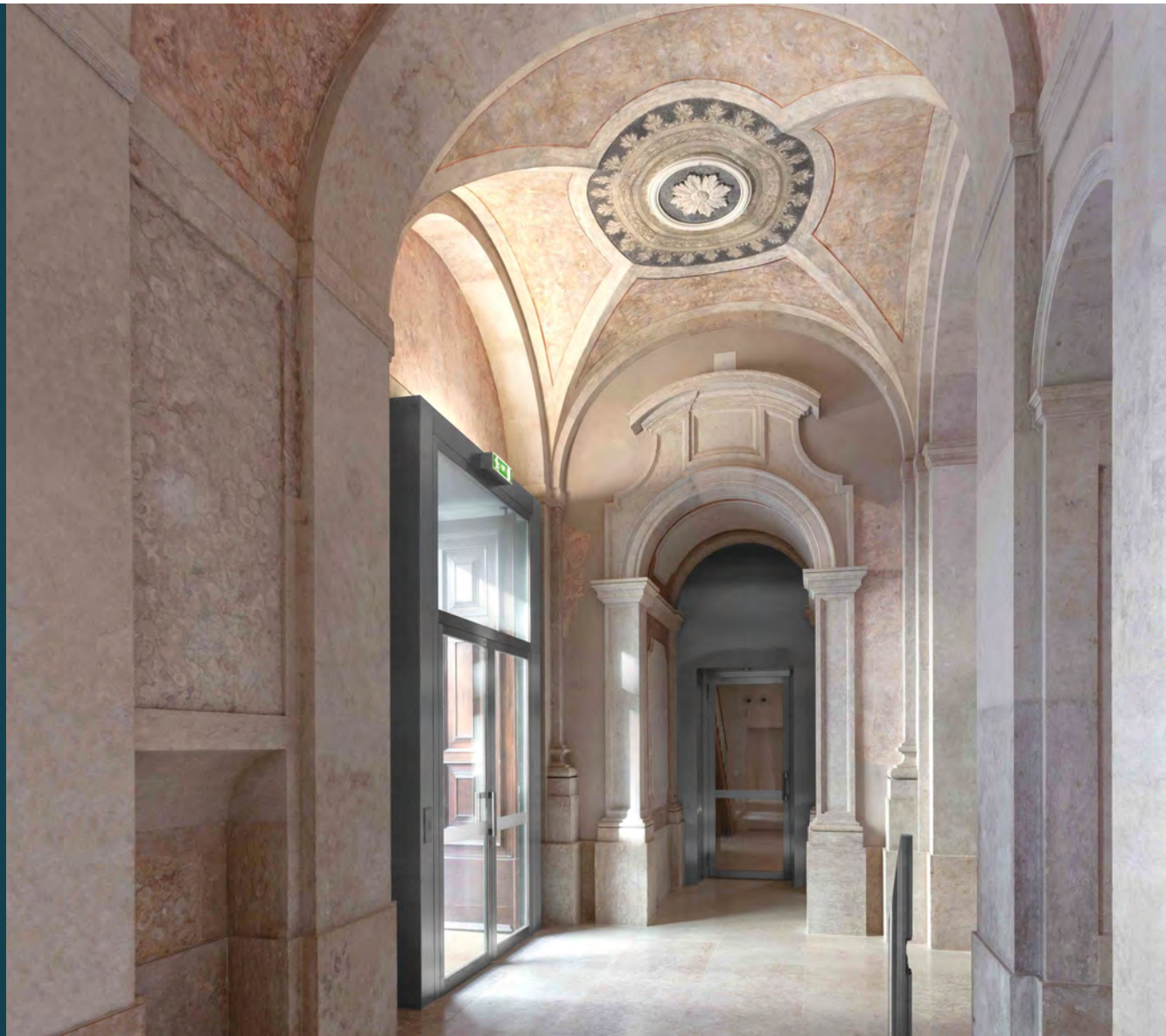
ECONOMIC BULLETIN

BANCO DE PORTUGAL
EUROSYSTEM

October 2015



ECONOMIC BULLETIN

October 2015

BANCO DE PORTUGAL
EUROSYSTEM

Lisbon, 2015 • www.bportugal.pt

ECONOMIC BULLETIN | October 2015 • Banco de Portugal Av. Almirante Reis, 71 | 1150-012 Lisboa • www.bportugal.pt • Edition Economics and Research Department • Design, printing and distribution Administrative Services Department | Editing, and Publishing Service • Print run 60 • ISSN 0872-9794 (print) • ISSN 2182-0368 (online) • Legal Deposit no. 241772/06

Contents

THE PORTUGUESE ECONOMY IN THE FIRST HALF OF 2015

1. Overview

In the first half of 2015, the Portuguese economy continued its moderate recovery, consistent with the restart of the real convergence process towards the euro area average. In this period, the Portuguese economic environment was characterised by robust external demand, lower financial fragmentation in the euro area and improved monetary and financial conditions, supported by the broad set of policy measures adopted by the ECB. At the domestic level, there was a consolidation of economic agents' favourable expectations regarding developments in permanent income, as well as a non-tightening fiscal policy stance, assessed in structural terms. These factors combined have helped sustain the dynamism of domestic demand, especially the consumption of durable goods and the investment in machinery and transport material. Developments in these aggregates should be seen in the context of the strong fall recorded in previous years. Therefore, they are influenced by a process of gradual convergence towards their long-term equilibrium levels. In turn, throughout the past year, export growth of both goods and services remained robust, in line with the external demand for the Portuguese economy. In the labour market, private sector employment increased significantly, public sector employment declined – although the fall was more mitigated than in previous years – and unemployment fell sharply. The ongoing economic recovery continued to be characterized by low domestic and external inflationary pressures. In addition, developments in the Portuguese economy in the first half of 2015 continued to be consistent with a gradual movement towards fundamental macroeconomic balances. In this regard, reference should be made to the deleveraging process in various sectors of the economy – households, firms and financial sector – as well as to the maintenance of a current and capital account surplus, based on a surplus in the balance of goods and services. Available evidence on the budget execution also suggests that the national commitment to end the excessive deficit procedure in 2015 remains feasible.

Over the past few years, there has been a gradual improvement in the allocation of resources in the Portuguese economy. This structural process implied an increased orientation of factors of production to more productive firms and to the segments more exposed to international competition. This conclusion is evidenced by both supply and demand-side indicators. Specifically, there was an increase of approximately 10 percentage points (p.p.) in the weight of exports on Gross Domestic Product (GDP) between 2008 and the first half of 2015 (from 31 to around 41 per cent), amid strong growth of exports in volume (an increase of 25 per cent over the same period) and significant market share gains, namely in comparison with the other euro area countries. These favourable developments were associated not only with the performance of firms traditionally exposed to external markets but also with firms that have started their exporting activities. In the opposite direction, there was a structural contraction in the construction sector, both in terms of its weight in gross value added (GVA) and in total employment. In aggregate terms, the cumulative increase in GVA per employee (full-time equivalent) in Portugal has reached around 7 per cent since the beginning of 2008. Consistently, available microeconomic evidence also suggests that more productive companies increased their weight in terms of sales volume, in particular in the industry and services sectors. This gradual reallocation of resources was also supported by developments in the credit market, which has been characterised by rising credit flows to firms with better risk profile. The Portuguese economy's restructuring process is naturally still in progress. In fact, the correction of the inefficient allocation of resources accumulated during several decades – which was

fully revealed with the sovereign debt crisis in the euro area – requires the adoption of a set of correct and stable incentives, anchoring the decisions of the different economic agents over a relatively long period of time. A key determinant of this process is the existence of mobility of productive resources between firms, including flows from firms which close down to new firms, which depend both on the institutional framework and on the quality of productive factors.

In the past few years the Portuguese economy was subject to an unprecedented combination of shocks. As a result, economic activity and employment levels are still significantly below those recorded in the period before the global financial crisis. In this regard, it should be noted that the pace of recovery of the Portuguese economy has been more gradual than in previous recessive periods. This pattern, which is shared by the euro area as a whole, is largely associated with the fact that it occurs after a profound financial crisis, followed by the sovereign debt crisis. This combination implies in general a slow economic recovery pattern. Against a background of gradual adjustment, the interaction between persistently high public and private debt levels – which require a progressive decrease in economic agents' indebtedness – and an excessively leveraged financial sector – which requires a strengthening in terms of solvency and balance sheet quality – constrains the pace of economic recovery for a protracted period of time.

In addition to the interaction between the financial economy and the real economy, there are other factors that have conditioned the level and potential growth of the Portuguese economy. First, it is worth noting that the total population and the working-age population decreased (by approximately 2.0 and 5.5 per cent respectively between the beginning of 2010 and mid-2015), driven by the recent dynamics of migratory flows and the population's ageing. This process has structural characteristics that should be taken into account when assessing economic performance in Portugal (analysed in detail in the Special Issue 'Demographic transition and growth in the Portuguese economy' in this Bulletin). Therefore, the analysis of developments in macroeconomic aggregates in *per capita* terms gains increased importance. Second, the profound and protracted fall in corporate investment throughout the crisis conditioned developments in the stock of capital, restraining the momentum of economic activity. Even in the current environment of strong growth of investment in machinery and transport material, the level of business investment is still around 30 per cent lower than before the global financial crisis. Finally, the high level of long-term unemployment – despite the decline recorded in the first half of the year – tends to give rise to human capital depreciation, with an adverse impact on potential economic growth.

This Bulletin updates the full-year 2015 macroeconomic projections, leaving unchanged the fundamental outlook for the Portuguese economy, as identified in June. In this context, the challenges facing the Portuguese economy should not be underestimated. As for the external environment, a number of weaknesses in the drivers of world economic growth have been revealed in recent months, in particular as regards the transition of the Chinese economy to an economic regime more centred on domestic demand. In addition, central banks in developed economies face a credibility challenge in managing expectations, against a background in which actual inflation has systematically been lower than the inflation targets set in the respective mandates.

Turning to the predominantly domestic challenges, the process of structural adjustment and lasting correction of the macroeconomic imbalances accumulated over decades requires further deepening. In particular, it continues to be necessary to further enhance the efficiency in the financial intermediation process, to ensure an additional deleveraging of the private sector and to create new incentives to innovation, factor mobility and physical and human capital investments. Finally, it is vital to maintain a predictable institutional framework that promotes

macroeconomic stability. In this regard, the national authorities' commitments to European budgetary rules must be fulfilled (see the Special Issue 'European budgetary rules and the computation of structural balances' in this Bulletin). Compliance with these commitments will ensure the sustained reduction of the current level of public debt as a percentage of GDP, which is a latent vulnerability of the Portuguese economy. Overall, these different dimensions combined will help boost economic growth and economic agents' well-being, whilst maintaining the fundamental macroeconomic balances in the Portuguese economy.

2. International environment

World economy continues to expand moderately

Throughout the first half of 2015, the world economy continued to follow a moderate growth path. Rates of growth continued to vary across regions, with economic activity gradually recovering in advanced economies, while emerging market economies decelerated. This trend, which started in 2013, was reinforced by the recent drop in the price of commodities, particularly oil, which resulted in a considerable redistribution of income between exporting and importing countries. Overall, the positive net effect on income was more pronounced in advanced economies, where real gains from the drop in oil prices contributed to an increase in domestic demand. Continued accommodative monetary policies and a less restrictive fiscal policy also made a positive contribution. As a consequence, wage growth recovered in developed countries and consumer confidence increased to pre-crisis levels.

Economic activity in emerging market economies continued to decelerate. China's reorientation of its economic policy towards a model more focused on the domestic market led to a gradual decrease in economic growth compared with the very high rates of growth observed throughout the past decade. The deceleration was particularly visible in the construction and manufacturing sectors, both of which are commodity-intensive. The decline in demand for commodities in China, together with supply--side factors with an impact on the oil market, has contributed to a marked decrease in commodity prices in the past few months (Chart 2.1). The drop in prices and contraction in the markets had a considerable impact on many commodity-exporting emerging market economies. In Brazil and Russia, these developments, combined with political and structural factors, resulted in a contraction of economic activity. Weak demand in emerging market economies led to a strong decrease in world trade in goods and services during the first quarter of 2015, only partially offset by an increase in demand from advanced economies (Chart 2.2).

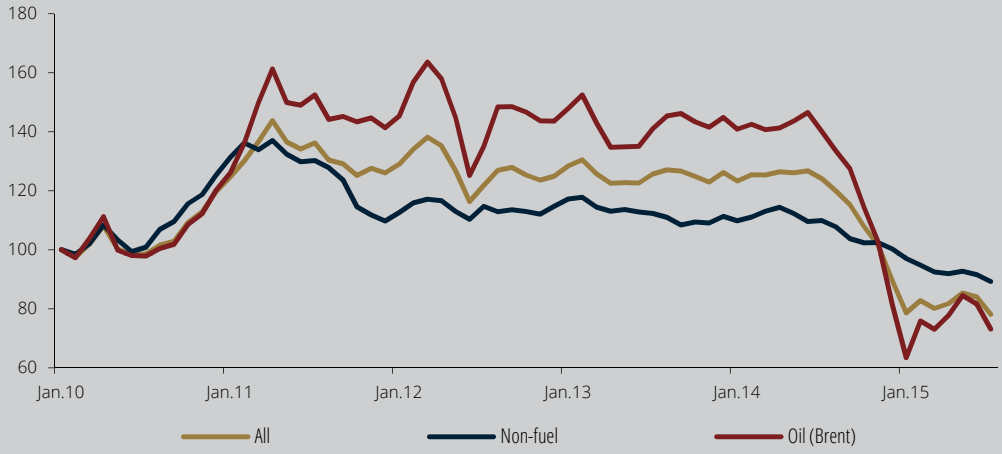


Chart 2.1 • Commodity prices | Index Jan 2010=100

Source: IMF.

