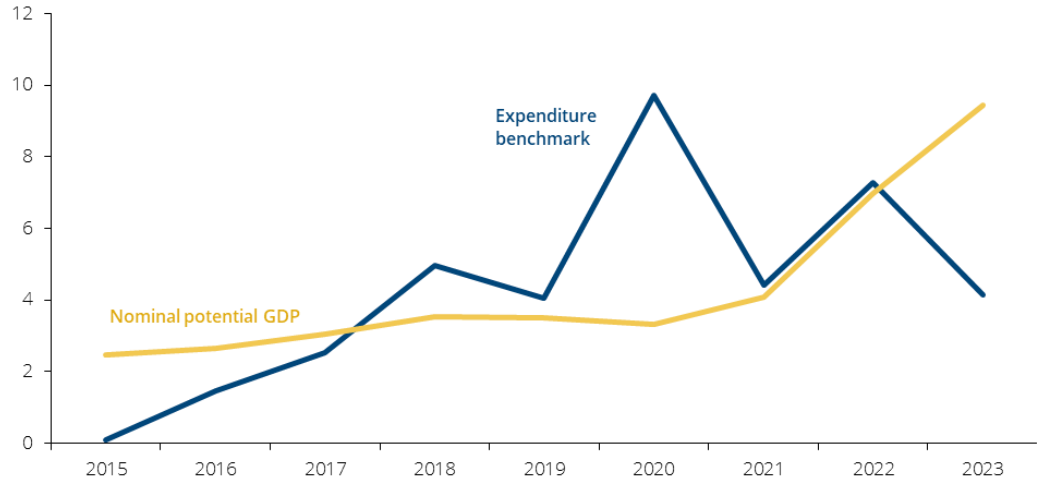
An expenditure benchmark trajectory is set for each Member State in its medium-term fiscal plan, whose change is hereafter referred to as budgetary margin. It is considered that the margin is defined based on nominal potential GDP growth, in line with the past practice of the European fiscal rules.

On average, between 2015 and 2023, excluding 2020, the expenditure benchmark grew by 3.6%, a growth substantially higher than in total government expenditure (1.8%). However, during this period, the change in the expenditure benchmark was 0.8 p.p. below that of nominal potential GDP (Chart B5.1). The year 2020 is excluded because it was affected by the support measures adopted in response to the pandemic, which are not considered temporary measures according to the European Commission's definition. In 2023, the expenditure benchmark growth is substantially lower than that of potential GDP, due to the effect of rising inflation on the GDP deflator being, so far, higher than its impact on the expenditure benchmark, which has also been and will continue to be affected by inflation.

Considering Banco de Portugal's estimates for the execution of the 2024 State Budget, the budgetary margin is expected to be €5.385 billion in 2025 (Table B5.1). This figure is associated with a nominal potential GDP growth of 5.0% in 2025.[12] Table B5.1 shows the budgetary exercise that, based on this margin, assesses the expected increases in the expenditure benchmark.

[12] This figure considers the European Commission's real potential GDP and the deflator projected by Banco de Portugal.

Chart B5.1 • Expenditure benchmark observed and nominal potential GDP in Portugal
| Percentage rates of change



Sources: European Commission and Banco de Portugal calculations. | Notes: The expenditure benchmark is defined as primary expenditure net of discretionary revenue measures, expenditure programmes financed by European funds, the cyclical component of unemployment benefits, and temporary measures, classified according to the definition of the European Commission. Nationally financed public investment is smoothed with a four-year average: the current year and the three previous years. Nominal potential GDP is calculated by the European Commission.

On the expenditure side, there is a significant increase in pensions and other social benefits in cash (€1.9 billion), as well as a regular increases in staff costs (€1.05 billion) and in intermediate consumption and social benefits in kind (€1.1 billion). Moreover, expenditure increases due to changes in nationally financed investment and other capital expenditure, amounting to €1.12 billion. The latter are affected by a strong increase in the RRP (national recovery and resilience plan) loans, although to a lesser extent in the case of investment, given the smoothing over the 4-year average. An amount of €465 million is added to this expenditure from measures already approved outside the budgetary exercise and for which there is a quantification (solidarity supplement for the elderly, youth support and teachers' career revision). The overall expenditure amounts to €5,635 million, already exceeding the budgetary margin.

Discretionary revenue measures include tax cuts in the amount of €2.33 billion but also €520 million of tax increases, justified by the reversal of temporary tax relief measures. All revenue measures entail a €1.82 billion reduction.

Therefore, the change in the expenditure benchmark amounts to €7.455 billion. However, several measures with a significant fiscal impact that are being negotiated remain outside this exercise, covering more than 220 thousand public administration employees and measures in the areas of health and housing, among other minor sectoral measures. A more detailed knowledge of all the measures referred to in this Box will make it possible to assess their impact in future projection exercises.

In the absence of new measures allowing for expenditure reductions and/or revenue increases, the expenditure benchmark's excess over the available margin will exceed €2.07 billion (more than 0.7% of GDP). Thus, it exceeds the 0.3 p.p. threshold of the current excessive deficit procedure for Member States with a debt ratio above 60%. Correcting this deviation would potentially require adopting restrictive measures, with the risk of being implemented in a downturn of the economic cycle and thus pro-cyclical.

Maintaining a fiscal position in full compliance with European rules helps avoiding setbacks in the economic policy's credibility, which would pose an increased risk to the financing of public and private sectors, with implications also for financial stability.

Table B5.1 • Expenditure benchmark used in the fiscal rules in 2025 | Million euros

(1) Margin for the change of the expenditure benchmark (function of the relevant expenditure and defined with the growth rate of nominal potential GDP)		**5,385**
(2) Change in expenditure components		**5,635**
Change resulting from the regular dynamics of expenditure and previous commitments		
Compensation of employees		1,050
Pensions and other social payments in cash		1,900
Intermediate consumption and social payments in kind		1,100
Average of investment with national financing [(a)]		470
Other current and capital expenditure [(a)]		650
	Sub-total	5,170
New measures with official quantification, outside the Budget, with effects in 2025		
Expansion of the solidarity supplement for the elderly [(b)]		220
Support for the young [(b)]		85
Career revision: Teachers [(b)]		160
	Sub-total	465
(3) Discretionary revenue change		**-1,820**
Budgeted measures in 2024, already implemented, but with effects in 2025		
Reduction of personal income tax (lagged effect)		-575
Corporate income tax: end of tax credits		75
	Sub-total	-500
Budgeted measures in 2024, not implemented, with potential effects in 2025		
Increase in the tax on oil products (requires a Ministerial Order to update the value)		445
	Sub-total	445
New measures with official quantification, outside the Budget, with effects in 2025		
Reduction of personal income tax for the young + Exemption from property transfer tax and stamp duty [(b)]		-1,100
General reduction of personal income tax [(b)]		-465
Reduction of VAT on electricity		-90
Reduction of tolls on former SCUT roads		-110
	Sub-total	-1,765
(4) Change in the expenditure benchmark (2) – (3)		**7,455**
(5) Gap between the margin and the change in the expenditure benchmark (1) – (4)		**-2,070**
	Percentage of GDP	-0.7
Memo: New measures without official quantification, not included in the calculations		
Career revisions:		
Security forces, prison guards and military personnel		
Health		
Justice		
Health emergency plan		
Housing support		

Source: Banco de Portugal calculations. | Notes: The loans from the Recovery and Resilience Plan (RRP) are not corrected, implying an increase in contributions from other capital expenditure and public investment, albeit to a lesser extent in the latter case due to smoothing with a 4-year average. (b) Measures where some budgetary impact may be observed as early as 2024.

Box 6 • The direct effect of inflation and progressivity on revenue from taxes and social contributions

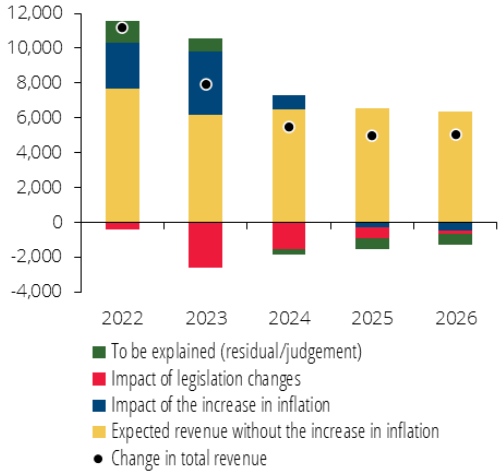
Inflation has a direct effect on taxes levied on income and transactions value, in contrast to those that depend on quantities consumed. This impact is more pronounced in progressive taxes, such as the personal income tax (PIT), especially when no policy measures are adopted to update nominal tax parameters.

The estimated direct effect of inflation on revenue from taxes and social contributions is based on developments in prices and wages observed in 2021. For each tax, the difference between actual/projected revenue and that which would result from developments in the price component of macroeconomic bases similar to that of 2021 is calculated by using tax elasticities and the impact of discretionary measures.

In 2023 the impact of rising inflation was again significant, explaining about half of the growth in revenue from taxes and social contributions, amounting to approximately €3.7 billion (Charts B6.1 and B6.2). 43% of this effect is associated with developments in the PIT and social contributions, 31% with VAT and 24% with corporate income tax. Over the projection horizon, these effects dissipate quickly, dropping to a quarter in 2024 and becoming less relevant in the following years, with price and wage growth approaching that observed in 2021. In fact, the impact of rising inflation is even negative in 2024 and 2025, as wages per employee are projected to grow at a slower pace than in 2021.[13]

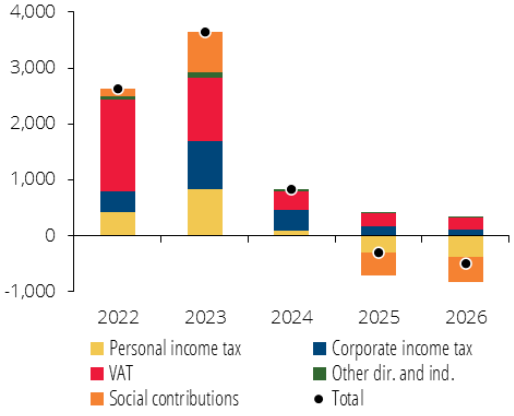
The total impact of policy measures affecting developments in revenue from taxes and social contributions between 2022 and 2026 is negative, amounting to around €5.4 billion, being particularly significant in 2023 and 2024. Changes to the PIT approved in 2023 and 2024 State budgets have a permanent impact, contributing to negative changes in revenue that will materialise until 2025. The cumulative impact of PIT measures amounts to €3.6 billion, not including those under discussion or still under voting in Parliament.

Chart B6.1 • Breakdown of the change in tax and social contributions revenue in 2022–2026 | Million euros



Source: Banco de Portugal calculations.

Chart B6.2 • Impact of the increase in inflation by tax 2022–2026 | Million euros



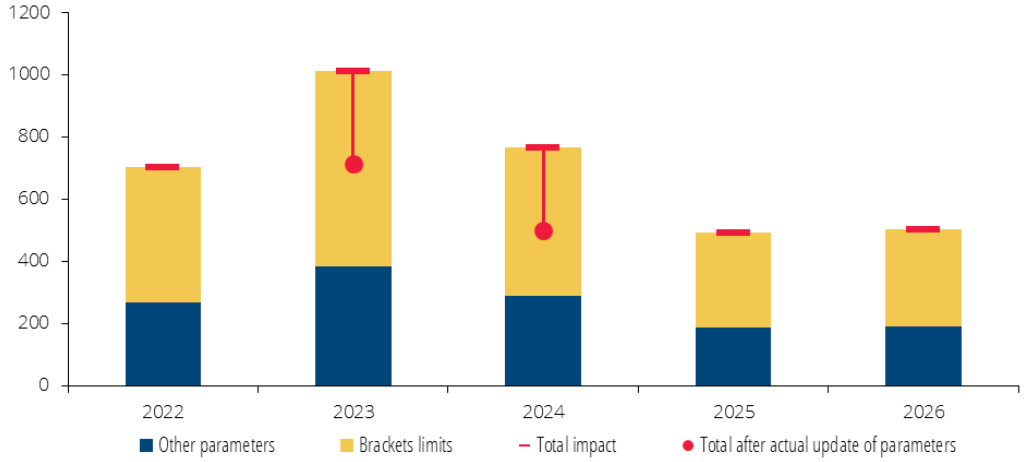
Source: Banco de Portugal calculations.

[13] For more details on the methodology followed, see Box 5 of the June 2023 issue of the *Economic Bulletin*.

The PIT is different from other taxes due to its progressivity. Even without changes to tax parameters, an increase in income automatically leads taxpayers to face higher marginal rates, causing revenue to grow at a higher rate than taxable income. The impact of progressivity on revenue can be estimated by using the EUROMOD microsimulation model and considering developments in labour and pension income. This approach also allows to break down the estimated impact on the contribution of bracket limits and other tax parameters, such as tax credits for children.