Note: The non-fuel price index includes food, beverages and industrial inputs

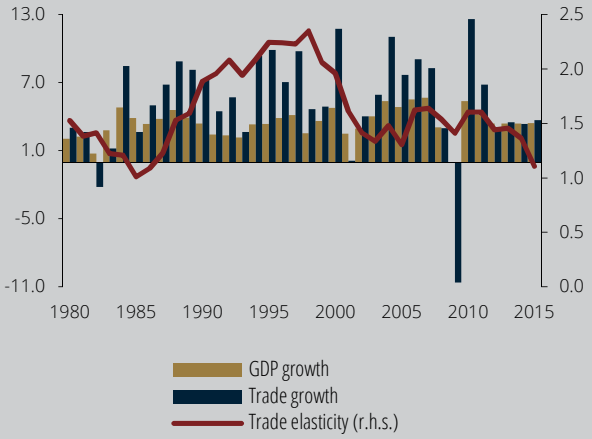
According to the IMF's July projections, world GDP is expected to grow by 3.3 per cent in 2015, slightly below the 3.4 per cent observed in 2014. Advanced economies are projected to grow by 2.1 per cent, compared with 1.8 per cent in 2014. In turn, growth in emerging market economies is expected to decline from 4.6 per cent in 2014 to 4.2 per cent in 2015 (Table 2.1). Although their relative contribution to world GDP growth is expected to decrease, emerging market economies will still account for more than 70 per cent of world GDP in 2015 (Chart 2.3). World trade is projected to grow by 4.1 per cent, above the 3.2 per cent seen in 2014. Consequently, the elasticity of world trade to output is expected to be close to 1. This figure, although close to the average for the 2001-2014 period, is considerably lower than the average value of 2 in the previous decades.

Table 2.1 • Gross Domestic Product | Real growth rate, in percentage

	WEO Update July 2015			Revisions from April 2015 WEO (p.p.)	
	2014	2015	2016	2015	2016
World	3.4	3.3	3.8	-0.2	0.0
Advanced economies	1.8	2.1	2.4	-0.3	0.0
USA	2.4	2.5	3.0	-0.6	-0.1
Japan	-0.1	0.8	1.2	-0.2	0.0
United Kingdom	2.9	2.4	2.2	-0.3	-0.1
Euro area	0.8	1.5	1.7	0.0	0.1
Germany	1.6	1.6	1.7	0.0	0.0
France	0.2	1.2	1.5	0.0	0.0
Italy	-0.4	0.7	1.2	0.2	0.1
Spain	1.4	3.1	2.5	0.6	0.5
Emerging and developing economies	4.6	4.2	4.7	-0.1	0.0

Source: IMF, *World Economic Outlook Update, July 2015.*

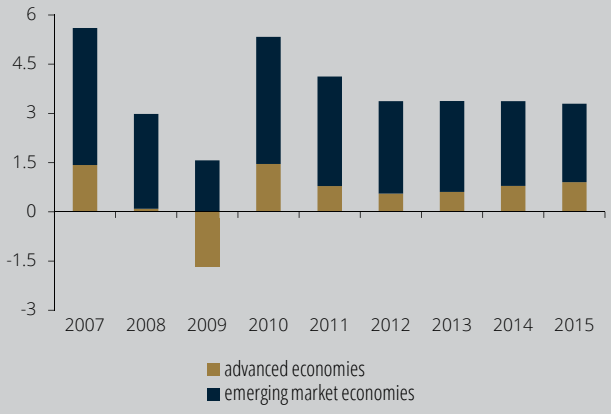
Chart 2.2 • Growth of world GDP and trade volumes and implied trade elasticity



Source: IMF, *World Economic Outlook Update, July 2015* and Banco de Portugal's calculations.

Note: Trade elasticity is calculated over 5-year periods.

Chart 2.3 • Contributions to global GDP growth



Source: IMF and Banco de Portugal's calculations.

Note: Shares in world GDP are based on purchasing power parity values.

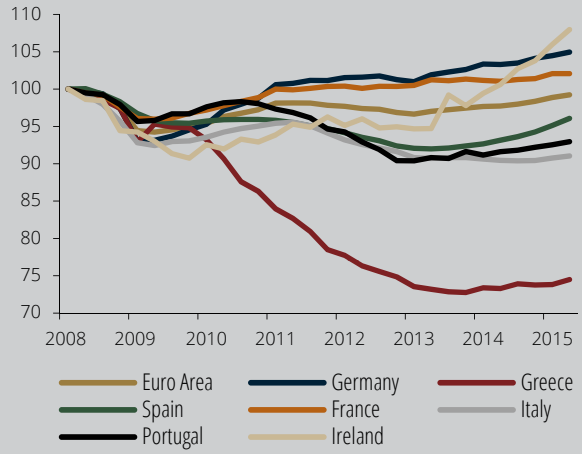
The economic recovery in the euro area shows signs of becoming broader

In the euro area, the improvement in the pace of growth at the end of 2014 extended into the first half of this year (Chart 2.4). As in other advanced economies, the marked decrease in energy prices increased real disposable income and helped strengthen growth in private consumption, which resulted in the highest rate of growth since the start of the crisis (Chart 2.5). Growing consumer confidence amid a gradual improvement in the labour market provided an additional boost to consumption. In addition, a higher degree of monetary accommodation on the part of the ECB, through non-standard measures, helped strengthen economic activity. These measures improved monetary policy transmission in the euro area, reflecting a reduction in financial fragmentation. Against this background, the cost of borrowing and the dispersion of interest rates on loans decreased. These developments, together with a more neutral fiscal stance in most countries, helped broaden the recovery in the euro area. In particular, economic activity in Spain continued to accelerate strongly. At the same time, countries like Italy and France recovered from a stagnation observed at the end of 2014. One of the factors hindering growth in the euro area during the first half of the year was the uncertainty about the negotiations with Greece, which increased considerably after the January elections (Box 1. 'Greece's third bailout programme'). Nevertheless, the negative economic impact outside Greece was relatively contained due to, inter alia, a stronger institutional structure and better governability in the euro area. In turn, the continuing conflict between Russia and Ukraine and the related economic sanctions had a negative impact on the euro area economy.

External demand for Portuguese exports accelerated

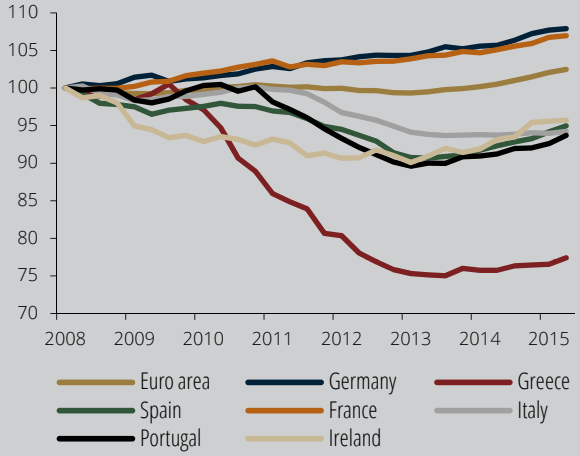
Improved economic conditions in the euro area and a weakening of the euro helped accelerate external demand for Portuguese goods and

Chart 2.4 • Real GDP in the Euro Area
| 2008 Q1=100



Source: Eurostat.

Chart 2.5 • Real consumption in the Euro Area
| 2008 Q1=100



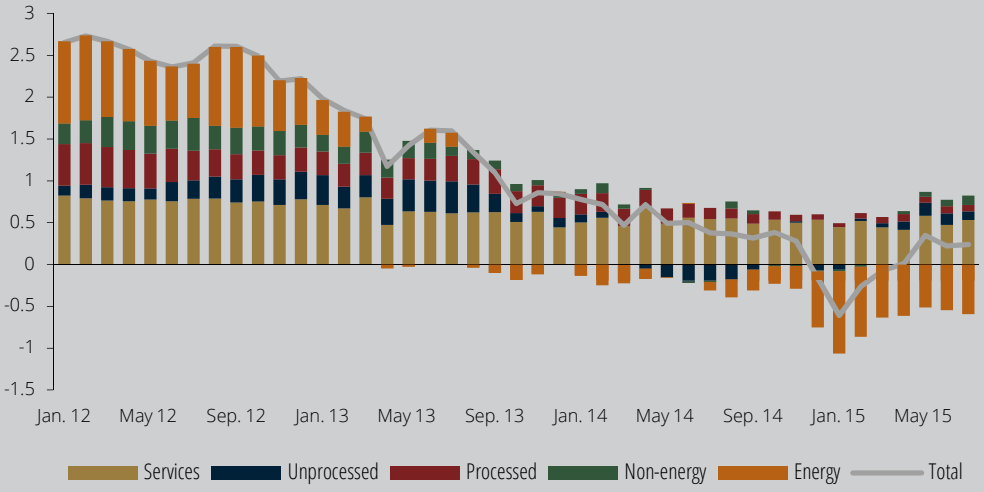
Source: Eurostat.

services, which grew by 5 per cent during the first half of the year, compared with 4.7 per cent in 2014 (Table 2.2). In particular, Portuguese exporters benefited considerably from a strong recovery in the Spanish economy and a rebound in other important trade partners in the euro area. In turn, demand from markets outside the euro area grew by 3.4 per cent (3.6 per cent in 2014). The euro depreciated by 6.2 per cent in nominal effective terms throughout the first half of the year, improving the price competitiveness of Portuguese exports in extra-euro area markets.[1] An important exception to this favourable pattern in external demand is Angola, which has been experiencing economic contraction following the sharp and sustained decline in the price of oil.

Inflation in the euro area shows signs of stabilising at low levels

After having been on a downward trend over the past three years, inflation in the euro area moved into negative territory at the start of 2015. In January, annual HICP inflation fell to -0.6 per cent, mostly due to a considerable decrease in energy prices (Chart 2.6). Subsequently, a relative reduction in the negative pressure exerted by energy prices contributed to an upward movement in inflation during the first half of the year. Headline inflation turned positive in May and stood at 0.2 per cent in June, driven by the increase in prices of services and other non-energy components of the price index. This growing trend occurred in the context of the implementation of the expanded asset purchase programme announced in January, which was followed by a significant depreciation of the euro and an increase in inflation expectations.

Chart 2.6 • Year on year rate of change of consumer prices in the euro area
| Per cent



Source: Eurostat.

Table 2.2 • External demand of goods and services for the portuguese economy
| Real year-on-year rate of change, percentage

	Shares [b]	2012	2013	2014	2014 H1	2014 H2	2015 H1
External demand (ECB) [a]	100.0	-0.4	1.6	4.7	4.5	4.8	5.0
Intra euro area external demand	66.3	-2.7	0.8	5.2	4.9	5.5	5.9
of which:							
Spain	27.1	-6.3	-0.5	7.6	7.1	8.1	7.1
Germany	13.7	0.1	3.2	3.7	4.1	3.3	5.5
France	12.5	0.8	1.8	3.9	3.3	4.5	6.5
Italy	3.9	-8.3	-2.2	1.7	1.6	1.7	4.9
Extra euro area external demand	33.7	4.2	3.0	3.6	3.6	3.6	3.4
of which:							
United Kingdom	5.6	3.1	1.4	2.4	3.0	1.8	5.3
USA	3.5	2.2	1.1	3.8	3.4	4.2	5.6
Memo:							
World trade on goods and services (IMF)			3.3	3.2			
World merchandise imports (CPB)			2.3	3.3	3.0	3.6	1.2

Sources: ECB, Netherlands Bureau for Economic Analysis (CPB) and IMF.

Note: (a) External demand is computed as weighted average of the imports volume of Portugal's main trading partners. Each country/region is weighted by its share in Portuguese exports. (b) Shares computed using 2011 data.

Box 1 | Greece's third bailout programme

After a long process of negotiations, the euro area leaders reached an agreement on a new financial assistance programme to Greece on 13 July. Formal negotiations were concluded on 14 August, when the Memorandum of Understanding was signed.

This agreement was reached after the Greek government and the institutions (European Commission, International Monetary Fund and European Central Bank) failed to agree on the terms of an extension of the second assistance programme. The programme, which started in March 2012, to the sum of €164.5 billion, scheduled to end in February 2015, was extended until the end of June 2015. The negotiations were over the type of measures to be introduced in Greece in return for additional funding. The Greek government elected in January on a platform to end austerity and renegotiate Greece's debt, was unwilling to accept further austerity measures. In turn, creditors refused to grant further loans without a firm commitment by the Greek government to undertake adequate reforms. Debt reduction was also considered unacceptable. On 25 June, a proposal to extend the assistance programme for five months was presented by the creditors and rejected by the Greek government, which announced a referendum, to be held on 5 July, to determine whether to accept or reject the creditors' proposal. Following the breakdown of negotiations, the ECB decided not to increase the fixed amount of funds provided to the Greek banking system through the Emergency Liquidity Assistance programme. On June 28 the Greek government introduced a temporary bank holiday and capital controls. Meanwhile, the second bailout programme expired on June 30, which meant that, to receive further financial assistance, Greece had to negotiate a new bailout programme. Without the funding from the expired programme, Greece failed to make a €1.5 billion debt repayment to the IMF due at the end of June. In the referendum of 5 July, the majority of voters supported the Greek government's position to reject the creditors' proposal In the following days it became clear that without a new financial assistance programme Greece would have to default on forthcoming debt repayments.On 8 July the Greek government made a formal request for a new programme. This led to an extraordinary summit with the euro area leaders focusing on Greece's financial situation and, on 13 July, to an agreement on a roadmap for a third bailout programme for Greece. As a precondition to signing a final agreement, the Greek parliament was required to approve a new package of measures by the end of July. Among the measures were: broadening the VAT tax base, reforming some pension entitlements, incorporating the Treaty on Stability, Coordination and Governance into Greek legislation and implementing the EU bank recovery and resolution mechanism. After all preconditions were completed, the details on the terms of a new financial assistance programme were negotiated and agreed upon by August 14, when a new Memorandum of Understanding was signed between the European Commission (on behalf of the European Stability Mechanism), the Greek government and the Bank of Greece.

According to the terms of the programme, Greece will receive loans of up to €86 billion over a period of three years. This includes a buffer of €25 billion to address potential bank recapitalisation and resolution costs. In turn, Greece committed to implement a set of reforms built around four pillars: restoring fiscal sustainability, safeguarding financial stability, enhancing competitiveness and growth, and modernising the State and Public Administration. In particular, the Greek government is expected to follow a fiscal path targeting a primary fiscal surplus of -0.25 per cent of GDP in 2015, 0.5 per cent in 2016, 1.75 per cent in 2017 and 3.5 per cent in 2018 and subsequent years. Implementation of these objectives will be monitored by the Commission in liaison with the European Central Bank and, whenever possible, the International Monetary Fund. Financing will be

distributed through quarterly tranches after the country has received positive reviews on progress made in implementing the packages of measures. These include reforming the pension system, deregulating the labour, product and energy markets, implementing a privatisation programme and improving tax collection and the fight against tax evasion.

Links to the most important documents

Memorandum of Understanding between Greece and the European Commission
http://ec.europa.eu/economy_finance/assistance_eu_ms/greek_loan_facility/pdf/01_mou_20150811_en.pdf

European Stability Mechanism FAQ on Greece
http://www.esm.europa.eu/pdf/2015-06-30%20FAQ%20on%20Greece.pdf

Eurogroup statement on the ESM programme for Greece
http://www.consilium.europa.eu/en/press/press-releases/2015/08/14-eurogroup-statement/

Decision of the Council of the European Union approving the macroeconomic adjustment programme of Greece
http://data.consilium.europa.eu/doc/document/ST-11459-2015-INIT/en/pdf

3. Monetary and financial conditions

3.1. Euro area

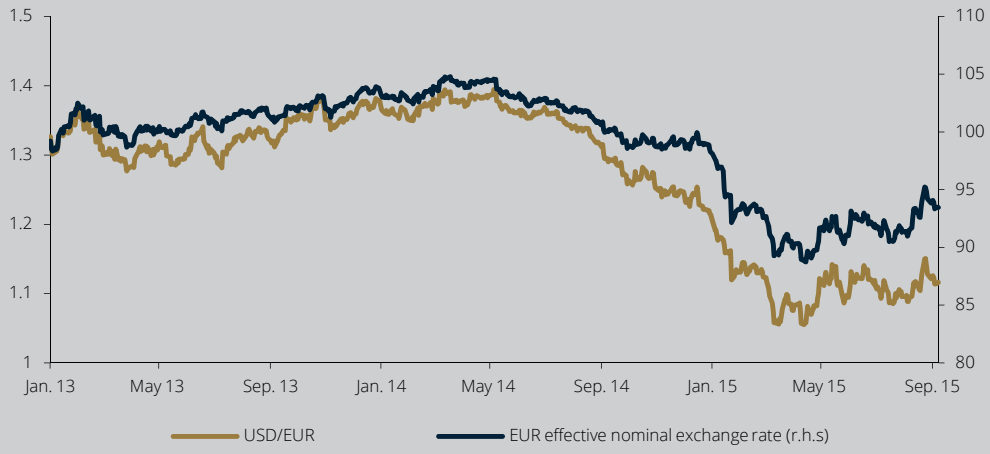
The accommodative ECB stance was heightened by new non-standard measures

In January 2015 the Governing Council of the ECB announced an expansion of the existing asset purchase programme to include bonds issued by euro area central governments, agencies and EU institutions. Previously, the programme was limited to the purchase of asset-backed securities and covered bonds. Under the expanded programme, the ECB announced that the purchase of public and private sector securities would amount to EUR 60 billion per month. According to the Governing Council, the programme is intended to continue until September 2016 and in any case until the Council sees a sustained adjustment in the path of inflation that is consistent with its medium-term price stability objective.

The accommodative policy stance, including the expanded asset purchase programme, has had a substantial impact on the financial markets and credit conditions in the euro area. The depreciation of the euro, which started in 2014, accelerated further in the first quarter of 2015 both in nominal effective terms (as measured against 18 major trading partners) and against the US dollar (Chart 3.1). In early March, the US dollar/euro exchange rate reached its lowest level since 2003. However, in the second quarter this trend reversed and the euro started to appreciate. Overall, during the first half of the year, the euro depreciated by around 6 per cent in trade-weighted terms and by 7 per cent against the US dollar.

Ten-year Treasury bond yields in the euro area continued their downward trend, falling to a historical low of 0.8 per cent in April. Government bond yields in euro area countries declined, in particular for Southern Member States, resulting in a pronounced narrowing of spreads against Germany (Chart 3.2). During this period, the yield on long-term Treasury bonds also fell in other advanced economies, particularly in the United States and the United Kingdom (Chart 3.3). The marked decrease in euro area yields since 2014 was associated with a decrease in inflation expectations and in real interest rates (Charts 3.4 and 3.5).

Chart 3.1 • Euro exchange rates



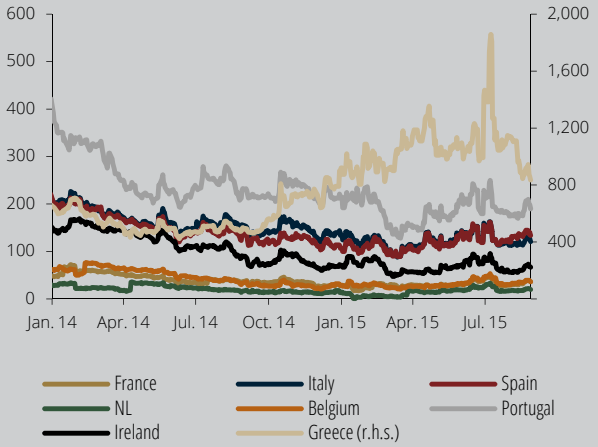
Source: ECB.

Note: EUR effective nominal exchange rate is normalized to 100 in Jan. 2013.

The sustained decrease in inflation expectations across all time horizons continued until January 2015, when this trend was reversed following the announcement of the expanded asset purchase programme. Inflation expectations increased steadily in the following months and at the end of June the average five-year inflation-linked swap rate five years ahead stood at 1.9 per cent, compared with a historical low of 1.54 per cent at the beginning of the year (Chart 3.4). However, in July, expectations based on market data started to decline again, rising concerns that some of the improvements in terms of monetary accommodation during the first half of the year might be attenuating.

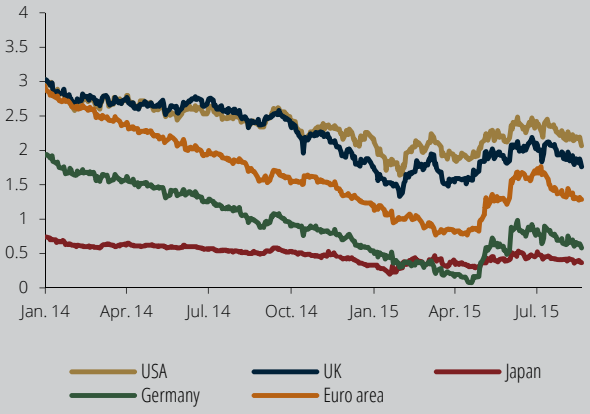
Indeed, decreasing inflation expectations, in a context of stable nominal interest rates, have resulted in an increase in real interest rates

Chart 3.2 • 10-year government bond yields – spreads against Germany | Basis points



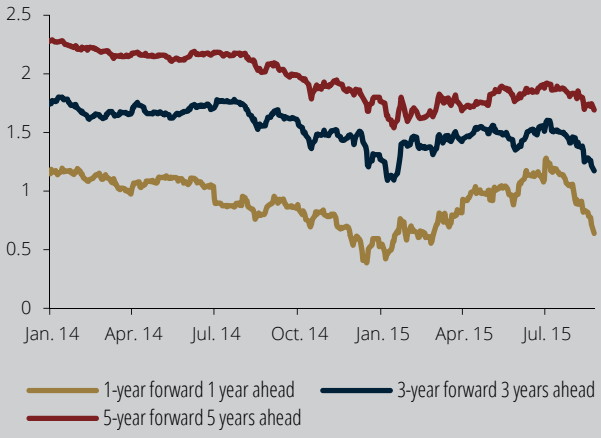
Sources: ECB and Bloomberg.

Chart 3.3 • 10-year government bond yields | Per cent



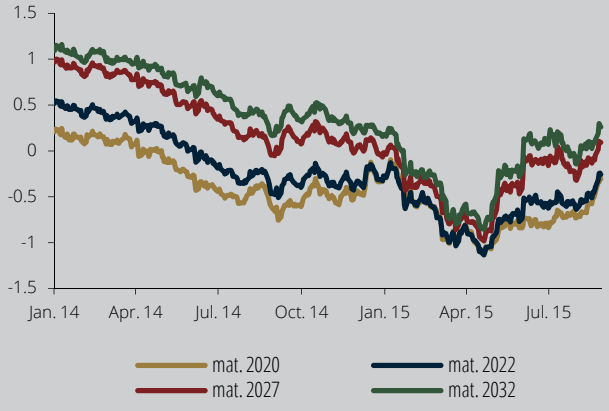
Source: Thomson Reuters.

Chart 3.4 • Market-based inflation expectations: euro area | Per cent



Sources: Bloomberg and Banco de Portugal's calculations.

Chart 3.5 • Real interest rates: euro area | Per cent



Source: Bloomberg and Banco de Portugal's calculations.

Note: Implied in French government bonds indexed to the euro area HICP (excl. tobacco prices).

over the past few months (Chart 3.5). Since mid-2014 there have been signs that inflation dynamics have begun to influence measures of inflation expectations based on market data, including over longer time horizons, which should be impervious to fluctuations in headline inflation.[2] This has resulted in a substantial increase in the degree of dependence between changes in shorter and longer-term inflation expectations (Chart 3.6).

The end of June was characterised by high volatility amidst uncertainty surrounding the negotiations between the Greek government and the credit institutions (see Box 1. 'Greece's third bailout programme'). Despite the higher volatility during this crisis period, the effect on sovereign bond yields of other countries from the periphery of the euro area was limited and temporary. This underscores the institutional progress achieved in the euro area over the past few years, as well as the investors' positive perception about the other euro area economies.

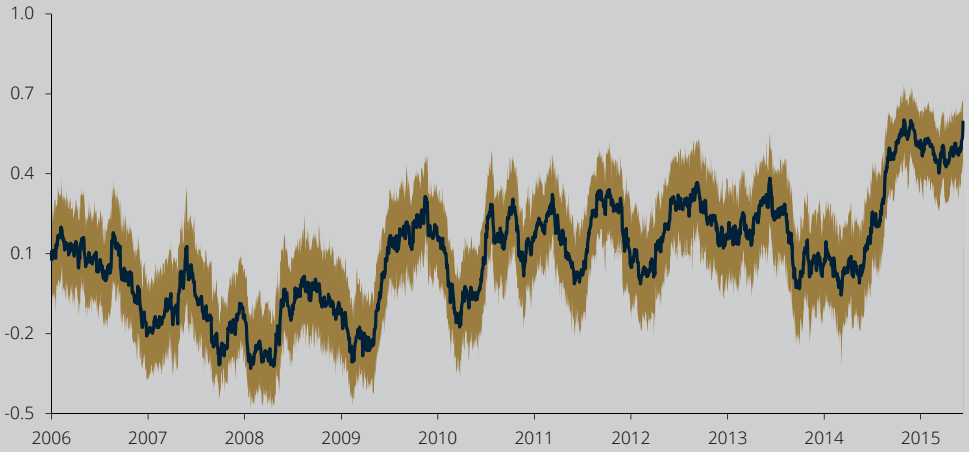
Credit market conditions continued to improve

Euro area credit markets have also benefited from favourable monetary conditions. Up to mid-2014, the transmission of monetary policy impulses to the cost of credit in the private sector was rather weak. Since then, nominal interest rates on new loans to households and non-financial corporations have decreased markedly (Chart 3.7). Furthermore, interest rate spreads between countries under economic adjustment programmes and high-rated countries have narrowed significantly, which points to an improvement in the monetary policy transmission mechanism. Nevertheless, the cost of credit in some euro area countries remains considerably higher than in others.

Bank lending to the private sector in the euro area also continued to recover, with lending to non-financial corporations recording slight positive growth in the second quarter of the year for the first time since 2012. These dynamics reflect acceleration in bank lending to non-financial corporations and households in high-rated countries, and a decline in the pace of credit contraction in countries under economic adjustment programmes (Chart 3.8).

Overall, there was an easing of banks' credit conditions, as shown by the results from the July 2015 *Bank Lending Survey*. During the second quarter, credit supply conditions eased further for

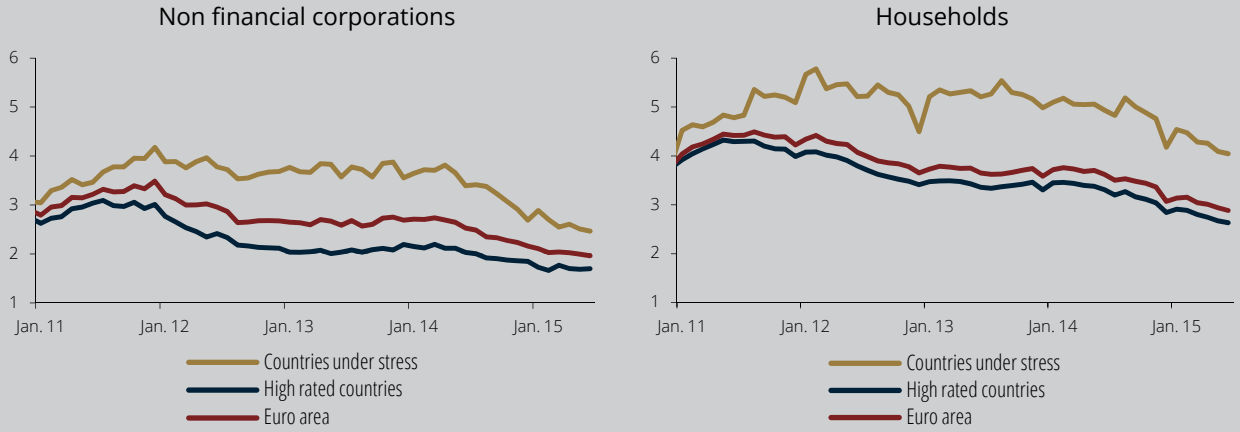
Chart 3.6 • Rank correlation between short and long-term market-based inflation expectations



Sources: Bloomberg and Banco de Portugal calculations.