The estimated impact of progressivity on PIT revenue, keeping all tax rules constant, amounts to around €1 billion in 2023, mainly due to the bracket limits, with around one third deriving from the other tax parameters (Chart B6.3). The projected slowdown in income in 2024 reduces this effect. After the actual update of PIT brackets by 5.1% in 2023 and 3% in 2024, the impact of tax progressivity on revenue is mitigated by around one third. Therefore, in these two years, the impact of not updating the other tax parameters becomes more relevant in relative terms.

Chart B6.3 • Impact of personal income tax progressivity on revenue | Million euros



Source: Banco de Portugal calculations based on EUROMOD simulations and EU-SILC data. | Note: In 2022 the impact after the actual update of parameters is not shown given that the changes in bracket limits were mainly driven by a restructuring of the PIT table, with the introduction of new brackets. The impact of tax progressivity was calculated using the EUROMOD tax and benefit system for Portugal in 2022 available in https://euromod-web.jrc.ec.europa.eu/. For more details regarding PIT modelling in EUROMOD for Portugal see *EUROMOD Country report — Portugal 2020–2023*.

Box 7 • Trajectories for Portuguese public debt

The assessment of public debt trajectories is crucial, especially for policymakers. This assessment may be conducted through a deterministic analysis, which is based on fixed parameters and assumptions, providing a basic understanding of debt dynamics in specific partial equilibrium scenarios. Furthermore, a stochastic analysis incorporating probability distributions of volatile economic conditions may be used, offering a more comprehensive view of possible future macroeconomic scenarios.

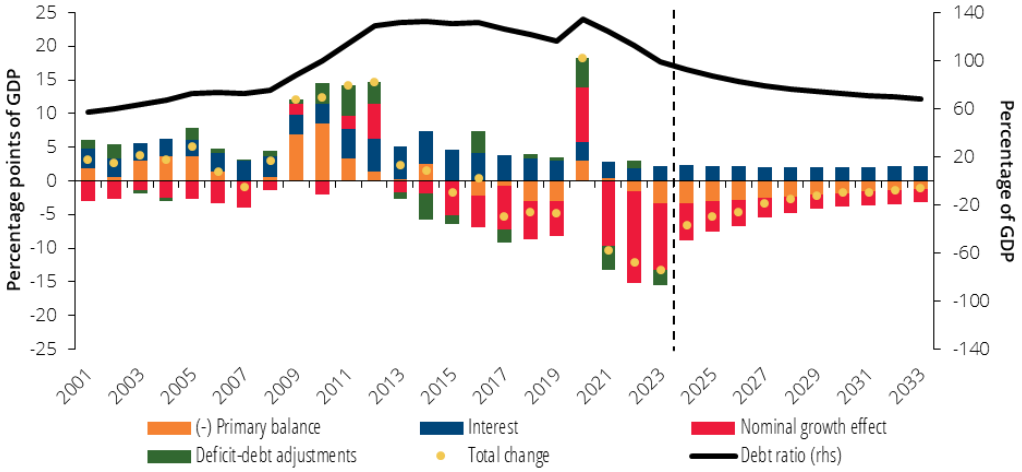
The baseline scenario for the deterministic analysis presented in this box corresponds to that included in this *Economic Bulletin* up to 2026. As of that date and until 2033, various assumptions are adopted, of which the following are highlighted:

- The fiscal stance is neutral, except for ageing-related costs, based on the European Commission's 2024 *Ageing Report*. The structural primary balance falls from 2.4% of GDP in 2026 to 1.2% in 2033.

- Real GDP converges to long-term growth of around 1%, close to the 2000–19 average. The output gap closes in 4 years and the cyclical component gradually narrows. A constant GDP deflator of 2% is assumed.
- Interest rates on debt issuances follow the Eurosystem's current assumptions and remain relatively high until 2033 (for 10-year debt, around 4% in nominal terms and gradually increasing to 2% in real terms, starting from 0.8% in 2024). Interest expenditure calculation follows the methodology used in the Eurosystem.[14] The implicit interest rate on debt increases from 2.6% in 2026 to 3.2% in 2033.

As a result of these assumptions, the debt ratio remains on a downward trajectory, reaching 69% in 2033 (Chart B7.1). The reduction by around 31 p.p. of GDP between 2023 and 2033 benefits from primary surpluses (22 p.p.) and the effect of nominal economic growth (30 p.p.), which more than offset the cumulative value of interest expenditure (21 p.p.).

Chart B7.1 • Public debt ratio: level and breakdown of the change | In percentage and percentage points of GDP



Source: Banco de Portugal calculations.

To measure this trajectory's sensitivity to adverse shocks, three scenarios are considered:

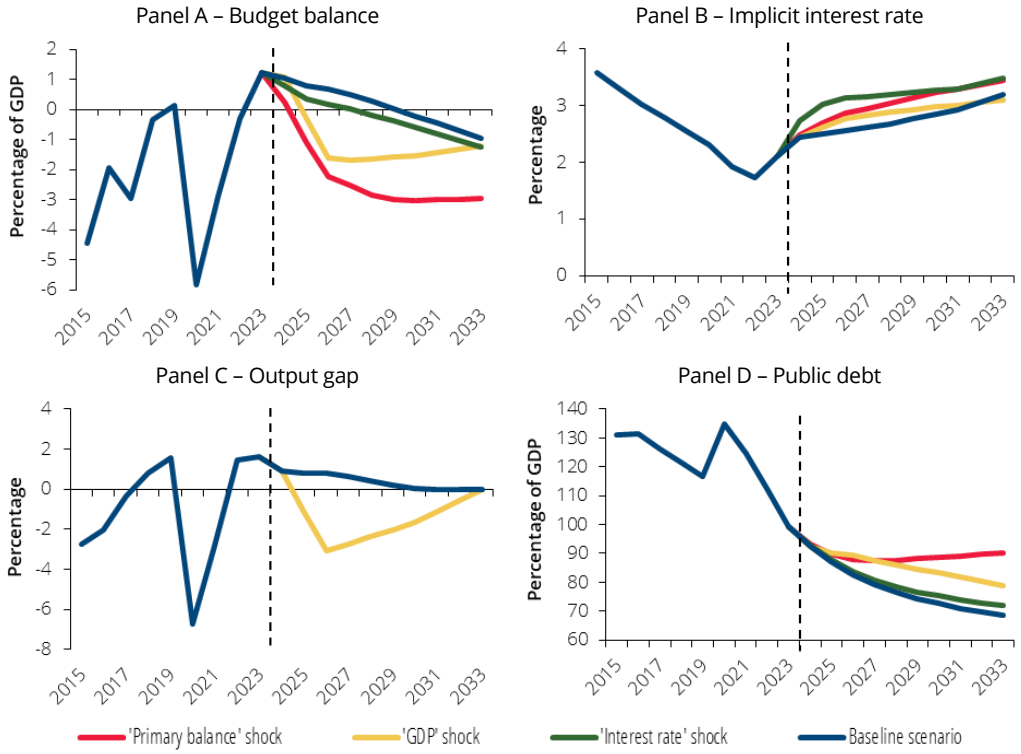
- Primary balance shock: The structural primary balance converges over three years for the 2000–23 period average (-0.2% of GDP, leading to a 0.9 p.p. deterioration per year). From 2027 onwards, it continues to rise with ageing costs, provided that the overall deficit does not exceed 3% of GDP. To reflect the costs of the fiscal expansion in the sovereign debt market, interest rates on debt issuances increase by 25 basis points for every 1 p.p. decrease in the primary balance.
- GDP shock: For two consecutive years (2025 and 2026), real GDP growth declines by a measure equivalent to one standard deviation observed over the period 2000–19 (-2 p.p.). The shock is progressively reversed until the end of the horizon and potential GDP remains unchanged. The cyclical component of the balance reacts to the widening of the output gap. Interest rates on debt issuances vary as described in the previous shock.

[14] See Braz and Campos (2019), "An analytical assessment of the risks to the sustainability of the Portuguese public debt", *Banco de Portugal Economic Studies*, Vol. 5, No 4.

- Interest rate shock: Throughout the projection period, the real interest rate for 10-year debt is assumed to be 2%. A shock of the same magnitude is applied to short-term interest rates.

Chart B7.2 presents the results of these exercises for key variables: budget balance, implicit interest rate on debt, output gap and debt ratio. The downward trajectory of the debt ratio is mitigated in a scenario of declining economic activity and halted in a scenario of a deteriorating primary balance. In this case, even though the budget deficit is not assumed to exceed 3% of GDP, the debt ratio would not comply with the sustainability safeguard of the new fiscal rules, which requires an average annual adjustment of 1 p.p. of GDP for Member States with a debt ratio above 90%.

Chart B7.2 • Deterministic analysis results for the main variables | In percentage and percentage of GDP



Source: Banco de Portugal calculations. | Note: In the 'primary balance' and 'interest rate' shock scenarios it is assumed there is no reaction of GDP.

The stochastic, or probabilistic, analysis is derived through simulations of the underlying variables influencing debt dynamics. In line with Bouabdallah et al. (2017),[15] the macroeconomic determinants – real GDP, GDP deflator and short- and long-term real interest rates – are projected using a BVAR model estimated with quarterly data for the Portuguese economy from 1999Q1 to 2023Q4. The variance-covariance matrices are obtained by applying the Gibbs-sampling method, allowing the simulation of a large number of trajectories for each variable of the model and benefiting from the superiority of the Bayesian methods in dealing with inherent uncertainty, such as that related to estimated parameters. In terms of fiscal variables, the stochastic exercise follows the same assumptions as the deterministic exercise for the evolution of the structural primary balance and the Eurosystem methodologies to

[15] Bouabdallah, Checherita-Westphal, Warmedinger, De Stefani, Drudi, Setzer and Westphal (2017), "Debt sustainability analysis for euro area sovereigns: a methodological framework," *Occasional Paper Series*, No 185, ECB, April 2014.

calculate interest expenditure and the cyclical component of the balance, which are functions of the endogenous variables of the model.

Chart B7.3 shows the different public debt ratio trajectories resulting from macroeconomic uncertainty, calculated in accordance with the stochastic analysis. Based on the different percentiles of the distribution of 5,000 simulated trajectories, there is a 39% probability that the debt ratio will be higher than in the baseline scenario by 2033 and only 6% that it will be higher than observed in 2023 (Chart B7.4).

Chart B7.3 • Public debt ratio trajectories based on the stochastic analysis | In percentage of GDP

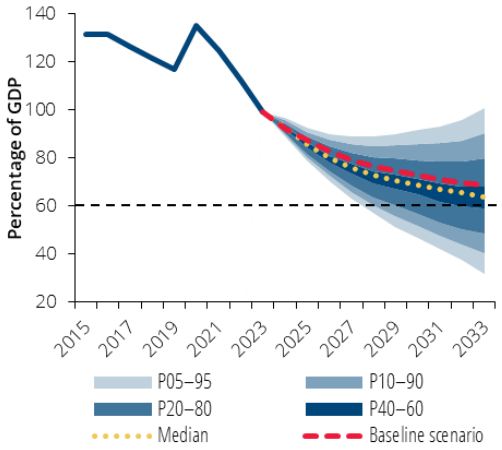
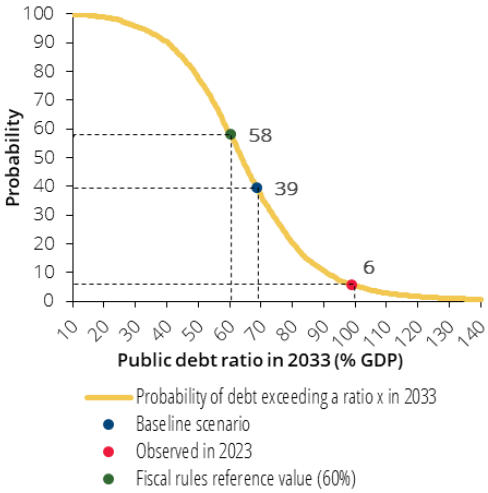


Chart B7.4 • Distribution of the public debt ratio for 2033: probability of exceeding a value | In percentage



Sources: Statistics Portugal, ECB and Banco de Portugal calculations. | Notes: A BVAR model was estimated with an Independent Normal-Wishart prior, using quarterly data. The short-term interest rate corresponds to the 3-month Euribor, and the long-term interest rate corresponds to the 10-year sovereign bond yield. The GDP deflator was used in the calculation of real interest rates. External demand, as assumed in the projection exercise of this Bulletin, is used as an exogenous variable. The estimation period considered was from Q1 1999 to Q4 2023, and observations relating to the pandemic period were treated using dummy variables. The model included 2 lags of each endogenous variable. For the simulations, the cyclical component of the balance considers a semi-elasticity of 0.54 with respect to the output gap, which is estimated using a Hodrick-Prescott filter for each simulated GDP. This stochastic analysis technique does not capture the probability of extreme events occurring. The distribution of the debt ratio in 2033 is calculated based on the stochastic simulations.

The probability of the debt ratio exceeding the 60% threshold of European fiscal rules in 2033, under the assumption that the structural primary balance will only deteriorate with ageing costs, is 58%. While the debt-related risk from macroeconomic uncertainty is relatively contained, it is important to emphasise that the analytical tool used is not capturing the possibility of fiscal policy diverging from the baseline scenario, nor second-round effects and nonlinearities, such as the impact on market credibility of a debt trajectory reversal. These factors amplify the negative effects of simulated shocks.

II Special issue

A characterisation of foreign employees in Portugal

A characterisation of foreign employees in Portugal[1]

This Special issue seeks to characterise foreign individuals residing in Portugal with an employment contract registered on the Social Security database. The existence of personal information on this database, in particular in terms of age, nationality, gender, compensation and employer, makes it possible to study several heterogeneity dimensions. By its nature, the dynamics and structure of the database may be affected by the regularisation of labour relations, which improve the characterization of the existing reality at any given time. Although this analysis focuses only on employees, this group is the largest among foreign workers.[2]

In 2014 the average number of foreign employees was 55.6 thousand, increasing to 495.2 thousand in 2023, accounting for 2.1% and 13.4% of the total number of employees in each of these years (Chart 1). This sharp increase was not uniform throughout the period. The average number of foreign employees registered in the Social Security rose sharply in 2018 and 2019 (38.5% and 47.9% respectively). During the pandemic years the increase was more moderate, but in the last two years it has risen again, with growth rates of 41.0% in 2022 and 35.5% in 2023. Between 2019 and 2023, the number of employees registered in the Social Security grew by 13.0%, with a 9.3 percentage point contribution from foreign employees.

The number of foreign employees at each point in time is the result of the sequence of inflows and outflows. Considering the period 2014-23 as a whole, the number of foreign individuals registered as employees at some point in time, for at least one month, amounts to around 1 million.

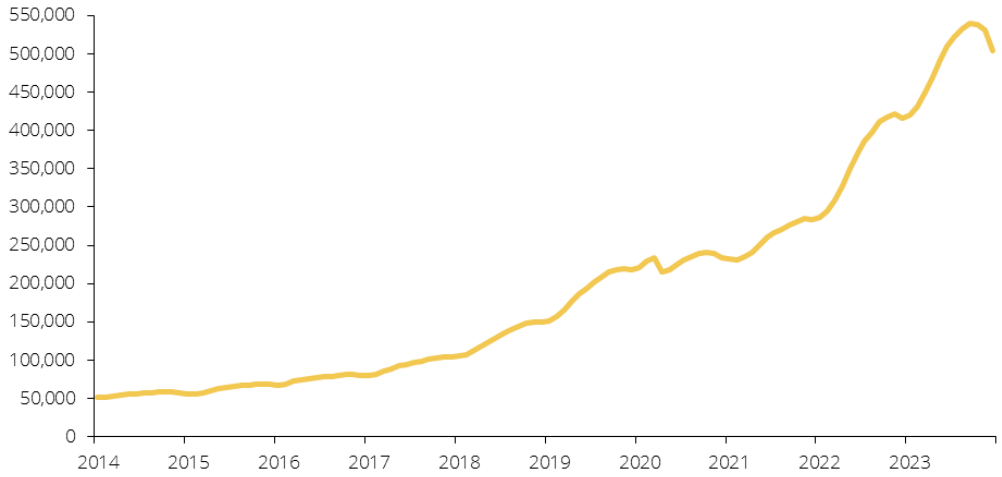
The share of firms in Portugal with foreign employees has been increasing (Chart 2). While in 2014 only 7.9% of firms had foreign employees among their staff, this share rose to 22.2% in 2023.

As for firm size class, as defined by the number of employees, there are no significant differences between small, medium-sized and large enterprises in terms of percentage of foreign employees (Table 1).

[1] Prepared by João Amador, Vanda Cunha, Fernando Martins and Ana Catarina Pimenta.

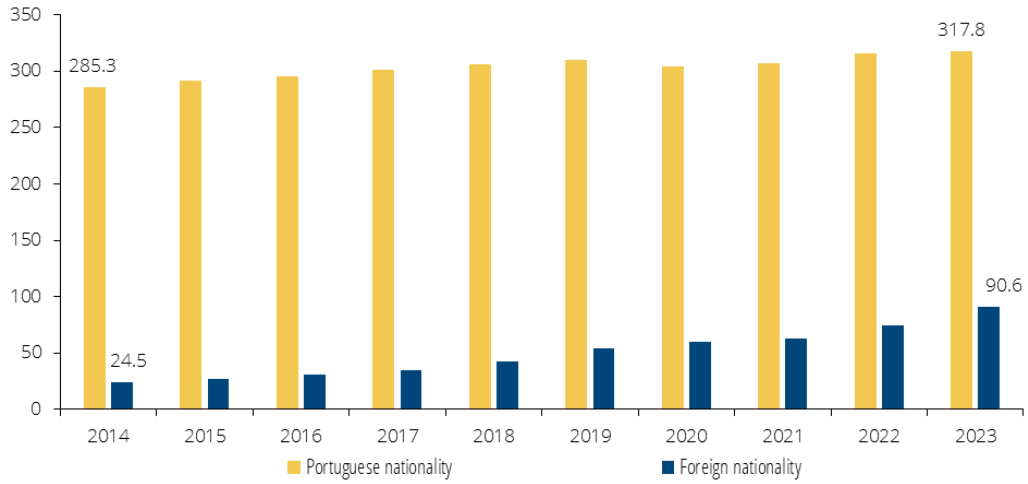
[2] According to the 2021 Census, foreign employees accounted for about two thirds of the total employed population of foreign nationality, followed by self-employed workers with or without employees, in equal parts. The employed population accounted for 55% of the total foreign population aged 15 or over, while the others accounted for 8% studying, 8% unemployed, 10% retired and 19% in other situations. Foreign residents residents unconnected to the Portuguese labour market are not included in the Social Security database and are therefore not characterised in this Special issue.

Gráfico 1 • Employees with foreign nationality | Number of individuals in each month



Source: Social Security microdata (Banco de Portugal calculations). | Notes: Employees of working age (16-74 years old), living in Portugal and with at least the equivalent of a day of remuneration at the firm each month were considered.[3]

Gráfico 2 • Number of firms with employees by nationality | Thousands of firms



Source: Social Security microdata (Banco de Portugal calculations). | Note: Firms with employees of working age (16-74 years old) and with at least the equivalent of a day of remuneration at the firm each month were considered. Monthly averages.

[3] Employees who have worked for the firm for at least one full day in a month were considered. In the case of part-time contracts, this is the equivalent to working at least 6 and 5 hours in a month for firms in sectors with a normal full-time working week of 40 and 35 hours respectively.

Quadro 1 • Number of employees with foreign nationality and respective weight by firm size in 2023 | Number of individuals and weight in percentage

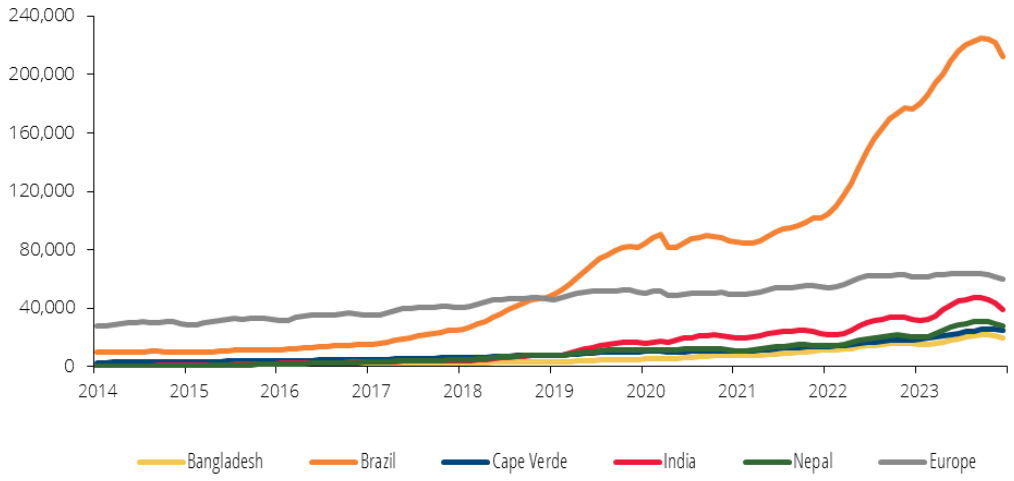
Number of employees at the firm	Total foreign employees	Weight of foreign employees
Up to 10	110,692	13.8
11–25	75,722	16.2
26–50	62,609	15.6
51–100	60,308	14.8
101–150	31,481	14.3
More than 150	189,437	12.5

Source: Social Security microdata (Banco de Portugal calculations). | Notes: The firm size was calculated based on the number of employees of working age (16-74 years old) and with at least the equivalent of a day of remuneration at the firm each month in 2023. The weight is relative to the average number of national and foreign employees per firm size each month in 2023. Note that the sum of the number of employees by firm size is higher than that presented in Chart 1, since the same employee can work in different firms of different sizes each month.

A characterisation of foreign employees

Brazilian employees stand out, with 209.4 thousand individuals registered in the Social Security on average in 2023, equivalent to 42.3% of the foreign employees in the database that year (Chart 3). Note that in 2022 and 2023, the number of employees with Brazilian nationality recorded growth rates of 58.5% and 43.0%, respectively. The following four nationalities with the highest number of registered employees are Indian (41 thousand), Nepalese (26.9 thousand), Cape Verdean (22.7 thousand) and Bengali (18.8 thousand). Together, these four nationalities account for 22.1% of all foreign employees in 2023. The number of employees with Indian nationality grew by 28.1% and 42.4% in 2022 and 2023, while numbers of Nepalese employees grew by 39.9% and 45.6% respectively. In turn, European employees account for 12.6% of total foreign employees, having experienced a more moderate increase in recent years.

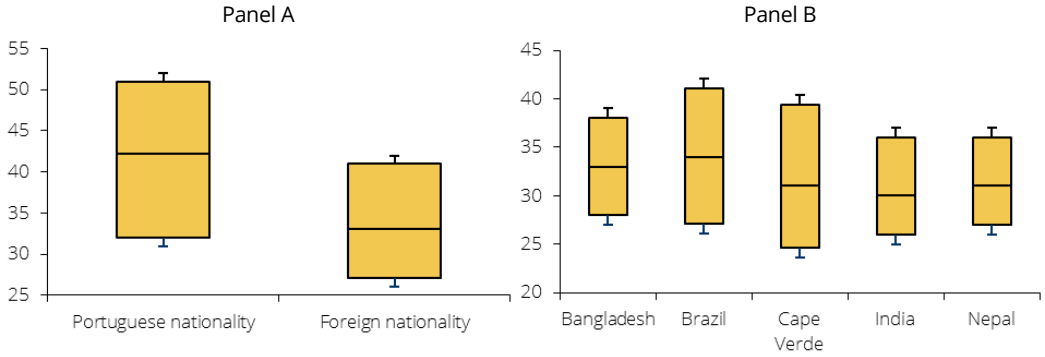
Gráfico 3 • Number of foreign employees by main nationalities | Number of individuals in each month



Source: Social Security microdata (Banco de Portugal calculations). | Notes: Employees of working age (16-74 years old), living in Portugal and with at least the equivalent of a day of remuneration at the firm each month were considered. The main nationalities represented correspond to those that made up the list of the five countries with the highest number of foreign employees working in Portugal in 2023.

The median age of foreign employees was 33 in 2023, compared with 42 for Portuguese employees (Chart 4 – Panel A). The age distribution of foreign workers differs across nationalities (Chart 4 – Panel B). In 2023 the median age of Brazilian employees was 34, while Indian employees had a median age of 30 years. The gap between the first and third quartiles of age is greater for Cape Verdean and Brazilian employees.

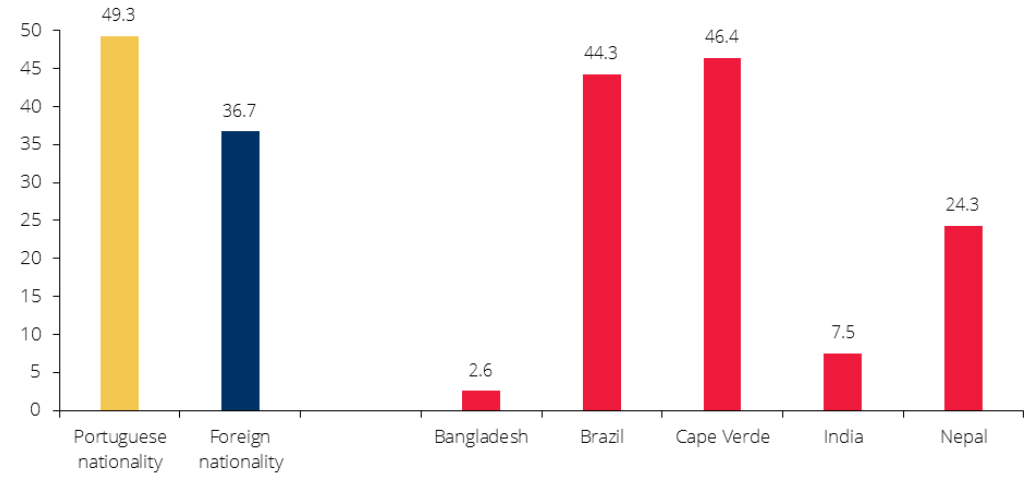
Gráfico 4 • Age distribution of employees by nationality in 2023 | Years



Source: Social Security microdata (Banco de Portugal calculations). | Notes: Employees with at least the equivalent of a day of remuneration at the firm each month were considered. The lower and upper bounds represented in the diagrams represent, respectively, the average of the 10th and the 90th percentiles of the respective distributions. The main nationalities represented in panel B correspond to those that made up the list of the five countries with the highest number of foreign employees working in Portugal in 2023.