Note: Rank correlation coefficient between changes in 1 year rate/1 year-ahead and 5 years rate/5years-ahead inflation expectations based on inflation-linked swaps. Daily data from 1 November 2005 until 13 August 2015. The correlation is computed using rolling windows of 90 days. The grey area corresponds to a 95% confidence intervals.

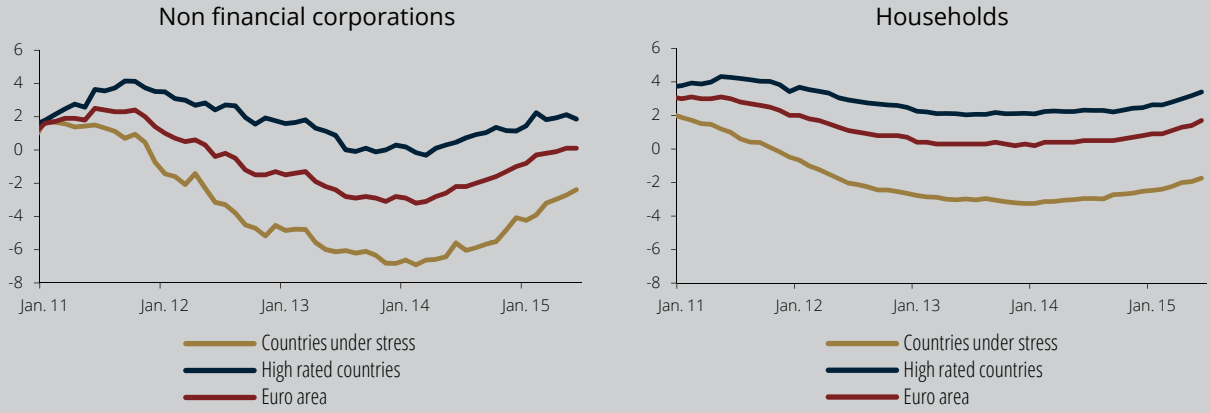
Chart 3.7 • Interest rates on new business loans in the euro area | Per cent



Sources: ECB and Banco de Portugal calculations.

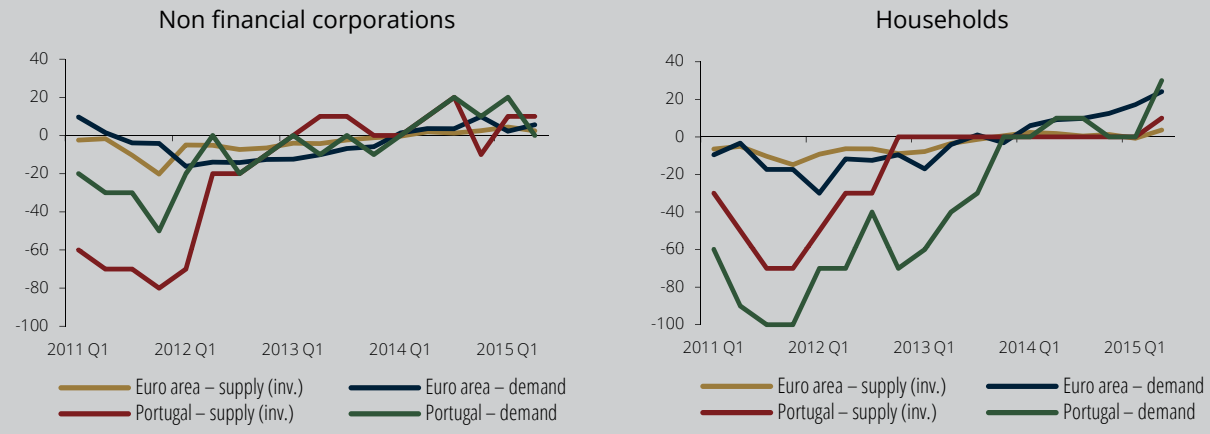
Note: High rated countries include Austria, Belgium, Finland, France, Germany and The Netherlands. Countries under stress include Cyprus, Greece, Ireland, Italy, Spain and Portugal.

Chart 3.8 • Euro area – Loans adjusted for sales and securitization | Annual rate of change, per cent



Sources: ECB and Banco de Portugal calculations.

Chart 3.9 • Euro area – Results from *Bank Lending Survey* | Diffusion index



Sources: ECB and Banco de Portugal calculations.

non-financial corporations and households alike (Chart 3.9). According to the survey respondents, the more favorable lending conditions reflected primarily the increased competition among banks, as well as the lower cost of funds and balance sheet constraints. Credit demand from both categories has also been increasing, owing mainly to the low level of interest rates.

Although substantial differences persist across euro area credit markets, positive dynamics have recently become more widespread. As evidenced by the latest lending surveys, credit conditions, both on the supply and on the demand side, have improved in many countries, including Portugal.

3.2. Portugal

Monetary and financial conditions improved further in the first half of 2015

The improving trend in monetary and financial conditions continued in the first half of 2015, in terms of both prices and volume. This was likely due to a subdued recovery in economic activity, increased agents' confidence and improvement in the financial position, in general, of Portuguese banks, against a background of accommodative monetary policy in the euro area. As mentioned in the previous section, in addition to keeping key rates at minimum levels, the ECB has put in place several non-standard monetary policy measures over the past few years, such as the recent targeted longer-term operations, based on credit granted to the economy, or the widening of the set of assets covered by the ECB's expanded asset purchase programme.

Portuguese banks have taken recourse to these operations, within the pre-set bounds. According to the *Bank Lending Survey* results, banks have participated mainly due to the attractive conditions of such operations and regulatory liquidity requirements. The survey results also suggest that the funds obtained were used to replace other financing sources, in particular other Eurosystem operations, as well as in new lending. Furthermore, still according to the survey, these operations contributed to a slight improvement in the contractual terms of new loans.

Interest rates continued their decreasing trend in the household segment

Interest rates on new loans to households continued their decreasing trend that started in 2012, with their most substantial reduction being noted in loans for house purchase (Chart 3.10). As such, at the end of the first half of the year, interest rates on new loans for house purchase and consumption were close to the levels seen in early 2010. However, spreads against key rates in both segments, albeit declining over the period under review, are higher than those recorded prior to the international financial crisis.

The interest rate spread on new loans for house purchase between Portugal and the euro area dropped to close to zero in the first half of 2015. In turn, the interest rate spread between Portugal and the euro area on new consumer loans continued its decreasing trend, with the interest rate applied in Portugal standing approximately 200 basis points above the euro area rate in June.

New bank loans to households recovered somewhat, particularly in the consumption segment

In the first half of 2015 new loans granted by resident banks to households recovered further (Chart 3.11) across both segments of loans, namely loans for house purchase and consumption.

The annual rate of change in the stock of loans granted by resident banks to households for house purchase was relatively stable in the first half of 2015 compared with December 2014, standing close to -4 per cent (Chart 3.12). Despite negative rates, the flow of new loans for house purchase in the first six months of the year was higher than in the same period in 2014, albeit much lower than before 2012.

In turn, the annual rate of change in loans to households for consumption granted by resident banks moved from -2.3 per cent at the end of 2014 to close to zero in mid-2015. This reflects an increase in new loans in the period under review, although flows of new loans for consumption are still below those seen prior to the international financial crisis.

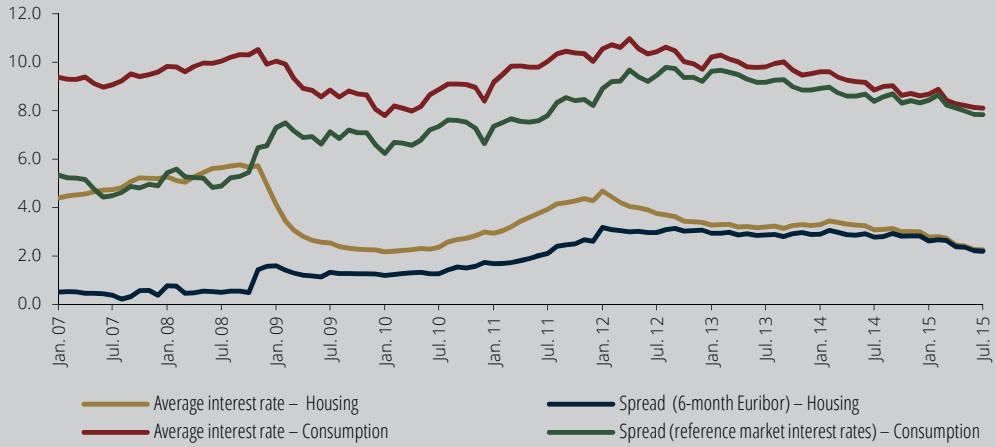


Chart 3.10 • Interest rate on new loans by resident banks to households | Per cent and percentage points

Sources: Thomson Reuters and Banco de Portugal.

Notes: Last observation: July 2015. Average interest rates calculated on the basis of the new business rates of the different initial fixation periods, weighted by the amounts of the new operations in each period. For consumption the market rates used in the calculation of the spread for the initial fixation periods of less than 1-year, 1-5 years and more than 5 years were the 6-month Euribor, the 12-month Euribor and the 5-year euro swap rate, respectively. For Housing, spreads were based on 6-month Euribor rate.

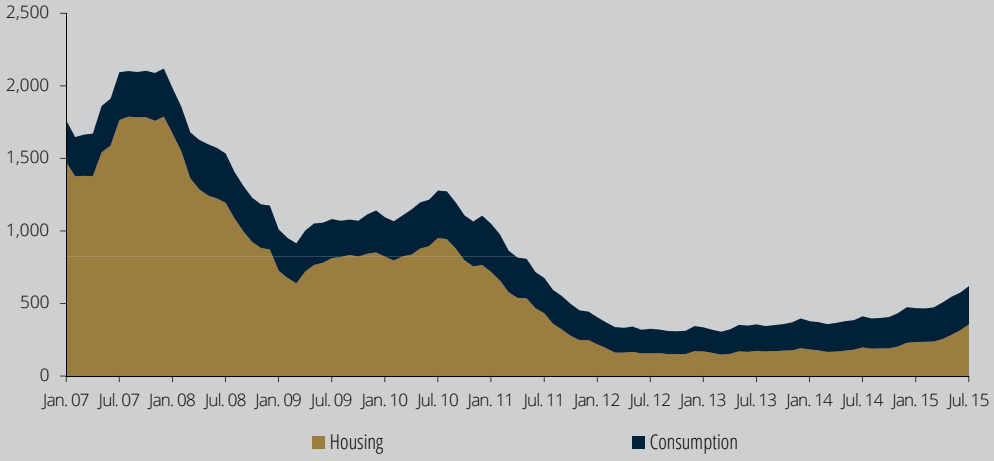


Chart 3.11 • Amounts of new loans by resident banks to households | Three month moving average, million EUR

Source: Banco de Portugal.

Note: Last observation: July 2015.

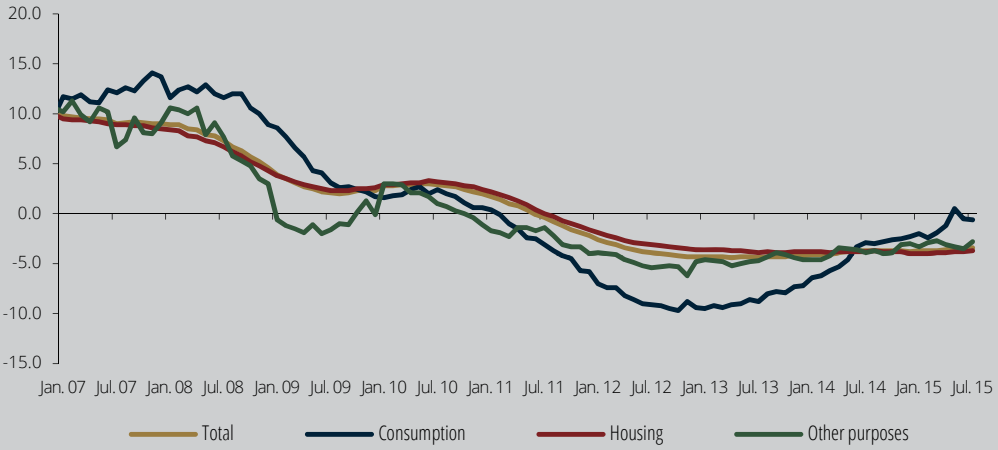
Detailed data on the total amount of new consumer credit agreements by financial institutions (banks and non-banks) confirms the upward trend in this segment as evidenced by bank loans (Chart 3.13).[3] In terms of purpose, credit for car purchase, both new and used vehicles, were the most buoyant consumer credit component, with higher rates of change over the past few months. Personal loans have also recovered.

According to the *Bank Lending Survey*, developments in terms and conditions of loans to households have largely benefited from the more favourable financial position of banks as well as a better outlook for economic activity. The survey results also suggest an increase in demand over the past few months, which has likely been due to increased consumer confidence, more favourable overall financing conditions, more attractive prospects for the real estate market, and developments in expenditure on durable goods.

Furthermore, the relative upturn in loans to households in the most recent period may also be related to the postponement of several consumption and investment decisions by households over the past few years, stemming

Chart 3.12 • Loans by resident banks to households

| Annual growth rates, per cent

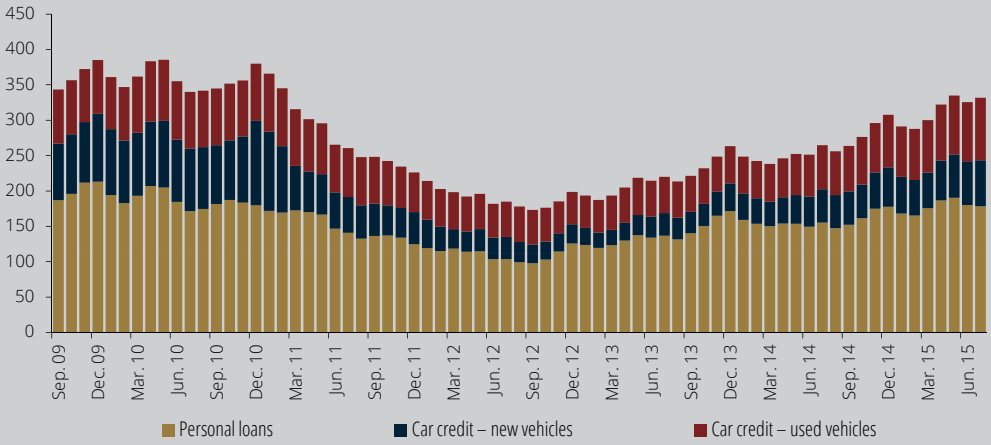


Source: Banco de Portugal.