The share of women among foreign employees was 36.7% in 2023, with remarkable differences across nationalities. While women accounted for more than 40% of employees with Brazilian and Cape Verdean nationality, employees from India and Bangladesh stood at only 7.5% and 2.6%, respectively (Chart 5). The distribution of employees registered in Social Security in terms of gender depends on cultural and social factors and the aggregate value depends a lot on the structure in terms of nationalities. As a reference, women accounted for close to half of the number of employees with Portuguese nationality in 2023.

Gráfico 5 • Share of women in the total number of employees by nationality in 2023 | Percentage

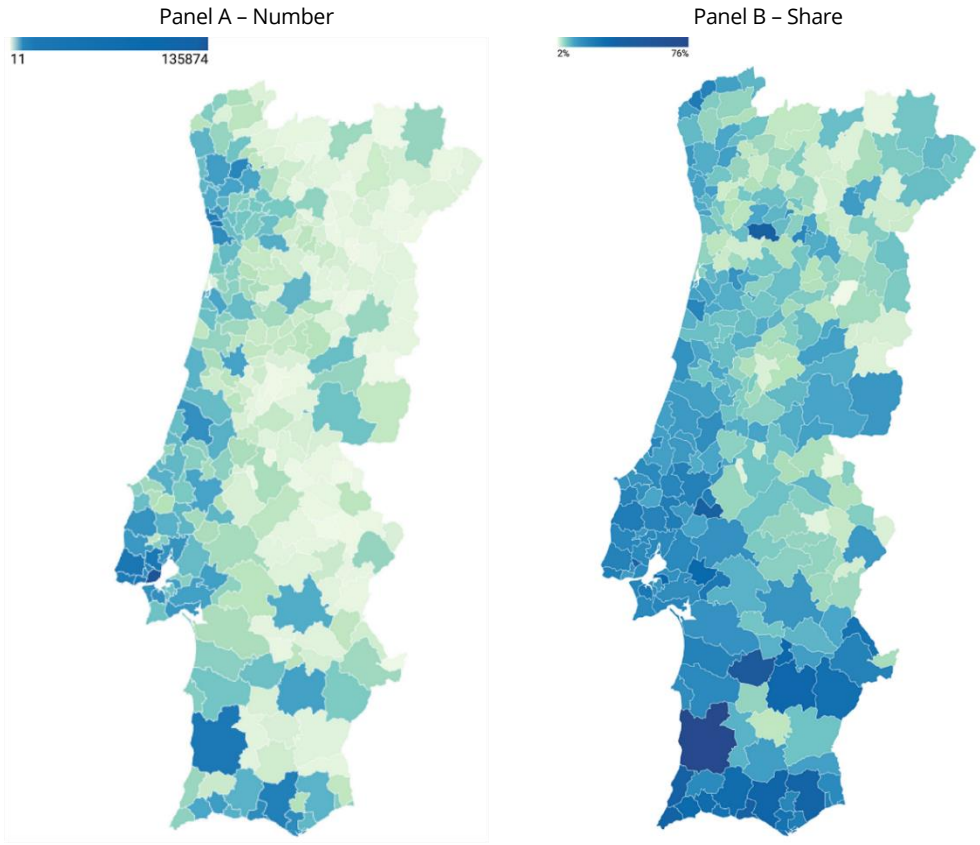


Source: Social Security microdata (Banco de Portugal calculations). | Notes: Employees with at least the equivalent of a day of remuneration at the firm each month were considered. The main nationalities represented correspond to those that made up the list of the five countries with the highest number of foreign employees working in Portugal in 2023.

Aspects of the labour market integration of foreign employees

Like the Portuguese population, foreign employees work mostly in firms based on the coast, especially in the Lisbon and Porto metropolitan areas, as well as in the coastal Alentejo and Algarve (Chart 6 – Panel A). The share of foreign employees in the total number of employees is high in several municipalities with significant agricultural activity, most notably in the south of the country (Chart 6 – Panel B).

Gráfico 6 • Distribution of employees with foreign nationality by firm's headquarter municipality in 2023 | Number of individuals (Panel A) and share of foreigners in the total number of employees per municipality (Panel B)



Source: Social Security microdata (Banco de Portugal calculations). | Notes: Employees of working age (16–74 years old) and with at least the equivalent of a day of remuneration at the firm each month were considered. For more details by municipality, see: Panel A and Panel B.

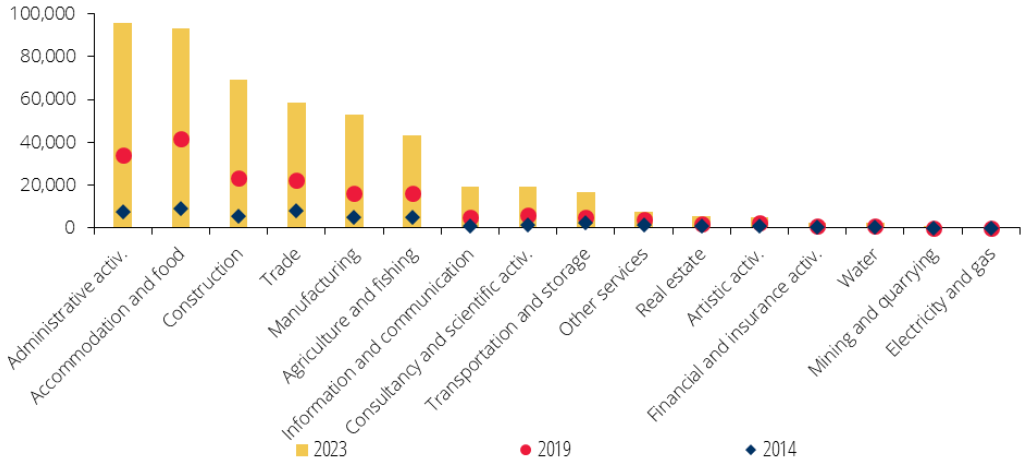
In 2023 foreign employees were mostly employed in firms in the administrative, accommodation and food services and construction sectors (95.7 thousand, 93.3 thousand and 69.2 thousand respectively) (Chart 7).

In the agriculture and fishing sector, four out of ten employees had foreign nationality (Chart 8), compared to one and two out of ten in 2014 and 2019 respectively.[4] The share of foreign employment

[4] The following sections of the Portuguese Classification of Economic Activities (CAE- Rev.3): O – Public administration and defence; compulsory social security; P – Education; Q – Human health and social work activities; T – Activities of households as employers of domestic personnel and undifferentiated goods-and services-producing activities of households for own use; and U – Activities of extraterritorial organisations and bodies are not represented in the chart as total employment in these sectors and its dynamics may be underrepresented in Social Security microdata.

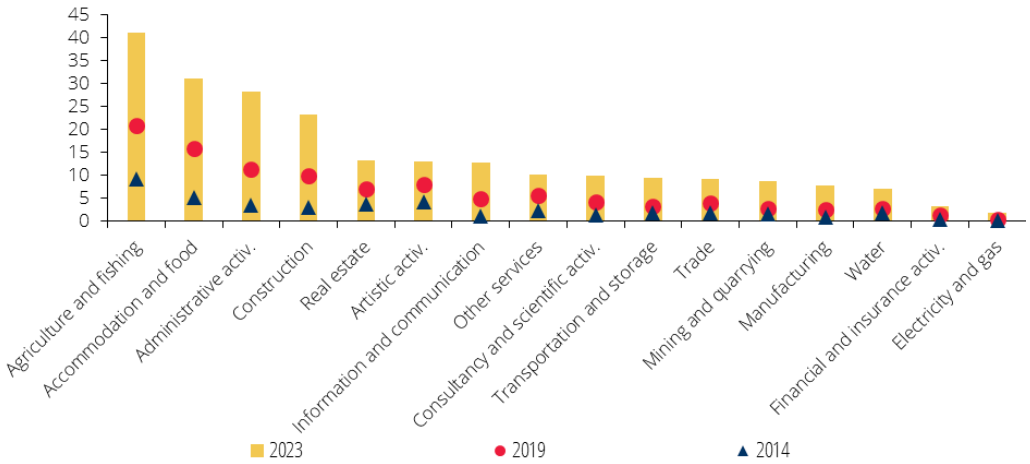
in total employment is also very important in accommodation and food services, administrative activities and construction, with shares of 31.1%, 28.1 % and 23.2% in 2023 respectively.

Gráfico 7 • Distribution of the number of employees with foreign nationality by activity sector | Number of individuals



Source: Social Security microdata (Banco de Portugal calculations). | Notes: Employees of working age (16-74 years old), living in Portugal and with at least the equivalent of a day of remuneration at the firm each month were considered.

Gráfico 8 • Share of employees with foreign nationality in the total number of employees by activity sector | Percentage



Source: Social Security microdata (Banco de Portugal calculations). | Notes: Employees of working age (16-74 years) and with at least the equivalent of a day of remuneration at the firm each month were considered. The weights were calculated based on the days of remuneration for employees with foreign nationality in the total number of days of remuneration per sector. Calculating these weights based on the number of employees keeps the results qualitatively unchanged.

The breakdown of foreign employees by nationality in each sector shows that Brazilians – the largest group – prevail across all sectors except for agriculture and fishing (Table 2). In the latter sector, employees of Indian, Nepalese and Bengali nationality stand out, accounting for 34.6%, 15.3% and 13.8% respectively. In financial activities, information and communication, and professional and scientific activities, with higher qualification requirements, the share of employees with European nationalities in total foreign employees by sector is over 30%. Social Security microdata do not provide

information on workers' qualifications; therefore this discussion is developed in Box 1: "Academic qualifications of foreign population employed in Portugal", based on information from the 2021 Census.

Quadro 2 • Distribution of foreign employees by nationality in each sector in 2023 | Percentage

	Main countries of nationality					Others	
	Bangladesh	Brazil	Cape Verde	India	Nepal	Europe	Outside Europe
Agriculture and fishing	13,8	4,9	0,4	34,6	15,3	8,2	22,7
Accommodation and food	5,5	42,2	5,6	6,2	13,8	7,2	19,5
Administrative activities	1,9	42,4	5,7	8,6	3,0	12,0	26,4
Construction	1,8	37,7	8,7	7,9	0,7	8,2	35,1
Real estate	1,1	41,2	5,8	3,7	2,8	21,5	23,9
Artistic activities	1,9	48,5	3,2	1,7	1,8	20,6	22,3
Information and communication activities	0,4	48,0	1,0	2,6	0,2	33,0	14,7
Other services	1,4	48,7	3,6	7,7	2,3	14,2	22,0
Consultancy and scientific activities	0,9	42,2	2,6	2,5	0,6	30,9	20,2
Transportation and storage	7,6	48,3	3,5	8,9	1,2	16,1	14,5
Trade	7,9	46,3	3,6	6,1	3,3	9,2	23,5
Mining and quarrying	2,7	33,3	4,3	14,4	1,9	19,5	23,8
Manufacturing	1,1	56,6	2,6	8,3	3,5	9,7	18,1
Water	1,5	41,6	6,7	14,1	1,5	13,2	21,3
Financial and insurance activities	1,4	35,6	1,7	1,8	0,2	41,1	18,3
Electricity and gas	0,0	47,1	7,3	2,9	0,0	28,3	14,4
Total	3,8	42,3	4,6	8,3	5,4	12,6	23,0

Source: Social Security microdata (Banco de Portugal calculations). | Notes: Employees of working age (16-74 years) and with at least the equivalent of a day of remuneration at the firm each month were considered. The main nationalities represented correspond to those that made up the list of the five countries with the highest number of foreign employees working in Portugal in 2023. The sectors are arranged in descending order of the weight of employees with foreign nationality in the total number of employees per activity sector.

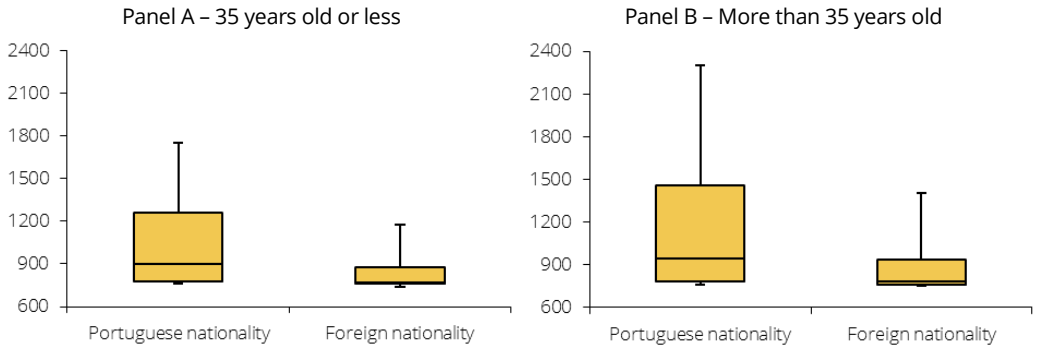
Foreign employees' compensation

This analysis focuses on remunerations equivalent to a full month of work per employee (30 working days reported as the sum of the number of hours worked for one or more employers each month).[5] Compensation is highly dependent on workers' qualifications and their numbers of years of experience, a variable that is related to their age. If no information is available on the worker's qualifications, the analysis only segments the distribution of remuneration according to the worker's age, which limits the extent of the conclusions.

The distribution of regular gross remuneration for foreign employees showed a median and a dispersion lower than the distribution for Portuguese employees in 2023, both among the youngest and those aged over 35 (Chart 9). The median monthly wage of foreign employees in 2023 was very close to the national minimum wage (€760), standing at €769 for young employees and €781 for employees over 35. For Portuguese employees, the median wage was €902 and €945 respectively.

[5] The average monthly number of foreign employees with a full-month's work reached 336.3 thousand in 2023, 68% of the total. For comparison, in the average of 3.2 million Portuguese employees in 2023, 83% worked 30 days a month. On average, 3.5% of foreign employees had more than one employer in a month in 2023. This value was 2.3% for Portuguese employees.

Gráfico 9 • Distribution of nominal gross regular wages by age and nationality in 2023 | Euros

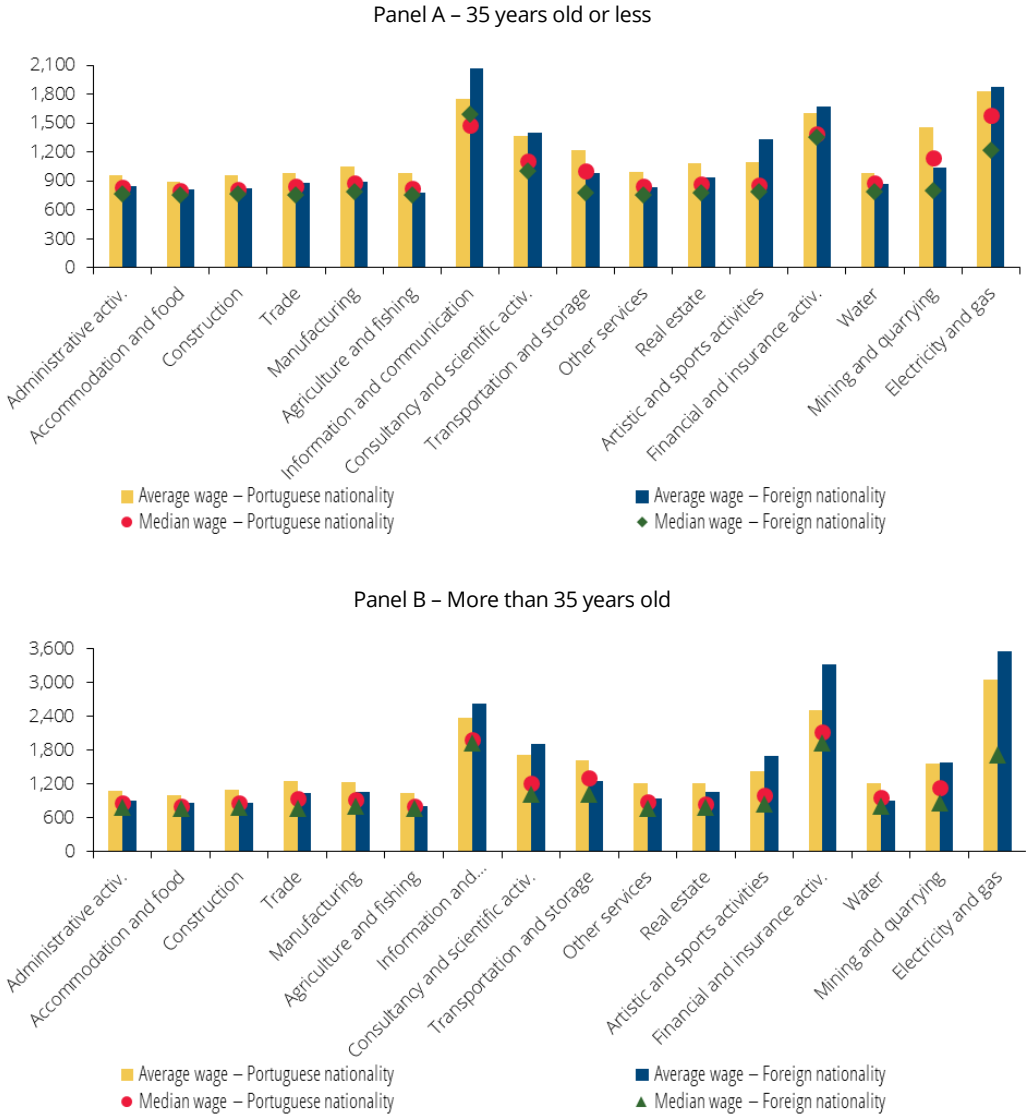


Source: Social Security microdata (Banco de Portugal calculations). | Notes: Employees of working age (16-74 years) and with at least the equivalent of a day of remuneration at the firm each month were considered. The reported remunerations correspond to those equivalent to a full month – they were obtained by dividing the remuneration by the number of declared days and then multiplying by 30 (number of days corresponding to a month of full-time work). Regular remuneration includes base remuneration, meal allowance, regular monthly allowances, and bonuses and other monthly payments. The lower and upper bounds represented in the diagrams represent, respectively, the average of the 10th and the 90th percentiles of the respective distributions.

Wage differentiation is also evident in sectoral terms. In 2023 for employees aged up to 35, the median regular wage for foreign employees was lower than that of Portuguese employees in all sectors of activity, except for information and communication activities (Chart 10 – Panel A). The gap in median wages narrows in the lower-paid sectors, where the percentage of workers earning the national minimum wage is higher. Note that, as a result of the effect of observations with higher values, the average regular wage of foreign employees is higher than that of nationals, for the two groups of workers, in the financial and insurance, information and communication, professional and scientific activities, arts and sports, and electricity and gas sectors.[6] The analysis for employees over the age of 35 suggests higher wage levels, but the findings in terms of comparison across sectors and domestic and foreign workers are similar (Chart 10 – Panel B).

[6] For all employees, excluding observations with regular wage below the 1st percentile or above the 99th percentile, the average and median regular remuneration of foreign employees was lower than that of Portuguese employees in all sectors of activity in 2023. In each age cohort, the median wage of domestic workers was higher than that of foreign workers across all sectors. The average remuneration of foreign employees was slightly higher in the information and communication activities sector for employees aged up to 35 and those over 35.

Gráfico 10 • Average and median of nominal gross regular wages by nationality in 2023 | Euros



Source: Social Security microdata (Banco de Portugal calculations). | Notes: Employees of working age (16-74 years) and with at least the equivalent of a day of remuneration at the firm each month were considered. The reported remunerations correspond to those equivalent to a full month – they were obtained by dividing the remuneration by the number of declared days and then multiplying by 30 (number of days corresponding to a month of full-time work). Regular remuneration includes base remuneration, meal allowance, regular monthly allowances, and bonuses and other monthly payments. The sectors are arranged in descending order of the number of employees with foreign nationality by activity sector.

Final considerations

The increase in cross-border labour flows is one of the dimensions of globalisation. The movement of workers has always existed, but lower transport costs, more information about job opportunities and wages on a global scale, as well as greater openness of governments to cross-border movement has led to increased migration flows. In Portugal, the shrinking working-age population and labour shortages in specific sectors have increased the need to hire foreign workers. Starting from a relatively low percentage of foreign employment in total employment, the inflow of new foreign workers to Portugal was particularly high in 2022 and 2023, bringing numbers closer to those in the European Union.

The evolution and economic impact of this process in the coming years will depend on internal and external economic and social factors. These factors include the cyclical dynamics of labour demand and supply in Portugal and in foreign workers' home countries, as well as non-economic factors.

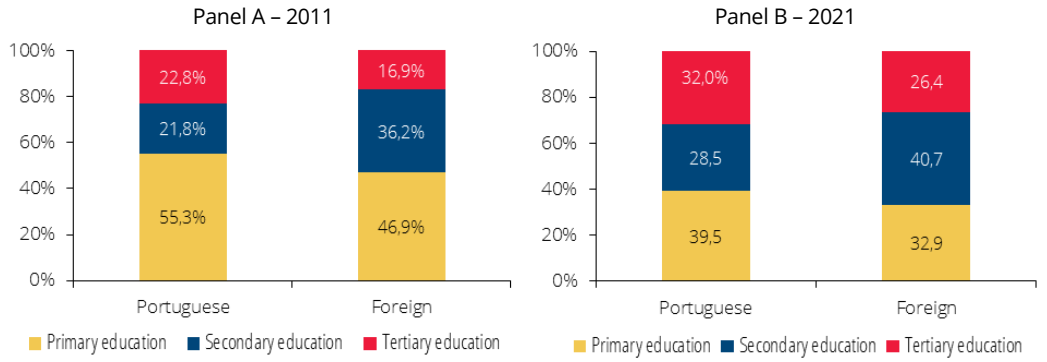
This Special issue characterises foreign employees in Portugal. There is clearly an interest to carrying out more in-depth analyses of some of the established facts in the future and, in particular, on the contribution of these workers to sustaining activity and potential output growth in the Portuguese economy.

Box 8 • Academic qualifications of the foreign population employed in Portugal

The Census shows that the resident foreign population has been increasing over the last three decades, accounting for 5.2% of the total population in 2021, following 3.7% and 2.2% in 2011 and 2001 respectively. In a context where migration flows are mainly driven by economic factors, the share of foreigners in the employed population aged 15 and over has grown, rising to 6.0% in 2021, after 4.2% and 2.8% in 2011 and 2001 respectively. In the last two years, as mentioned in this Special issue, net immigration flows have increased significantly, reflecting developments in the foreign employed population. The evidence presented in this box is on the total employed population and is based on the 2021 Census. Although this information does not consider the high flows in 2022 and 2023, it should still provide good indications of the academic qualifications of the foreign population employed in Portugal.

In 2021 the foreign population employed was on average more qualified than the Portuguese population, although the gap has narrowed over the last decade. In the case of the Portuguese population, the share of employees (aged 20 to 64) with secondary or tertiary education increased from 44.7% in 2011 to 60.5% in 2021 (Chart C1.1). The share of these qualifications has also increased in the foreign population, from 53.1% in 2011 to 67.1% in 2021.

Chart B8.1 • Resident employed population (20–64 years) by nationality and maximum schooling attainment | As a percentage of total population of the respective nationality



Source: Statistics Portugal – Census 2011 and 2021 (Banco de Portugal calculations). | Note: The sum in each column may difer from 100% due to rounding effects.

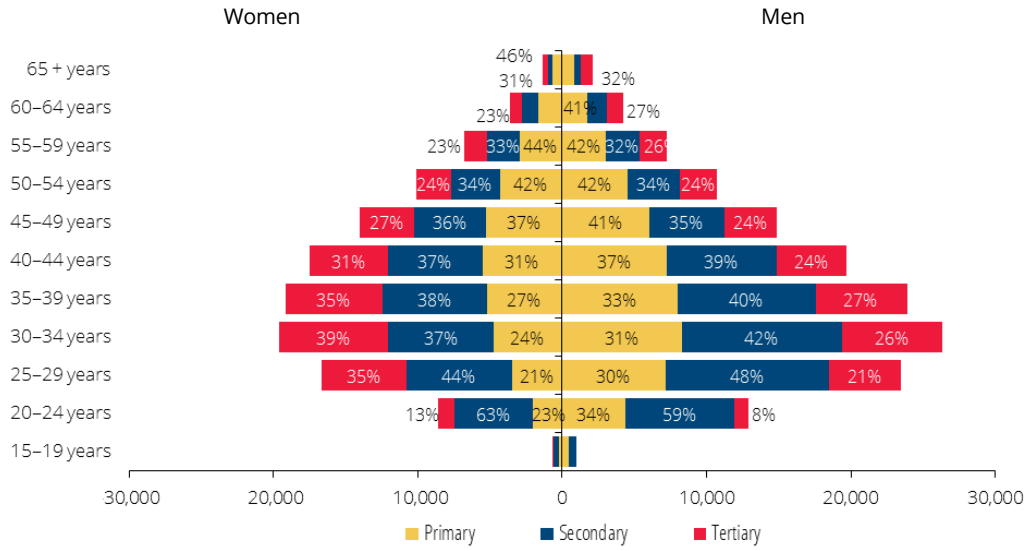
The distribution of the foreign population by age, gender and maximum level of education differs from that of Portuguese workers (Charts C1.2 and C1.3). The average age of the foreign employed population is lower than that of nationals, at 37.3 years and 45.9 years, respectively. The age group of 65 years or older accounts for only 8.5% of resident foreigners, compared to 24.3% among nationals. The fact that the foreign population is on average younger than the Portuguese population contributes to their average level of education being higher.