Note: Last observation: July 2015.

Chart 3.13 • Amounts of new credits for consumers by credit category

| Three month moving average, million EUR



Source: Banco de Portugal.

Notes: Last observation: July 2015. Amount of new credit contracts for consumers granted by financial institutions, excluding those related to credit card amounts, current account and overdraft facilities.

from the adverse economic environment and high uncertainty during that period.

Reduction in interest rates on new bank loans to enterprises in the first half of 2015

Turning to non-financial enterprises, interest rates on new loans granted by resident banks continued their decreasing trend in the first half of 2015, reaching historical low levels in nominal terms (Chart 3.14). Spreads against the Euribor rate also declined, although they still stand at levels higher than those seen prior to the international financial crisis.

The downward trend in the interest rate spread on loans to non-financial corporations between Portugal and the euro area continued in the first half of 2015 (Chart 3.15). As evidenced by the household segment, this suggests an improvement in the monetary policy transmission mechanism, reflecting the lower fragmentation in euro area financial markets over the past few years.

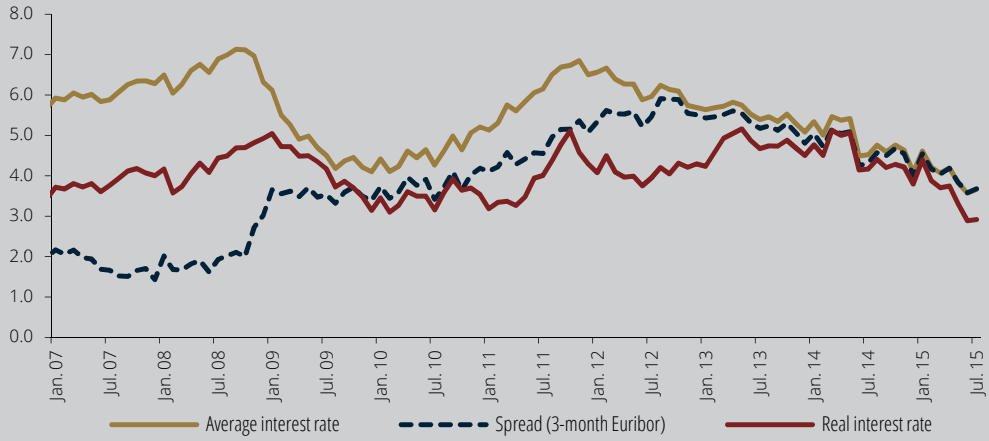


Chart 3.14 • Interest rate on new loans by resident banks to non-financial corporations

| Per cent and percentage points

Sources: Consesus Economics, Thomson Reuters and Banco de Portugal.

Notes: Last observation: July 2015. Average interest rates calculated on the basis of the new business rates of the different initial fixation periods, weighted by the amounts of the new operations in each period. The real interest rate is the difference between the average interest rate and inflation expectations in Portugal for a 12-month horizon.

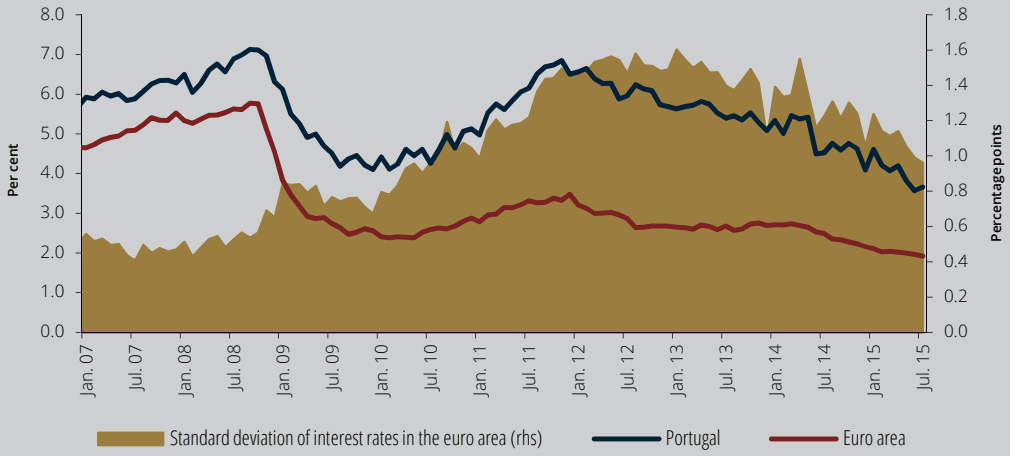


Chart 3.15 • Interest rates on new loans to non-financial corporations – International comparison

Sources: ECB and Banco de Portugal.

Note: Last observation: July 2015.

The decline in interest rates on new loans seems to have been broadly based across the corporate sector, as suggested by the shift to the left of interest rate distributions (obtained on the basis of corporate microeconomic data) for enterprises with both low and high credit risk (Charts 3.16 and 3.17). Furthermore, interest rates applied to lower risk enterprises are below those applied to higher risk enterprises, with their distributions posting more substantial shifts.

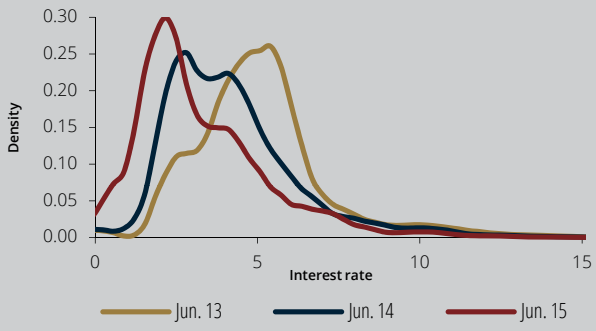
The rate of change in loans granted to enterprises recovered somewhat in the first half of 2015, albeit differently across sectors of activity, risk profiles and sizes of enterprises

The annual rate of change in loans granted by resident banks to enterprises continued to post negative values, albeit gradually less negative as the first half of the year progressed (Chart 3.18). Such developments continued to be largely determined by developments in loans to the construction and real estate activities sectors, accounting for close to 40 per cent, on average, of corporate loan stocks, and which continue to post negative rates of change. Conversely, both the manufacturing and motor vehicles trade and repair sectors stood out (together, they account for approximately 25 per cent of the portfolio, on average), by recording positive rates of change since the final months of 2014.

As with interest rates, there are evidences that the amount of loans granted by resident financial institutions differ according to the enterprises' risk profile (Chart 3.19). Indeed, while enterprises with higher risk continued to post negative rates of change in loans, enterprises with lower risk had positive rates of change over the past months. By size of enterprise, credit developments remained somewhat heterogeneous, with smaller enterprises posting annual rates of change which were negative and below those for the sector as a whole.

According to the *Bank Lending Survey*, financing needs related to inventories and working capital continued to be the main factor underlying the increase in demand for bank loans by enterprises. Demand also seems to have been positively conditioned by both financing needs associated

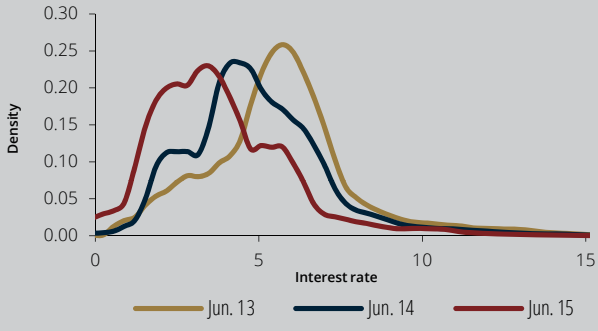
Chart 3.16 • Distribution of the interest rate on new loans by resident banks to private non-financial corporations – Low risk



Source: Banco de Portugal.

Notes: Interest rates weighted by loans amounts. The sample includes private for-profits corporations. Low (high) risk corporations correspond to corporations in the first two (last) deciles of the risk distribution. The risk is measured by the Z-Score estimated according to the methodology of Martinho and Antunes (2012) (*Financial Stability Report,* Banco de Portugal, November 2012).

Chart 3.17 • Distribution of the interest rate on new loans by resident banks to private non-financial corporations – High risk



Source: Banco de Portugal.

Notes: Interest rates weighted by loans amounts. The sample includes private for-profits corporations. Low (high) risk corporations correspond to corporations in the first two (last) deciles of the risk distribution. The risk is measured by the Z-Score estimated according to the methodology of Martinho and Antunes (2012) (*Financial Stability Report,* Banco de Portugal, November 2012).

with investment and the current interest rate levels.

In addition to loans granted by resident banks, other (resident and non-resident) sources of financing could also play an important role, more specifically loans granted by other financial institutions, debt securities issues, or trade credit. As such, taking into account total credit granted to enterprises, the annual rate of change also recovered somewhat during the first half of 2015, being close to zero at the end of the period under review (Chart 3.20).

Private sector indebtedness continued its decreasing trend in the first months of 2015

The decrease in the stock of credit to households and enterprises has contributed to a continued deleveraging of the non-financial private sector in 2015 (Chart 3.21). Therefore, on the basis of national financial accounts, at the end of the first quarter, total loans to households accounted for around 80 per cent of GDP, that is 4 p.p.

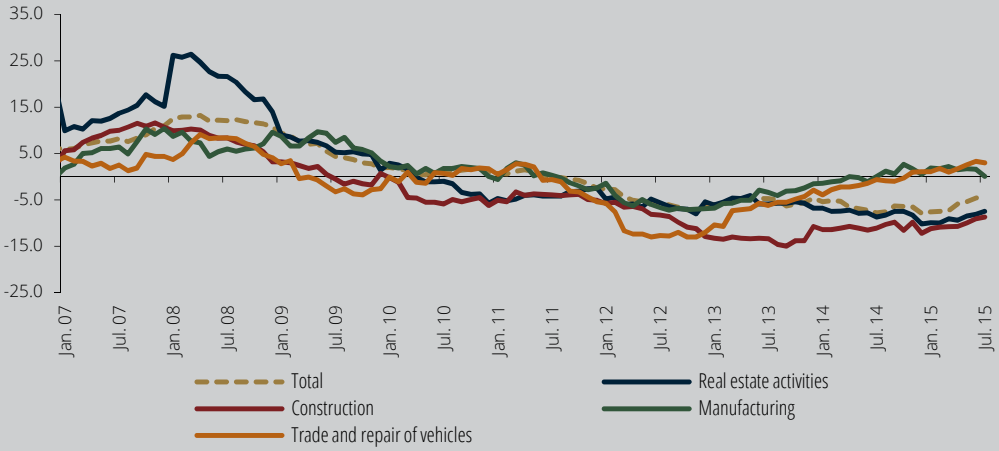


Chart 3.18 • Loans by resident banks to non-financial corporations by sector of activity

| Annual growth rates, per cent

Source: Banco de Portugal.

Note: Last observation: July 2015.

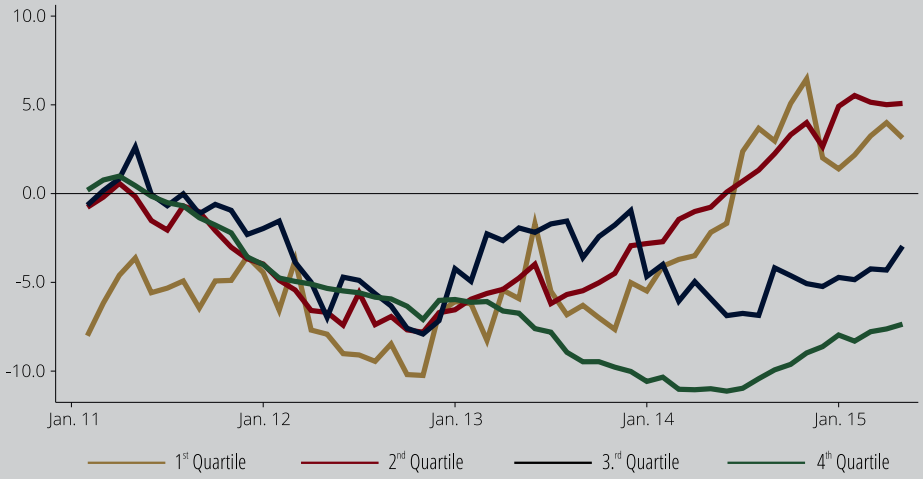


Chart 3.19 • Loans by resident financial institutions to private non-financial corporations by credit risk quantile

| Year-on-year rate of change, per cent

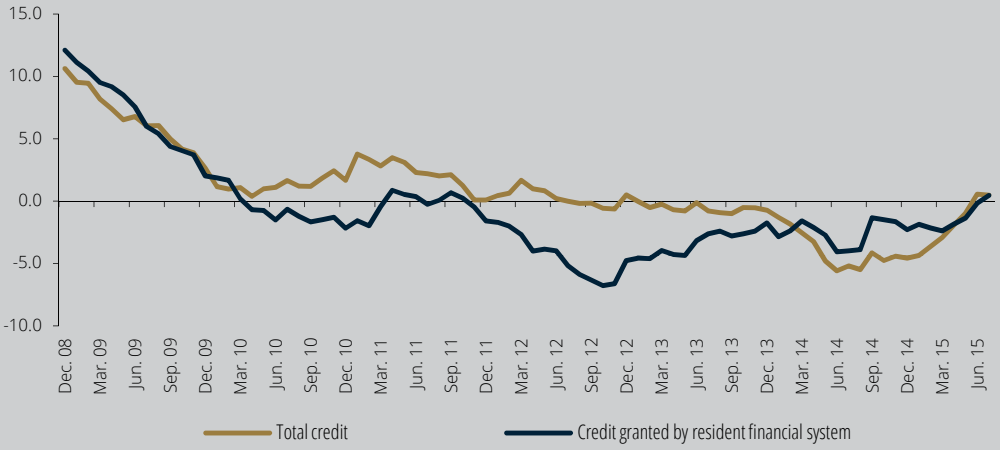
Source: Banco de Portugal.