By gender, men account for 55% of foreign workers, while gender distribution is identical among nationals. In terms of academic qualifications, 73% of foreign women aged 20-49 have secondary or tertiary education, i.e. 7 percentage points more than men. In the case of the Portuguese population, the gender gap is larger as 78% of women have secondary or tertiary education against 64% in the male population. These gender gaps are narrowing in older age groups, especially in the Portuguese case. Among these, it is only from the age of 65 that the percentage of men with tertiary education exceeds that of women, at 26% and 23% respectively.

The distribution of academic qualifications among foreign workers is relatively stable across age cohorts. By contrast, among nationals, young workers are more qualified than older ones. Younger Portuguese workers are more qualified than foreigners, but older Portuguese workers are less qualified. For instance, between the ages of 20 and 34, the share of foreigners with secondary or tertiary

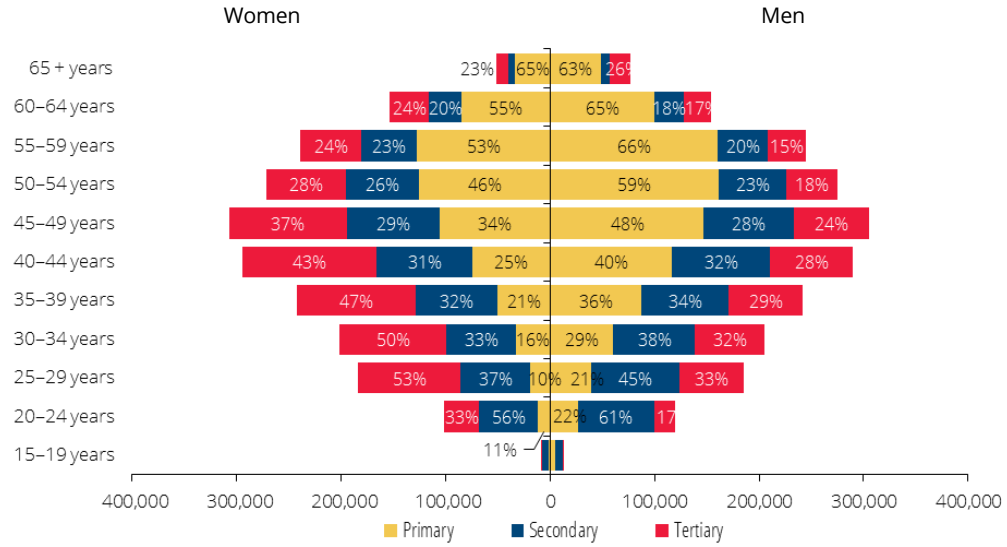
education is 72.1%, while in Portugal it amounts to 81.0%. On the other hand, between the ages of 45 and 59, the share of foreign workers with secondary or tertiary education stands at 59.0%, compared to 49.6% for Portuguese workers.

Chart B8.2 • Age pyramid of foreign population employed in Portugal by maximum schooling attainment | Number of individuals and their percentage at each level of schooling attainment



Source: Statistics Portugal – Census 2021 (Banco de Portugal calculations).

Chart B8.3 • Age pyramid of Portuguese population employed in Portugal by maximum schooling attainment | Number of individuals and their percentage at each level of schooling attainment



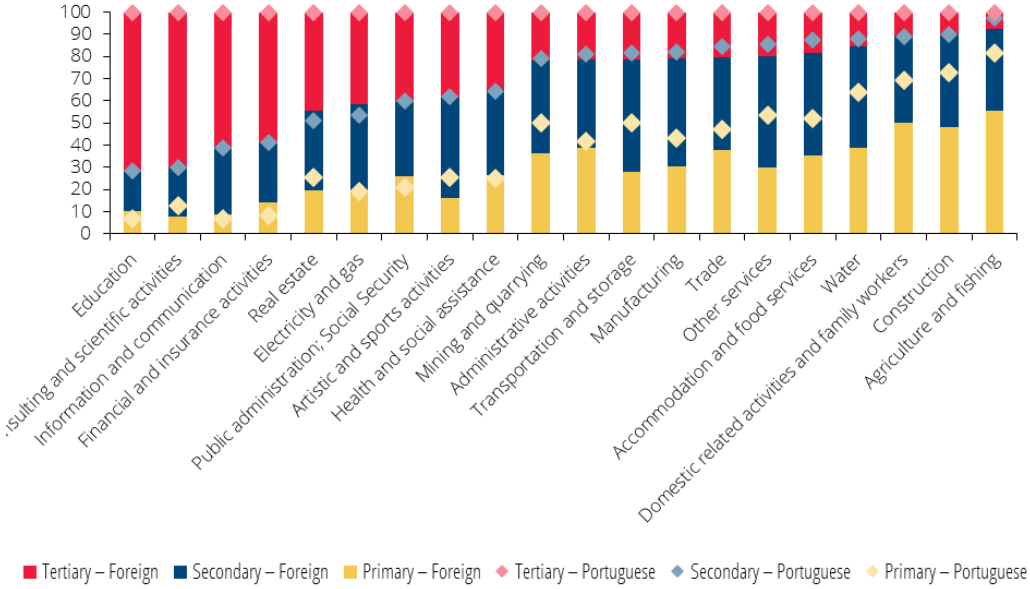
Source: Statistics Portugal – Census 2021 (Banco de Portugal calculations).

The academic qualifications of foreign workers differ by sector of activity (Chart C1.4). In education, professional and scientific activities, information and communication, and financial and insurance sectors, between 60% and 70% of workers have tertiary education. On the contrary, in the agriculture

and fishing, domestic personnel and household activities and construction sectors, half of all workers have no more than primary education.

These distributions are broadly in line with those of Portuguese workers in sectors where the percentage of tertiary education is higher. However, in sectors where primary education has a greater weight, the percentage of Portuguese workers with this level of education exceeds that of foreign workers. In particular, in the domestic personnel and households' activities, construction and agriculture sectors, the percentage of foreign workers with primary education is 50%, 48% and 56% respectively, while among Portuguese workers these percentages are 69%, 73% and 81% respectively.

Chart B8.4 • Foreign and Portuguese employed population (15 or more years) by sector of activity and maximum schooling attainment | Percentage of each sector in the respective nationality



Source: Statistics Portugal – Census 2021 (Banco de Portugal calculations). | Note: Sectors are presented by the descendent share of the foreign workers with tertiary education.

The level of European workers' education is higher than that of African and Asian nationals (Table C1.1). In the case of the Brazilian population – which represented 40% of the total foreign population employed in Portugal in 2021 – a quarter has tertiary education and half has secondary education. Among the Spanish, Italian and French populations, more than half have tertiary education and a quarter have secondary education. Among the other most representative nationalities, the lowest qualifications are among Cabo Verdean, Chinese and Guinean workers, with more than half having no more than primary education.

Table B8.1 • Foreign employed population (15 or more years) by nationality and maximum schooling attainment | Total number of individuals and breakdown as a percentage of each educational level for each nationality

	Total	Primary	Secondary	Tertiary
Total	264,339	33.1	40.5	26.3
Brazil	107,638	27.1	47.5	25.3
Cape Verde	12,869	57.8	33.7	8.5
Ukraine	12,627	29.5	48.4	22.0
Angola	11,746	38.4	38.3	23.3
India	9,350	46.2	41.3	12.5
China	8,711	65.9	25.8	8.3
Romenia	8,608	44.8	44.1	11.1
Nepal	8,312	44.0	43.6	12.4
Guiné-Bissau	6,656	50.6	37.5	11.9
Spain	6,266	14.9	22.4	62.7
Italy	5,971	11.8	25.5	62.7
France	5,922	21.9	28.7	49.4
United Kingdom	5,918	17.9	34.8	47.3
Bangladesh	5,347	44.0	35.7	20.3
Other – Europe	18,341	16.4	32.6	51.0
Other – outside Europe	30,057	37.3	33.8	28.9

Source: Statistics Portugal – Census 2021 (Banco de Portugal calculations). | Note: Singular countries are presented by the descendent number of individuals of the respective nationality working in Portugal.

III Policy insights

Interest expenditure and public debt management

Interest expenditure and public debt management in Portugal[1]

Effective public debt management and the determination of the associated interest expenditure are pivotal for bolstering investor confidence and ensuring the sustainability of public finances, thereby affecting the government's ability to implement economic and social policies. In the recent inflationary period, understanding the mechanisms underlying public debt interest costs has become increasingly important, as it directly influences the country's ability to cope with fiscal pressures while upholding stable financial conditions conducive to economic growth.

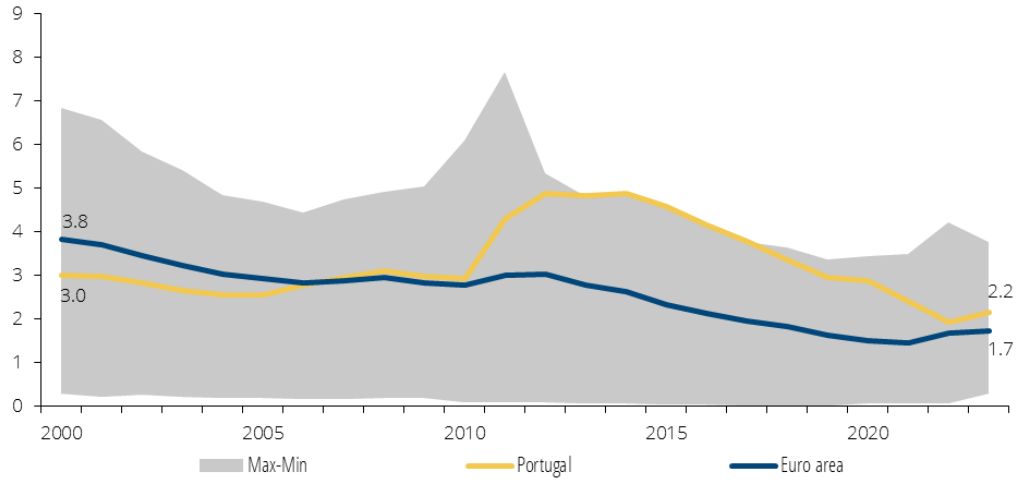
This Policy Insights describes developments in the cost of public debt over the last two decades and analyses how the debt management strategy has influenced this cost, drawing comparisons between Portugal and the euro area. The impact of rising interest rates in the current environment is put into perspective with past developments.

Interest expenditure in Portugal declined over the last decade, reapproaching the euro area average.

In 2023, expenditure on servicing public debt represented 5.1% of total public spending and 2.2% of GDP, which is below the 3.3% average of the last two decades (Chart 1). In the period prior to the sovereign debt crisis, interest expenditure remained stable at around 3% of GDP. However, in just two years (2011 and 2012) interest expenditure rose by 1.9 p.p. of GDP, equivalent to nearly €3 billion. Since 2015, a sustained reduction began, amounting to 3 p.p. of GDP up to 2022. This downward trend was common across most euro area countries in the context of low interest rates, but was more pronounced in Portugal and the other countries affected by the sovereign debt crisis. Despite the recent convergence towards the euro area average, from 2013 to 2017 Portugal had the highest interest expenditure as a percentage of GDP. During this period, Greece had a higher debt stock, but a larger proportion of official loans and the benefit of interest payment moratoriums allowed for lower interest expenditure than in Portugal.

[1] Prepared by Cláudia Braz, José Miguel Cardoso da Costa and Sharmin Sazedj.

Gráfico 11 • Interest expenditure of public debt in Portugal and the euro area | Percentage of GDP



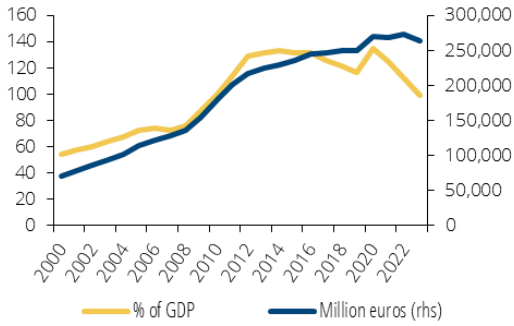
Source: Eurostat (Banco de Portugal calculations). | Notes: Public debt interest corresponds to that of the general government, calculated in national accounts. The euro area comprises 19 countries, excluding Croatia.

Interest expenditure accounted for 70% of the increase in the stock of public debt between 2000 and 2023.

The stock of public debt evolves with the primary balance and interest paid annually, also reflecting occasional adjustments not resulting from these components. In Portugal, the stock of debt followed an upward trend since 2000, only interrupted in 2021 and 2023 (Chart 2). The emergence of positive primary balances from 2015 onwards allowed for a deceleration in public debt growth, particularly noticeable towards the end of the last decade. Regarding interest expenditure, it accounted for 70% of the increase in the stock of public debt between 2000 and 2023.

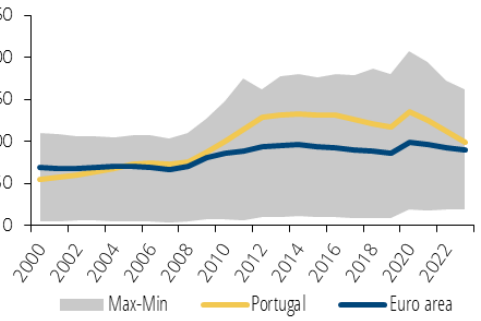
Portugal's public debt as a percentage of GDP reached 99.1% in 2023 (Chart 3). Although this ratio remains high, it is lower than that in Greece, Italy, France, Spain and Belgium. The debt ratio in Portugal increased gradually in the first decade of this century, surpassing the euro area average in 2005. Since 2017, with only a halt in 2020 following the pandemic, there has been a considerable reduction in the debt ratio (32.4 p.p.), resulting from significant primary surpluses and nominal economic growth above the average cost of debt. Indeed, the primary deficit averaged at over 2.5% of GDP until 2015, followed by primary surpluses of an average magnitude above 2% of GDP excluding the pandemic period. These developments over the last decade have resulted in a convergence of the debt ratio towards the euro area average.

Gráfico 12 • Public debt in Portugal | Percentage of GDP and million euros



Sources: Statistics Portugal and Banco de Portugal. | Note: The concept of public debt used is that of Maastricht, i.e. it corresponds to the consolidated gross debt of the general government at face value.

Gráfico 13 • Public debt in Portugal and the euro area | Percentage of GDP



Source: Eurostat (Banco de Portugal calculations). | Notes: The average for the euro area is obtained by summing member states' debts, without deducting loans between countries within the framework of financial assistance programs.

The reduction in the implicit interest rate supported the decline in interest expenditure since 2015.

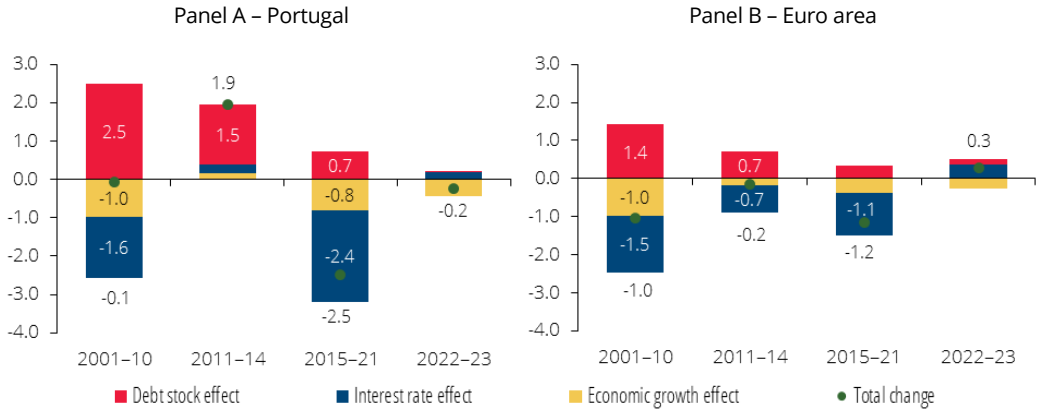
The evolution of interest expenditure as a percentage of GDP can be broken down into three effects: interest rate, debt stock and economic growth (Chart 4). The interest rate effect measures the impact of the change in the implicit rate, defined as the ratio of the year's debt interest expenditure to the debt stock at the end of the previous year. The debt stock effect is linked to nominal debt developments, while the economic growth effect is related to nominal GDP. Fiscal policy affects financing costs through both the stock effect and the interest rate effect, as it influences the Republic's credibility in financial markets.

Between 2000 and 2010, interest expenditure in Portugal remained stable as a percentage of GDP, with the effect of the increase in the debt stock offset by a reduction in the implicit interest rate and nominal GDP growth. During the sovereign debt crisis, the sharp increase in the debt stock and the absence of the usual favourable effect linked to nominal growth led to a considerable rise in interest expenditure, both in nominal terms and as a percentage of GDP. Over this period, the euro area experienced a decline in interest expenditure given the smaller increase in the debt stock.

From 2015 onwards, the decline in interest as a percentage of GDP was more pronounced in Portugal than in the euro area. This was associated with the acceleration of economic growth and, particularly, to a stronger reduction in the implicit interest rate, reflecting fiscal consolidation and regained credibility with the markets. Indeed, rating agencies started to upgrade sovereign credit ratings, resulting in better financing conditions. Lower debt stock growth also contributed to containing interest expenditure.

Over the past two years, interest expenditure as a ratio to GDP decreased in Portugal, in contrast to the euro area. This was due to relatively higher nominal GDP growth via the real component and the deflator, as well as to stock and interest rate effects reflecting favourable fiscal developments. The increase in borrowing and the rise in the implicit interest rate in 2023 led to an increase in interest payments for the first time since 2014. Nevertheless, the rise in the implicit interest rate was less pronounced in Portugal compared to the euro area.

Gráfico 14 • Decomposition of the change in public debt interest expenditure as a percentage of GDP in Portugal and the euro area | Yearly averages, in percentage points



Source: Eurostat (Banco de Portugal calculations).

Over the last decade, the implicit interest rate benefited from fiscal policy and spread compression in a low interest rate environment.

The implicit interest rate on Portuguese debt decreased from 5.8% in 2001 to a minimum of 1.7% in 2022, increasing slightly to 2.1% in 2023 (Chart 5). Except for an increase in 2011, the downward trajectory was similar to that observed across the euro area up to 2015, accelerating thereafter largely due to the credibility of fiscal policy and the reduction in the natural interest rate.[2] In recent years, there has also been a lower dispersion of the implicit interest rate across euro area countries, reflecting a reduction in the fragmentation risk.

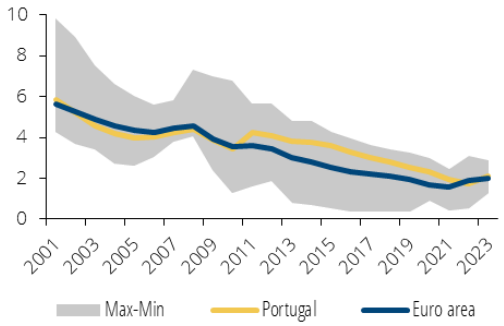
Periods of reduction in the implicit interest rate largely reflect refinancing at lower interest rates compared to the debt that matures in each period. As the amount to be refinanced in each year is typically low compared with the outstanding stock of debt issued in previous years, this reduction is usually gradual. In fact, the implicit interest rate shows high persistence, with nearly all euro area countries displaying an autocorrelation coefficient exceeding 0.9 in the period under analysis.

[2] For an analysis of developments in the natural interest rate in the euro area over the last decades, see Carvalho, A. (2023), "The euro area natural interest rate – Estimation and importance for monetary policy", *Banco de Portugal Economic Studies*, Vol. IX, No 3, pp. 1-24.

In the years following the creation of the euro, the Portuguese state financed itself in international markets at interest rates very close to German benchmark rates and below previous financing costs (Chart 6). This changed in the aftermath of the international financial crisis of 2008–09. Bond issuances in 2010 and 2011, which reached rates above 6%, led to a marked rise in the implicit interest rate (0.8 p.p.), culminating in the request for international financial assistance. From 2012 onwards, the implicit interest rate resumed a sustained downward path, benefiting first from lending under the Economic and Financial Assistance Programme (EFAP), and also from the gradual, albeit not continuous, narrowing of the spread after the return to the markets.

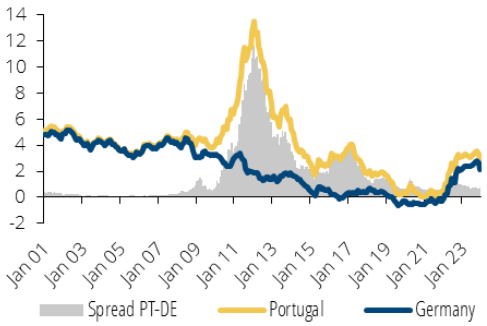
The decline in the implicit interest rate accelerated from 2015 onwards, benefiting from successive rating improvements and from the global low interest rate environment. The conduct of Portuguese fiscal policy was instrumental in restoring credibility with the markets and to lower interest rates in the secondary market. This reduction was reinforced by the ECB's monetary policy, initially with the announcement of the possibility of conducting outright monetary transactions (OMT) in 2012 and, after 2015, with the implementation of public debt purchase programmes. While purchases of Portuguese government debt by the ECB declined as of the third quarter of 2016 due to a relative shortage of securities in the market, Portugal continued to benefit from the downward pressure on interest rates in the euro area and the reduction of fragmentation risks.

Gráfico 15 • Implicit interest rate on public debt in Portugal and the euro area | Percentage



Source: Eurostat. | Note: Implicit interest rate calculated as the ratio between interest expenditure and the stock of debt at the end of the previous year.

Gráfico 16 • 10-year treasury yields in Portugal and Germany and spread | Percentage and percentage points



Source: Refinitiv.

The debt management strategy has favoured issuance at longer maturities, minimising refinancing risk and exposure to interest rate rises.

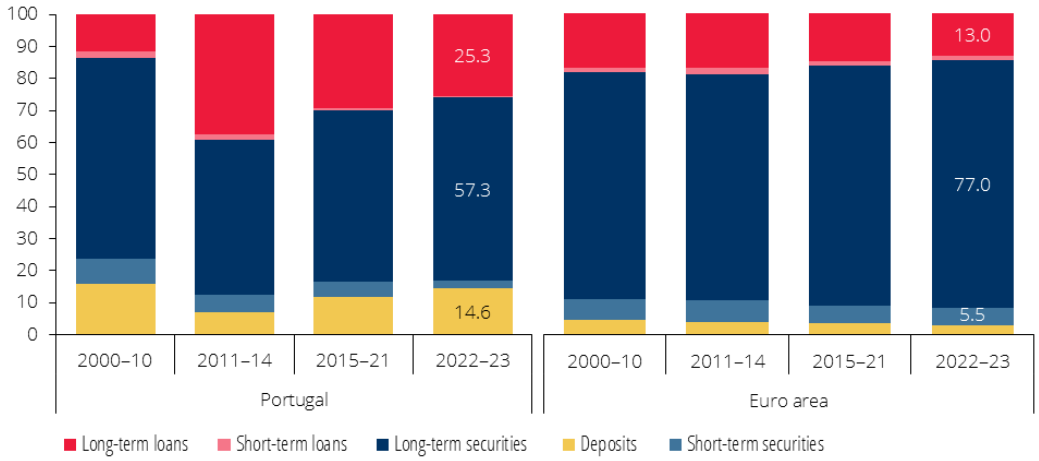
Public debt management policy involves selecting debt instruments that meet the sovereign's financing needs at all times, aiming to minimise the cost of debt from an intertemporal perspective and exposure to risks. Indeed, the cost of debt has different interest rates attached to each instrument. In 2023 implicit interest rates on the main instruments stood at: 2% for Treasury bonds, 1.4% for Treasury bills, 5.7% for savings certificates (CA, following the Portuguese acronym),[3] 1.8% for Treasury certificates (CT) and 1.3% for lending under the EFAP.

[3] The implicit interest rate on this instrument calculated on the basis of the average debt stock in 2022-23 (instead of the actual stock at the end of 2022) stood at 4.2%.

In most euro area countries, debt is mainly issued in nominal terms at fixed rates, and the maturity structure to be issued rests as the key choice. The Portuguese public debt is characterized by a greater share of instruments acting as household deposits (savings and Treasury certificates), which historically account for 10% of debt, and by a higher share of loans since the EFAP (Chart 7). Medium and long-term instruments play a predominant role in both securities and loans, with short-term debt (excluding deposits) not exceeding 10% of the total, in line with the euro area.