Note: Credit risk measured by the Z-Score estimated according to the methodology of Martinho and Antunes (2012) (*Financial Stability Report,* Banco de Portugal, November 2012).

below the level seen in the same period one year earlier and 12 p.p. below its peak, at end-2009. In the corporate segment, total loans and debt securities stood at approximately 107 per cent of GDP in consolidated terms and 124 per cent in non-consolidated terms.[4] Compared with the first quarter of 2014, these levels correspond to a decrease of 7 and 6 p.p. respectively. In comparison to the peak in this segment, reached in early 2013, the latest levels reflect a 13 p.p. decline in consolidated terms and 15 p.p. in non-consolidated terms. Despite following a downward path, leverage ratios in Portugal remain high and above euro area average levels. As such, the need remains for a reduction in the leverage ratios of both enterprises and households, so that this does not result in active constraints on consumption and investment decisions made by economic agents.

Chart 3.20 • Total credit to non-financial corporations

| Annual growth rates, per cent

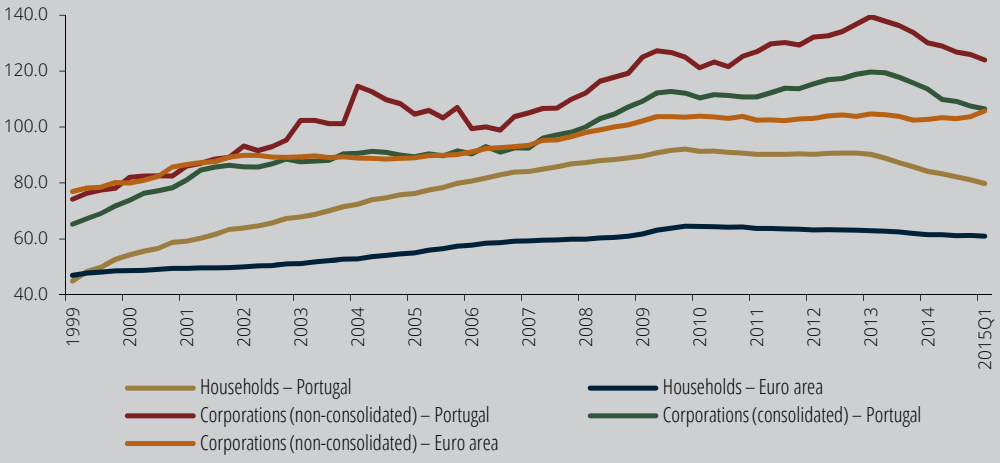


Source: Banco de Portugal.

Notes: Last observation: July 2015. Data adjusted for securitisation operations, reclassifications, write-offs/write-downs, exchange rate changes and price revaluations. Whenever relevant, the figures are additionally adjusted for credit portfolio sales.

Chart 3.21 • Financial debt of households and non-financial corporations

| Per cent of GDP



Sources: Eurostat and Banco de Portugal.

Notes: Last observation: First quarter 2015. Figures calculated based on loans, in the households segment, and based on the total of laons and debt securities, in the segment of non-financial corporations.

4. Fiscal policy and situation

In the first half of 2015 the fiscal deficit improved *vis-à-vis* 2014

According to the Quarterly National Accounts published by Statistics Portugal, the general government deficit on a national accounts basis stood at 4.7 per cent of GDP in the first half of 2015, to be compared to 6.2 per cent in the same period of the previous year (Table 4.1). However, these developments were affected in 2014 by the recording of the debt stock of *STCP* and *Carris* and of losses of *BPN Crédito* (1.5 per cent of semi-annual GDP), and in 2015 by the recording as expenditure of a capital injection into *Banco Efisa* and the conversion into an equity increase of loans granted by *Wolfpart* to its holding *Caixa Imobiliário* (0.2 per cent of semi-annual GDP). The correction of these effects would result in a slight improvement in the fiscal balance *vis-à-vis* the first half of 2014: from -4.7 to -4.4 per cent of GDP.[5] Therefore, fiscal developments in the second half of the year are especially relevant for the abrogation of the excessive deficit procedure to which Portugal is subject.

Table 4.1 • General government accounts: outturn in the first half of the year | Million EUR

	First half 2014	First half 2015	y-o-y (%)	*Memo: 2014, full year*	
				Outturn	*Outturn, y-o-y (%)*
Total revenue	35,931	36,972	2.9	77,231	0.6
Current revenue	35,322	36,304	2.8	75,786	1.3
Tax and contributory revenue	29,520	30,829	4.4	63,937	1.2
Taxes on income and wealth	8,238	8,169	-0.8	18,974	-2.3
Taxes on production and imports	11,460	12,355	7.8	24,593	5.5
Social contributions	9,822	10,305	4.9	20,371	-0.4
Other current revenue	5,802	5,475	-5.6	11,849	1.6
Capital revenue	609	668	9.7	1,445	-25.8
Total expenditure	41,217	41,065	-0.4	89,677	5.5
Current expenditure	38,335	38,889	1.4	79,288	-0.4
Social payments	16,179	16,244	0.4	34,106	-2.0
Compensation of employees	10,377	10,580	2.0	20,495	-3.9
Intermediate consumption	4,587	4,833	5.3	10,079	4.9
Subsidies	513	487	-5.1	1,210	17.3
Interest	4,118	4,068	-1.2	8,502	3.0
Other current expenditure	2,561	2,676	4.5	4,895	5.6
Capital expenditure	2,883	2,176	-24.5	10,389	92.6
Gross fixed capital formation	1,344	1,619	20.4	3,525	-4.8
Other capital expenditure	1,538	557	-63.8	6,864	305.5
Overall balance	-5,287	-4,093		-12,446	
Memo:					
Primary current expenditure	*34,217*	*34,820*	*1.8*	*70,785*	*-0.8*
Budget balance (% of GDP)	*-6.2*	*-4.7*		*-7.2*	
Budget balance corrected for one-off effects (% of GDP)[(a)]	*-4.7*	*-4.4*		*-3.6*	

Source: *INE* and calculations by Banco de Portugal.

Note: (a) The budget balance is corrected for the following one-off effects: recording of the stock of debt of transportation corporations *STCP* and *Carris*, write-off of non-performing loans on the *BPN Crédito* balance sheet (1,5 per cent of GDP in the first half of 2014), equity increases in *Efisa* and *Novo Banco* (5,6 per cent of GDP in the second half of 2014), equity increase in *Efisa* and reclassification of loans to *Caixa Imobiliária* by shareholder Wolfpart (0,2 per cent of GDP in the first half of 2015). These operations affect the evolution of 'Other capital expenditure', which would have recorded a 39,0 per cent year-on-year growth in the first half of 2015.

The outturn in the first half of the year benefited from the growth of tax and contributory revenue, in a context of increasing current expenditure

In the first half of 2015, the budgetary outturn was underpinned by a 2.9 per cent year-on-year increase of total revenue, chiefly due to a rise in revenue from taxes and social contributions (Table 4.1). Revenue from taxes on production and imports increased in this period by 7.8 per cent, largely reflecting the growth of net VAT receipts associated with favourable developments in private consumption and a significant decline in this tax's refunds. Forecasting the behaviour of refunds in the second half of the year is, however, subject to some uncertainty. Revenue from social contributions increased strongly in the first half of the year, by 4.9 per cent, against a background of recovery in the labour market. In turn, revenue from taxes on income and wealth declined, year-on-year, by 0.8 per cent over this period, as a result of drops in the collection of taxes on both household and corporate income, falling short of the rates of change underlying the budget for the year as a whole.

Total expenditure decreased by 0.4 per cent, year-on-year, in the first half of 2015, mainly due to the aforementioned one-off impacts on capital expenditure. Correcting for these one-off effects, expenditure would have grown, year-on--year, by 2.3 per cent in that period. Primary current expenditure grew by 1.8 per cent in the first half of 2015, as a result of increases in expenditure on intermediate consumption, compensation of employees and, to a lesser extent, social benefits.

The growth of intermediate consumption (5.3 per cent) partly reflects an increase in expenditure with the acquisition of pharmaceutical products which is not expected to occur again in the second half of the year. In turn, the 2.0 per cent rise in expenses on compensation of employees was linked to an increase in wages and salaries. This occurred notwithstanding the decline in the number of civil servants in the first half of the year which, according to information published by the Directorate-General for Administration and Public Employment, averaged 1.6 per cent.

Regarding expenditure on social benefits, it virtually stabilised *vis-à-vis* the first half of 2014 (0.4 per cent), reflecting, on the one hand, an increase in social benefits in cash and, on the other hand, a significant fall in social benefits in kind. The rise in social benefits in cash was due to the effect of the elimination of the Extraordinary Solidarity Surcharge in 2015 and the dynamics determining the growth of pension--related expenditure, which more than offset the fall in outlays on most other social benefits, notably unemployment benefits.[6] The decline in expenditure on social benefits in kind is partly explained by savings in the health sector due to an agreement with a set of pharmaceutical corporations.

The debt ratio declined in the first half of the year relative to the end of 2014

At the end of the first half of 2015, the debt--to-GDP ratio declined to 128.7 per cent from 130.2 per cent at the end of 2014. In this half year, the primary balance stood close to balance and the effect of nominal GDP growth was offset by the effect of interest expenditure.[7] The decline in the debt ratio was therefore associated with a reduction of central government's deposits. Note that Banco de Portugal has recently revised upwards the nominal value of public debt in the 2011-2014 period, following methodological changes in the calculation of this indicator. The ratio of public debt to GDP remained unchanged in 2014 due to a revision in the nominal GDP level in the same direction (Box 2 'Revisions in general government deficit and debt: 2011-2014'). The compilation of debt recorded until the end of the first half of 2015 also reflects the implementation of these changes.

The Excessive Deficit Procedure notification of September confirmed the objectives of correction of the excessive deficit situation and reversal of the upward trend of the debt ratio

In the Excessive Deficit Procedure (EDP) notification of September, the Ministry of Finance kept the estimate for the general government deficit in 2015 unchanged at 2.7 per cent of GDP. The figure reported is compatible with the correction of the excessive deficit situation in 2015,[8] coinciding with the objective set in the State Budget for 2015 and confirmed in the April update of the Stability Programme. Also within the scope of the latest EDP notification, Statistics Portugal revised the 2014 general government deficit to 7.2 per cent of GDP (4.5 per cent in the previous notification). This revision was mainly the result of recording as general government expenditure the capital injection in *Novo Banco*, amounting to 2.8 per cent of GDP, (Box 2 'Revisions in general government deficit and debt: 2011-2014').

Regarding public debt, the estimate for 2015 published in the context of the EDP points to a decline in its ratio to GDP to 125.2 per cent at the end of the year, after reaching 130.2 per cent of GDP in 2014. This is chiefly explained by significant debt-reducing deficit-debt adjustments. The estimate presented in September is compatible with the forecast included in the Stability Programme update, according to which 2015 would mark the reversal of the upward trend of the debt ratio.

Although the abrogation of the excessive deficit procedure seems plausible, the budgetary outturn continues to be underpinned by non-negligible risks

According to the information available, the abrogation of the excessive deficit procedure in 2015 seems plausible, provided that the developments underlying the budgetary outturn in the first half of the year continue and, in particular, the fiscal policy measures currently in force are maintained.[9] Nevertheless, although fiscal developments are affected by seasonal factors that typically benefit the outturn in the second half of the year, developments observed until June highlight several risks. In addition to the uncertainty which usually characterises the expenditure side of the budget, there are also risks regarding the behaviour of net tax revenue over the year as a whole, especially as regards taxes on income and wealth and VAT.

According to Banco de Portugal's estimates, a significant share of the fiscal deficit reduction foreseen for 2015 is due to economic recovery, particularly in terms of private consumption and wage bill developments. Therefore, in a context where the official estimate for the deficit considers a stabilisation of the share of interest expenditure on GDP (at 5.0 per cent) and temporary measures amounting to 0.1 per cent of GDP,[10] the structural primary surplus computed through the Eurosystem methodology may decline in 2015 (Special Issue 'European budgetary rules and the calculation of structural balances').

Box 2 | Revisions in general government deficit and debt: 2011-2014

According to the Excessive Deficit Procedure (EDP) notification of September, the figures for the general government deficit and gross debt for the 2011-2014 period were revised upwards (Table 1). The purpose of this Box is to summarize the main revisions underlying this notification.

Table 1 • Excessive deficit procedure: revisions in the budget balance and public debt figures | In million EUR

	March EDP notification				September EDP notification				Revisions: September *vs* March			
	2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014
Budget balance	-12,968	-9,450	-8,181	-7822	-13,006	-9,529	-8,245	-12,446	-39	-79	-64	-4,624
Gross public debt	195,690	211,784	219,645	225,280	196,231	212,535	219,649	225,767	542	751	4	486
Memo item:												
GDP, current market prices	176,167	168,398	169,395	173,053	176,167	168,398	170,269	173,446	0	0	874	393

Sources: *INE* and Banco de Portugal.

As regards the deficit, the revisions are explained by the impact on each year of the reclassification of *SPGM – Sociedade de Investimento, S. A.* and *Fundo de Contragarantia Mútuo* in the general government institutional sector. In 2013 and 2014, the revisions also reflect the incorporation of additional information from Local Government, the National Health Service and the Simplified Corporate Information. However, the revision of the deficit in 2014 from 4.5 to 7.2 per cent of GDP is mainly due to the fact that the equity of *Novo Banco* underwritten by the Resolution Fund was recorded as general government capital expenditure, raising the deficit by 2.8 p.p. of GDP.

The recording of the impact of *Novo Banco*'s recapitalisation by the Resolution Fund was determined by Eurostat's guidelines expressed in the Manual on Government Deficit and Debt (MGDD). Given that the Resolution Fund is included in the general government institutional sector and that the *Novo Banco* sale process was not concluded within one year after the resolution, the recording of the operation should comply with Chapter III.3 of the MGDD. This Chapter establishes that capital injections made by public entities are to be recorded as non-financial operations (i.e. with an impact on the fiscal balance) when one or more of the following conditions applies:

- The funds are provided without receiving anything of equal value in exchange (which depends on a comparison between the capital invested and the value of own funds of the recipient corporation);
- The funds are provided without expecting a sufficient rate of return on investment, which would translate into the inability to ensure a profitability margin higher than or equal to the State's average funding rate;[11]
- The funds are provided to a corporation that has shown losses.