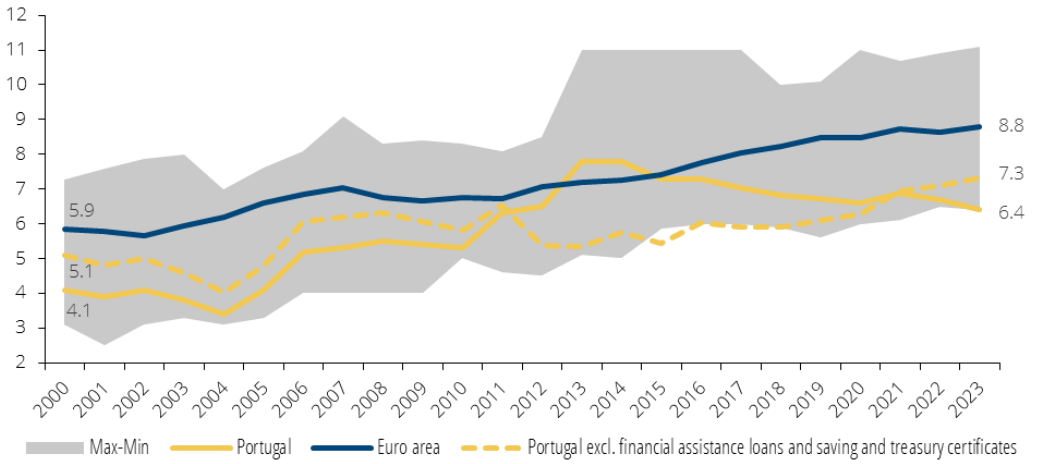
Portugal's residual debt maturity is historically lower than the euro area average (Chart 8). This discrepancy is partly due to the substantial share of CA/CT, for which a nil residual maturity is assumed due to the possibility of redemption after 3/12 months after subscription. Loans under the EFAP contributed to a significant increase in the average residual maturity, especially after the maturity extension agreement in 2013. The average maturity of total debt peaked at 7.8 years in 2013-14, converging in subsequent years to the average maturity of tradeable debt. However, excluding the EFAP, CA and CT, the maturity went up from 5.5 years in 2013-14 to 7.3 years currently.

Gráfico 17 • Structure of public debt by type of instrument and original maturity in Portugal and the euro area | In percentage



Source: ECB. | Note: Short-term (long-term) securities and loans include debt issued with original maturity less (more) than 1 year.

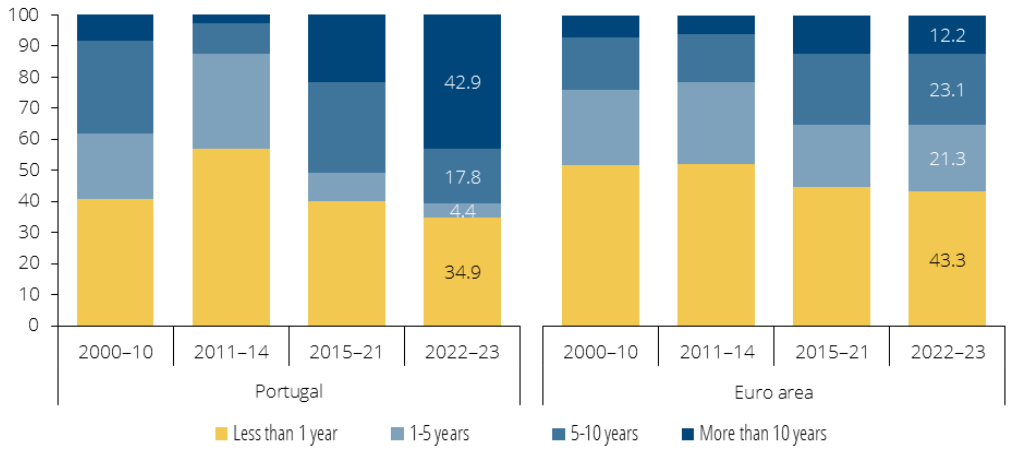
Gráfico 18 • Average residual maturity of public debt in Portugal and the euro area | Years



Sources: ECB and IGCP (Banco de Portugal calculations). | Note: The dashed series excludes loans obtained under the Financial Assistance Programme, as well as saving and treasury certificates. The range excludes Greece.

From 2015 onwards, the reduction in interest rates to historical lows prompted debt managers to issue at longer maturities (Chart 9). Notable examples of this trend include the 100-year issuances in Ireland, Belgium and Austria. Portugal was no exception, with a sustained decline in short-term debt issuance and an increase in the average debt maturity excluding the EFAP, CA and CT. While this strategy typically raises the interest burden in the short term, it allows interest to be anchored for a longer period and to minimise refinancing risk, while promoting liquidity at different parts of the yield curve. Minimising refinancing risk is crucial in public debt management strategy and is highlighted by rating agencies in their risk assessments.

Gráfico 19 • Structure of tradeable debt issuances by maturity in Portugal and the euro area | In percentage



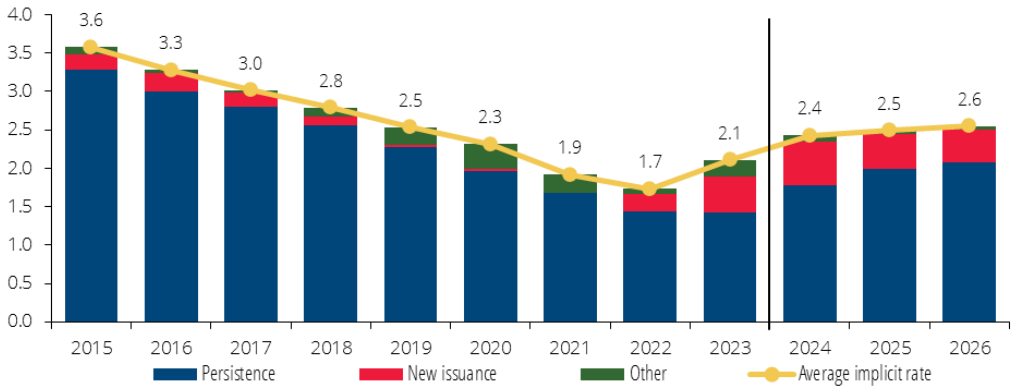
Sources: Economic and Financial Committee's Sub-Committee on EU Sovereign Debt Markets (Banco de Portugal calculations). | Note: Includes issuances conducted by the public debt management agencies of each country, typically responsible only for central government debt.

In the coming years, the implicit interest rate on debt is expected to rise, pressuring public spending.

The implicit interest rate can be broken down through a simple equation into a persistence component associated with debt issued in previous years, the effect of new issues and a residual component capturing the difference between the actual or projected rate and that resulting from the equation. The projected rate is based on the June 2024 *Economic Bulletin* of Banco de Portugal, which incorporates more detailed assumptions than this exercise.

After the increase observed in 2023, the implicit interest rate is expected to continue rising in the coming years, albeit at a slower pace, reaching its highest level since 2018 in 2026 (Chart 10). This will occur as long as interest rates on new issuances remain higher than the previous year's implicit interest rate. The impact of these developments on interest expenditure will also depend on the future debt stock. Considering the downward trajectory of public debt as a percentage of GDP presented in the Bulletin's projections, based on a no-policy-change assumption, interest expenditure would increase by €800 million cumulatively between 2023 and 2026. In case of lower (higher) primary budget surpluses, both financing needs and interest expenditure will be higher (lower).

Gráfico 20 • Decomposition of the observed and projected implicit interest rate on debt | In percentage



Source: Banco de Portugal calculations. | Notes: Persistence is measured as the product of the implicit interest rate from the previous period and a measure of the proportion of debt that was issued in previous years (1-1/maturity), while new issuance corresponds to the product of the average interest rate of new issuances (considering the observed secondary market rates for three reference maturities: 3 months, 5 years, and 10 years) and the fraction of debt to be refinanced in the year (1/maturity). The interest rate for new issuances is a weighted average considering the issuance structure and the respective secondary market rates. For the period 2024–26, the assumptions underlying the June 2024 *Economic Bulletin* projection were used. The residual component captures the difference between the observed or projected rate and what would result from the application of the equation.

In the current environment of high interest rates, it is crucial to maintain a prudent fiscal policy and preserve credibility in the markets.

Portugal has experienced a significant reduction in interest expenditure over the last decade, no longer being the euro area country with the highest level of such expenditure as a percentage of GDP and approaching the monetary union average. This progress was the result of lower financing needs due to primary surpluses, coupled with a decline in the implicit interest rate. The credibility of public finances, expressed by a trajectory towards budget surpluses, and higher nominal economic growth contributed to a decline in the debt ratio. These factors justify the successive improvements in the rating of the Portuguese public debt.

Recent monetary policy decisions in response to the rise in inflation have led to higher interest expenditure, albeit to a lesser extent than in the euro area, given the more favourable fiscal and macroeconomic developments. European debt issuance to finance the pandemic crisis response and economic recovery programmes also helped mitigate the impact of rising interest.

In the coming years, the implicit interest rate is expected to increase further, adding pressure to Portugal's fiscal challenges. Due to the high persistence associated with the residual maturity and the predominantly fixed-rate nature of the instruments, the increase will be gradual but nevertheless felt over the medium term. To mitigate the impact on interest expenditure, it will be essential to maintain a prudent fiscal policy aimed at minimising refinancing amounts and inherent risk by reinforcing credibility with the markets.

IV Series

Quarterly series for the Portuguese economy: 1977–23

Annual series on household wealth: 1980–23

Quarterly series for the Portuguese economy: 1977–23

Every year the Banco de Portugal discloses an update of the quarterly long series for the Portuguese economy. These series are distributed into three blocks: expenditure, household disposable income and labour market.

The update released in this Bulletin maintains the same breakdown as previously and includes quarterly figures for 2023 for the first time. The data is consistent with the latest version of the Quarterly National Sector Accounts published by Statistics Portugal on 25 March 2024 and mainly follows the methodological procedures described in detail in Cardoso and Sequeira (2015).[1]

The quarterly series published for GDP and main expenditure components match the data released by Statistics Portugal for the period from 1995 onwards. The household disposable income series for the period from the first quarter of 1999 onwards also match those published by Statistics Portugal (Quarterly National Sector Accounts), adjusted for seasonal and calendar effects.

In the labour market block, series are grouped according to two different measures: full-time equivalent (FTE, National Accounts concept) and thousands of individuals (Labour Force Survey concept). The FTE employment series correspond, in annual terms, to those released by Statistics Portugal since 1995. The series measured in thousands of individuals and the unemployment rate series only differ from those currently published by Statistics Portugal due to seasonal adjustments.

In annual terms, for the period prior to 1995, the series follow developments in the Long time series for the Portuguese economy, (SLEP, in Portuguese, 2020), published by Statistics Portugal and the Banco de Portugal in December 2021.

In general, seasonal adjustments were made using the X13-ARIMA procedure (via the JDemetra+ software).

These quarterly series for the 1977–2023 period are available in electronic format on the Banco de Portugal's webpage for this *Economic Bulletin* and on BP*stat* | Statistics Online under the domains National accounts and Population and labour market.

[1] Cardoso, F. and Sequeira, A. (2015), "Quarterly series for the Portuguese economy: 1977-2014", *Occasional Paper* No 1, Banco de Portugal.

Annual series on household wealth: 1980–2023

The annual series on household wealth for the period 1980-2023 correspond to an update of the estimates published in the *Economic Bulletin* of June 2023. These wealth estimates, published annually,[2] include the financial component (assets and liabilities) and housing (the main component of non-financial wealth). The concepts and methodology are identical to those described in Cardoso, F., Farinha. L. and Lameira, R. (2008).[3]

The financial series (assets and liabilities) presented here are consistent with the latest version of the national financial accounts published by the Banco de Portugal, which are available for the 1994–2023 period. The financial series for the period before 1994 were estimated using the implicit rates of change in the previous wealth series and obtained in accordance with the methodology described in detail in Cardoso, F. and Cunha, V. (2005).

For the period from 2000 to 2021, the housing wealth series is based on estimates of households' housing capital stock provided by Statistics Portugal.[4] This series was extended to the 1980–1999 and 2022–2023 periods. For the period before 2000, the series was obtained by retrospectively matching the rates of change in the total housing capital stock, which is part of the Long time series for the Portuguese economy (SLEP 2020) published by Statistics Portugal and the Banco de Portugal in December 2021. For 2022 and 2023, the series has been estimated respecting the growth rate of an indicator for the housing capital stock based on a methodology similar to that used in calculating the capital stock series of SLEP 2020. The calculation of the capital stock series is based on the perpetual inventory method, consisting of successively accumulating fixed capital investment (in this case, housing investment), assuming hypotheses for its service life and its survival and depreciation method.[5] Data in current prices for 2022 and 2023 were obtained using as stock deflator an estimate based on the House Price Index published by Statistics Portugal.

The housing capital stock statistics made available by Statistics Portugal do not include the value of land underlying dwellings, which is included in the wealth series published here. The value of the land was estimated based on the ratio set for tax purposes (namely, regarding housing evaluations for municipal property tax), corresponding to 25% of the overall housing value.

[2] The series are only available in electronic format on the Banco de Portugal's webpage for this Economic Bulletin.

[3] Cardoso, F., Farinha, L. and Lameira, R. (2008), "Household wealth in Portugal: revised series", *Occasional Paper* No 1, Banco de Portugal. This publication corresponds to the revised series previously published in Cardoso, F. and Cunha, V. (2005) "Household wealth in Portugal: 1980-2004" *Working Paper* No 4, Banco de Portugal, where the calculation methodology is described in more detail.

[4] Statistics Portugal published the capital stock accounts in November 2017 for the first time, available on the National Accounts area of its website. For further details, see Statistics Portugal (2017), "Capital stock (Base 2011) 2000–2015", Press release of 24 November.

[5] For more details on the methodology for calculating the capital stock series of SLEP 2020, see Séries Longas para a Economia Portuguesa (2021), Statistics Portugal and Banco de Portugal.