After evaluating the economic and financial situation of *Novo Banco*, the statistical authorities considered that the capital injection made by the Resolution Fund falls within the scope of the aforementioned characteristics.[12] Even if the privatisation process had been concluded within one year, the potential difference between the amount of the capital injection and the revenue

obtained from the sale of the Resolution Fund's holding could have been recorded as capital expenditure.

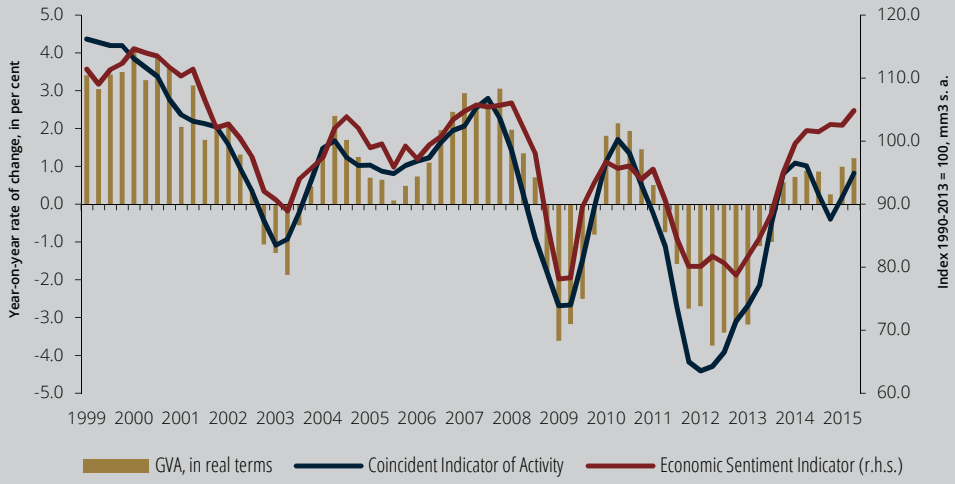
In the context of the September EDP notification, the nominal value of public debt in the 2011-2014 period was also revised upwards by Banco de Portugal. This revision mainly reflects the recording of counterparts of the margin accounts received by the Portuguese Treasury and Government Debt Agency (IGCP) as general government liabilities. The effect of this operation is only partly offset by the impacts of the reclassification of entities into the general government sector and the update of information used for compiling the public debt. The so-called 'margin accounts' refer to the amounts received from counterparties within the scope of derivative contracts to cover risk associated with interest rate and exchange rate fluctuations. These amounts are recorded by IGCP as general government deposits. Given that interest is paid to the depository counterparties, the margin accounts are classified as repayable, and therefore the respective amounts must also be recorded under general government liabilities as loans, thus adding to public debt.[13] This ensures that the value of general government debt reflects the face value of its instruments, as stipulated in the MGDD. This methodological change resulted in a rise in the debt-to-GDP ratio in 2011 and 2012, but in 2013 and 2014 the impact of the incorporation of margin accounts is offset by the effect in the denominator associated with upward revisions of GDP in these years.

5. Supply

Moderate and stable economic recovery in the first half of 2015

In the first half of 2015, Gross Value Added (GVA) at basic prices increased by 1.1 per cent year-on-year (following a 0.7 per cent growth in 2014) consolidating the moderate recovery path started in late 2013 (Chart 5.1).[14] This trend is consistent with the increase in economic sentiment indicators in the first half of 2015 – though less sharply compared to the previous year – which was broadly based across the main sectors of activity (Chart 5.2). Notwithstanding, the level of GVA was still below the value recorded in early 2008 by approximately 5.0 per cent. When taking into account the trend of employment over this period, GVA per worker (full-time equivalent) in the Portuguese

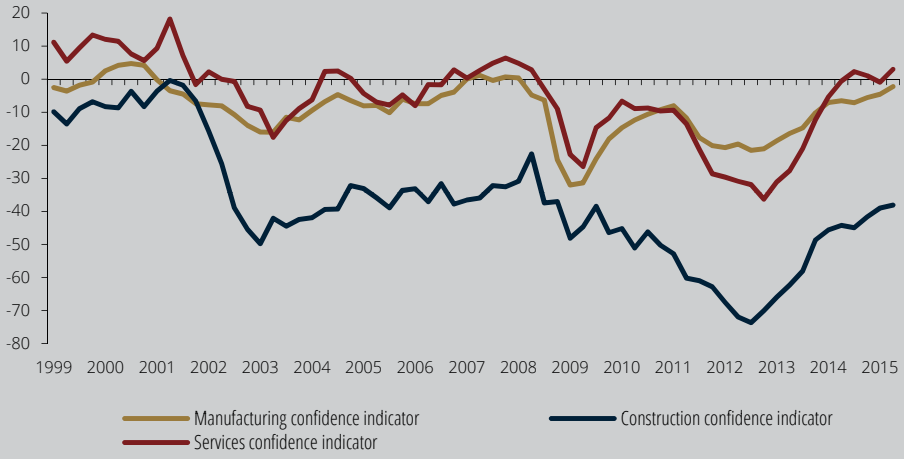
Chart 5.1 • GVA, coincident indicator of activity and economic sentiment indicator



Sources: European Comission, Statistics Portugal and Banco de Portugal.

Chart 5.2 • Confidence indicators – (2008 Q1-2015 Q2)

| Balances (quarterly mean) – s. a.



Source: European Comission.

economy in the first half of 2015 stood at 7.5 per cent above the level registered in the first half of 2008. During this period, the allocation of resources employed in the Portuguese economy has improved, with firms with higher labour productivity, measured as GVA per worker, increasing their relevance in terms of turnover compared with the period prior to the financial and international crisis (Charts 5.3 and 5.4).

According to the quarterly national accounts of Statistics Portugal, GVA in the services sector increased by 1.0 per cent year-on-year in the first half of 2015, following a 0.7 per cent rise in 2014. Growth in this sector continued on the recovery path observed since early 2014. This increase mainly reflected growth of 3.3 per cent in the subsectors of trade and repair of motor vehicles and hotels and restaurants. The recovery in this sector is both the result of favourable developments in tourism exports and more dynamic domestic demand (Chart 5.5).

Year-on-year growth of GVA in the manufacturing sector declined, from 1.9 per cent in 2014 to 1.2 per cent in the first half of 2015. As seen

Chart 5.3 • Olley-pakes gap: Labour Productivity – Manufacturing

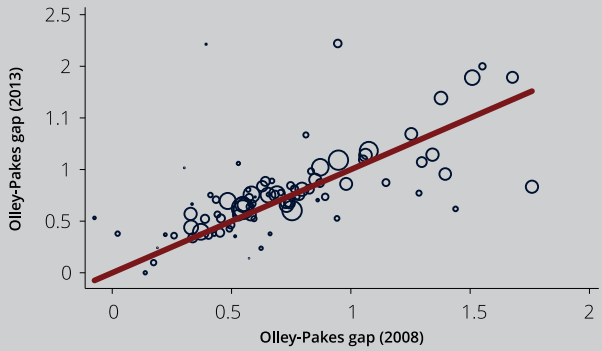
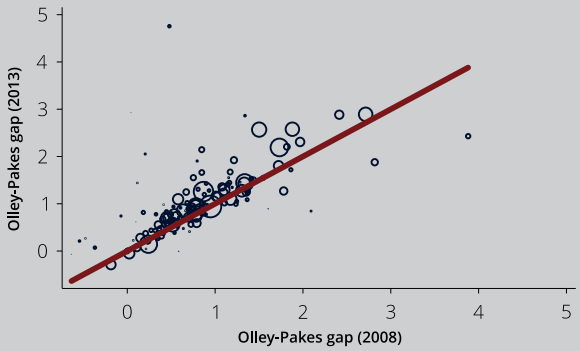
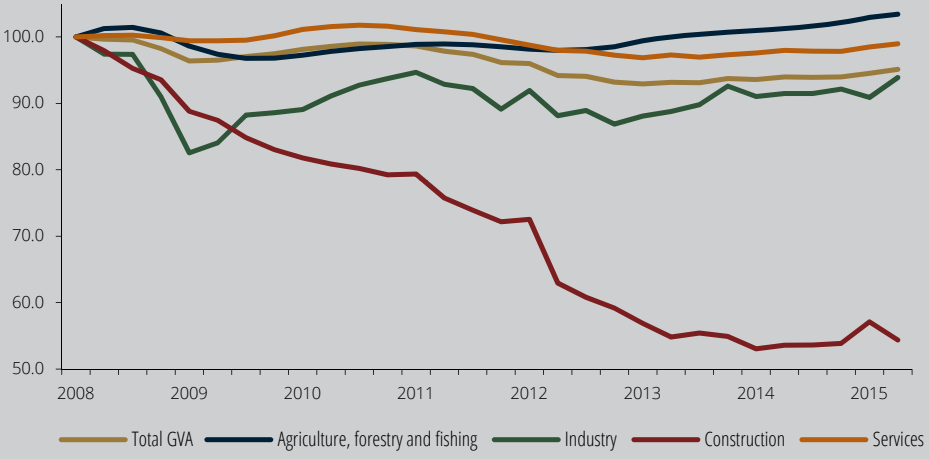


Chart 5.4 • Olley-pakes gap: Labour Productivity – Non-Manufacturing sectors



Source: *Informação Empresarial Simplificada* and Banco de Portugal.

Note: The average labor productivity in a sector can be decomposed into the sum of the unweighted average labor productivity in firms operating in this sector and a covariance term between labor productivity and the share of sales in the sector. This second component is referred to as the Olley-Pakes gap and can be used as indicator of efficiency regarding the allocation of resources in the sector. An increase in this gap translates into an improvement in the resource allocation. Each circle represents an industry defined at 3 digit level in NACE Rev 3. The size of the circle corresponds to the weight of the sector in terms of GVA.



Source: Statistics Portugal

Chart 5.5 • GVA by main sectors of activity (2008 Q1-2015 Q2)
| Index 2008 Q1=100

in the past few years, activity in those firms more exposed to international competition increased more markedly than in firms that were more oriented towards the domestic market.

In the first half of 2015, GVA in the construction sector increased by 4.6 per cent year-on-year, in contrast to a 3.6 per cent fall in 2014. This increase is partly related to a base effect arising from the adverse weather conditions experienced in the same period a year earlier, thus contributing to an interruption in the downward trend of activity in the construction sector seen in the past few years. This reduction reflected a structural adjustment in this sector to a lower level of activity, following high investment in construction in the 1990s. GVA in construction at the end of 2014 accounted for around half the value recorded in 2008.

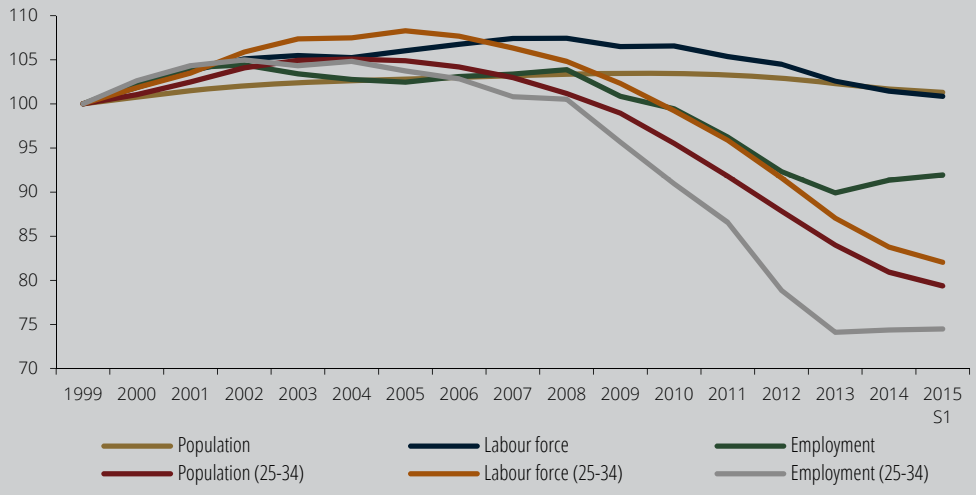
Downward trend in population and labour force

In the first half of 2015, the resident population and labour force continued to decline, falling by 0.5 and 0.6 per cent respectively (Table 5.1). This evolution is line with the downward trend observed since 2011 (Chart 5.6) (Special issue 'Demographic transition and growth in the Portuguese economy', in this Bulletin). Throughout this period, the resident population and the labour force decreased by approximately 200 to 260 thousand individuals, respectively. In the first half of 2015, resident population in the 25-34 age group declined by 2.9 per cent, while the labour force declined by 3.2 per cent. From early 2011 to the first half of 2015, the population and labour force in this age group declined by around 14 and 15 per cent, respectively.

These demographic developments reflect essentially the recent dynamics of migration flows. According to the figures for 2014 published by Statistics Portugal, the decline in resident population continued to reflect mainly a negative net migration of approximately 3.0 per 1,000 inhabitants (more than 30 thousand individuals) corresponding however to a deceleration compared to 2013 (more than 36 thousand individuals). Net migration assumes a negative figure since 2011 and it is mainly due to a very substantial increase in the number of permanent emigrants (around 200 thousand individuals in the 2011-14 period) and to a lesser

Chart 5.6 • Population, labour force, employment – Total and Age group (25-34 years)

| Index 1999=100



Source: Statistics Portugal (Labour Force Survey).

extent to a reduction of the number of permanent immigrants (Chart 5.7).[15]

Improved labour market conditions in the context of moderate growth in both economic activity and wages in the first half of 2015

Labour market developments in the first half of 2015 continue to register an improvement initiated in the second quarter of 2013. In this context, there was a rise in employment and a significant decline in the unemployment rate, still in a context of marked wage moderation. According to data released by the Ministry of Solidarity, Employment and Social Security, in the first half of 2015 average wages declared to Social Security grew by 0.8 per cent compared to the same period in the previous year (0.3 per cent in 2014). This moderate dynamics of wages is associated to a reduced number of collective bargaining instruments, in particular of a sectoral scope, notwithstanding a slight improvement from the minimum recorded in 2012. This fact is relevant since wages of around 90 per cent of employees are defined within the scope of collective bargaining. On the upside, the trend of wages in the first half of 2015 seems to have been influenced by a rise in the national minimum wage from €485 to €505 on 1 October 2014.

Marked reduction in the unemployment rate, although remaining at very high levels

According to the Labour Force Survey, the total number of unemployed in the first half of 2015 declined by 12.1 per cent year-on-year, after a 15.1 per cent fall in 2014. The unemployment rate stood at 12.8 per cent in the first half of 2015, reflecting a sharp decline in comparison with the same period in the previous year (14.5 per cent), and standing at a level close to 2011. The decline in the number of unemployed was particularly marked in the 25-34 age group (Table 5.1). The share of unemployed receiving unemployment benefits stood at 29.8 per cent in the first half of 2015, against 31.4 per cent in 2014 (Chart 5.8).

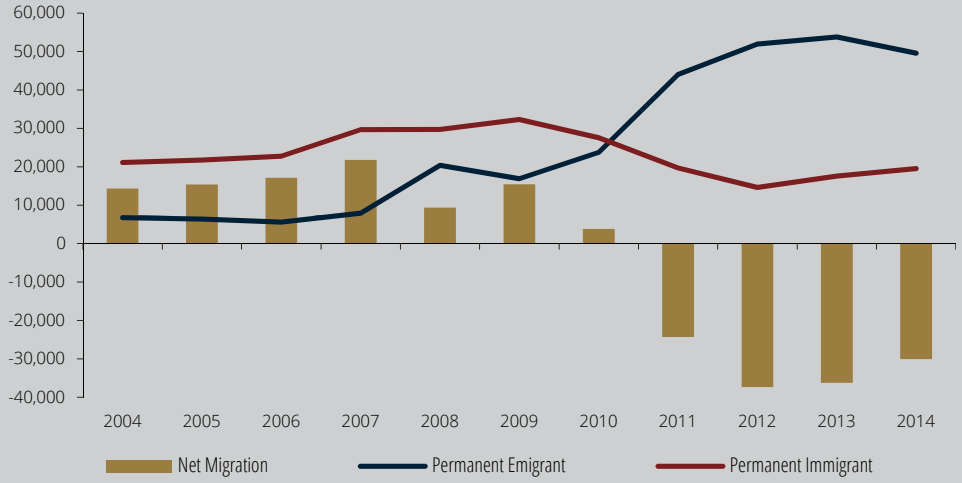


Chart 5.7 • Net migration, permanent Emigrants and immigrants | Number of individuals

Source: Statistics Portugal.

Table 5.1 • Labour Market Indicators | Year-on-year rate of change, in per cent, unless otherwise stated

	Thousands of individuals in 2014	Years			Semesters		
		2012	2013	2014	S1 2014	S2 2014	S1 2015
Population	10,387	-0.4	-0.6	-0.6	-0.6	-0.6	-0.5
Population 25-34 years	1,246	-4.3	-4.4	-3.6	-3.7	-3.5	-2.9
Labour force	5,226	-0.8	-1.8	-1.1	-1.1	-1.2	-0.6
Labour force 25-34 anos	1,119	-4.5	-5.0	-3.8	-3.5	-4.0	-3.2
Participation rate 15-64 years (in % of population)		73.4	73.0	73.2	73.1	73.3	73.3
Total Employment	4,500	-4.1	-2.6	1.6	1.8	1.3	1.3
Employees	3,611	-4.7	-2.4	4.4	3.8	5.1	3.6
Self-employment	865	-1.8	-3.3	-8.2	-4.6	-11.9	-7.7
Total Unemployment	726	21.4	2.3	-15.1	-15.4	-14.8	-12.1
Unemployment rate (in % of labour force)		15.5	16.2	13.9	14.5	13.3	12.8
Unemployment rate 25-34 years (in % of labour force)		18.1	19.0	15.5	16.6	14.4	13.6
Long-term unemployment (in % of total unemployment)		54.2	62.1	65.5	65.4	65.7	64.3
Discouraged inactives (in % of labour force)		4.3	5.2	5.2	5.1	5.4	4.8

Source: Statistics Portugal.

Notes: Long-term unemployment includes the unemployed individuals that have been actively seeking employment for 12 months or more. The discouraged inactives include the inactive individuals who were available for work but had not looked for a job during the period.

In addition, the number of discouraged workers, i.e. individuals not actively seeking a job but who are able to work, accounted for around 4.8 per cent of the labour force in the first half of 2015, slightly below the value recorded in 2013 and 2014 (5.2 per cent). Nevertheless, this group represents a total of approximately 250 thousand individuals.

One of the more negative aspects recent developments in the Portuguese labour market has been the very high level of long-term unemployment, which tends to cause a sharp

Chart 5.8 • Number of unemployed receiving unemployment benefits and coverage of rate

Source: Statistics Portugal (Labour Force Survey).

depreciation of human capital, having an adverse impact on the economy's potential growth. In the first half of 2015, the number of unemployed seeking a job for more than 12 months fell by 13.6 per cent (10.4 per cent fall in 2014). Nevertheless, long-term unemployment as a share of total unemployment remains at a very high level (64.3 per cent in the first half of 2015, reaching approximately 430 thousand individuals). This level is particularly relevant since it mainly reflects unemployed seeking a job for more than 25 months (around 70 per cent of long-term unemployment). In the same vein, in the first half of 2015 the number unemployed seeking a job for less than 12 months fell by 9.2 per cent (15.3 and 22.9 per cent decline in 2013 and 2014 respectively) (Chart 5.9).

Chart 5.9 • Unemployment rate by duration of unemployment

| As a percentage of the labour force

Source: Statistics Portugal (Labour Force Survey).

Chart 5.10 • Labour productivity in the last four crisis

| Biannual figures; semester t=100

Sources: Statistics Portugal and Banco de Portugal.

Note: Time *t* in the four charts corresponds to the semester immediately before the first GDP decline in each of the four recessions which are the first semesters of 1992, 2002, 2008 and 2011. The last period of the 2008-2009 recession was deleted because it overlaps the start of the next recession.

Employment recovered although remaining at historically low levels

According to the Labour Force Survey, total employment increased by 1.3 per cent in the first half of 2015, after a 1.6 per cent increase in 2014. This reflects an increase in the number of employees (3.6 per cent), given that self-employment fell markedly (7.7 per cent). In spite of the upward trend in employment, its levels remain historically low, in the wake of an unprecedented fall observed between 2008 and 2013 (which, according to quarterly national accounts, corresponded to around 630 thousand individuals).

The analysis of employment developments underlying the Labour Force Survey should take into account that Statistics Portugal began a process of updating the sample basis from the third quarter of 2013, by gradually switching to data from the 2011 census. Hence, some uncertainty is expected during the transition period, especially with regards to developments in the employed population.

The use of alternative information sources, notably data released by the Ministry of Solidarity, Employment and Social Security, confirms the favourable developments of employment in the first half of 2015 (2.9 per cent), albeit more mitigated than the one suggested by the Labour Force Survey. With respect to government employment, according to information from the Directorate General for Administration and Public Employment, the number of civil servants declined by 1.6 per cent in the first half of 2015 year-on-year. This fall is lower than the one observed in 2014 and 2013, with declines of 3.4 and 3.9 per cent respectively. Between late 2011 and the first half of 2015, the number of civil servants dropped by approximately 70 thousand individuals.

Despite considerable employment growth, developments in labour productivity underwent a slight increase in the first half of 2015

The current recovery phase of the Portuguese economy brings together moderate activity growth and significant employment growth. Within this context, labour productivity based on the quarterly national accounts of Statistics Portugal, has been less dynamic than the one observed in prior phases of economic recovery. This unexpected result should, however, be qualified. On the one hand, from 2011 to 2013 labour productivity growth was strong, in contrast to prior recessive phases of the cycle. On the other hand, national accounts' data on labour productivity should be interpreted cautiously, given that they may undergo significant changes with the release of the final annual accounts (numerator and denominator, including the estimation of equivalent full-time employment) (Chart 5.10).

6. Demand

GDP recovered further in the first half of 2015, in a context of more buoyant domestic demand and exports

In the first half of 2015, the Portuguese economic activity grew by 1.6 per cent in volume, year-on-year, and 1.0 per cent compared with the second half of 2014 (Table 6.1). Given the substantial demographic changes seen over the past few years, the analysis of developments in GDP *per capita* gains further importance. In this context, GDP *per capita* is estimated to have grown by 2.1 per cent in the first half of 2015 (1.5 per cent in 2014), resulting in a gap between GDP growth and GDP *per capita* growth in Portugal (Chart 6.1).

Developments in economic activity in the first half of the year suggest that the gradual recovery in GDP that started at end-2013 has continued, despite still remaining below below the levels observed prior to the international financial crisis (Chart 6.2). This movement has been characterised by a recovery in domestic demand – particularly as regards consumption of durable goods and GFCF in machinery and transport equipment – and strong growth in exports of goods and services, which continue to be the most buoyant expenditure component. In the first half of 2015, exports grew by 7.2 per cent in volume, year-on-year, most notably due to a substantial acceleration in energy exports, which contributed by 3.1 p.p. to the export growth.

Table 6.1 • GDP and its main components | Year-on-year real growth rate, in percentage, unless otherwise stated

	% of GDP in 2014	2012	2013	2014	2014		2015	2014				2015	
					H1	H2	H1	Q1	Q2	Q3	Q4	Q1	Q2
GDP	100.0	-4.0	-1.1	0.9	0.9	0.9	1.6	1.0	0.9	1.2	0.6	1.6	1.6
Domestic demand	99.6	-7.3	-2.0	2.2	2.5	1.9	2.6	3.2	1.8	2.1	1.7	1.7	3.5
Private consumption	65.9	-5.5	-1.2	2.2	2.1	2.4	2.8	2.3	1.9	2.9	2.0	2.5	3.2
Public consumption	18.5	-3.3	-2.0	-0.5	-0.3	-0.6	0.1	-0.4	-0.3	0.1	-1.3	-0.5	0.6
Investment	15.1	-18.1	-5.1	5.5	8.3	2.8	4.6	12.4	4.4	1.3	4.4	1.2	8.2
GFCF	14.9	-16.6	-5.1	2.8	2.5	3.1	6.9	0.2	4.8	3.5	2.8	8.8	5.1
Change in inventories[a]		-0.3	0.0	0.4	0.9	-0.1	-0.3	1.8	-0.1	-0.3	0.2	-1.1	0.5
Exports	40.0	3.4	7.0	3.9	3.1	4.8	7.2	4.1	2.2	3.8	5.7	7.0	7.4
Imports	39.7	-6.3	4.7	7.2	7.2	7.2	9.5	9.9	4.6	6.0	8.5	7.1	11.9
Contribution of domestic demand[a]		-7.6	-2.0	2.2	2.5	1.9	2.6	3.2	1.8	2.1	1.7	1.7	3.5
Contribution of exports[a]		1.2	2.6	1.6	1.2	1.9	2.9	1.6	0.9	1.5	2.3	2.8	3.0
Contribution of imports[a]		2.4	-1.8	-2.9	-2.8	-2.9	-3.9	-3.8	-1.8	-2.5	-3.4	-2.9	-4.9
memo:													
GDP – change over the previous period					0.2	0.6	1.0	-0.5	0.5	0.2	0.4	0.5	0.5
Domestic demand (exc. change in inventories)	99.2	-7.0	-2.0	1.8	1.7	1.9	2.9	1.4	1.9	2.4	1.5	2.8	3.0

Sources: *INE* and Banco de Portugal calculations.

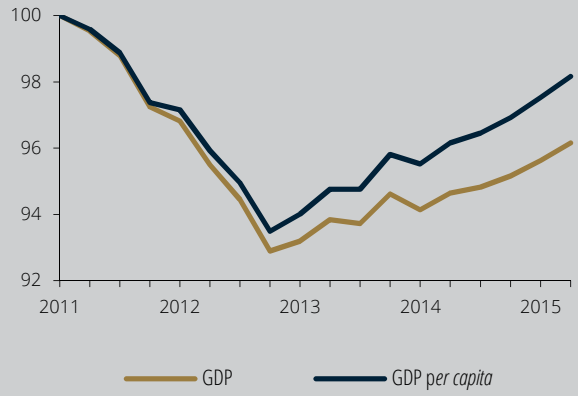
Note: (a) Contribution to GDP growth in percentage points.

The strong import content associated with this last export component largely contributed to a marked acceleration in imports during the first half of the year. The contribution of energy imports to growth in imports of goods and services in the first half of 2015 (9.5 per cent) was 3.3 p.p.

As in the first half of 2014, Portuguese GDP growth in the first half of 2015 was again above that of the euro area, on average, thus interrupting the trend of accumulation of negative growth differentials that had been observed in previous years (Chart 6.3).[16]

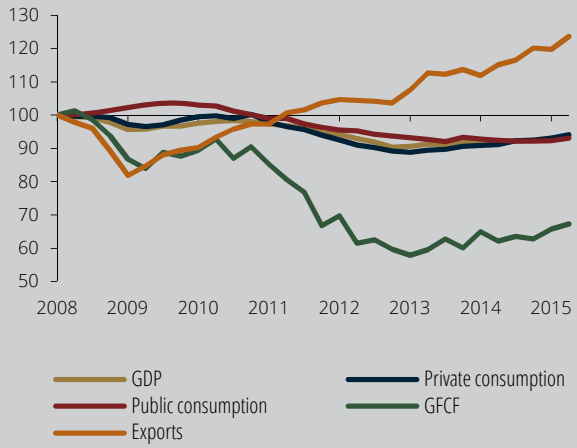
Compared with the previous three recessions, economic activity over recent years has been characterised by a more gradual recovery in GDP. Such developments hinge on the dynamic behaviour of domestic demand, more specifically of private consumption and GFCF, following rather marked declines, and a strong growth in exports of goods and services over the entire period (Chart 6.4).

Chart 6.1 • GDP and GDP *per capita* in Portugal
| 2011 Q1=100



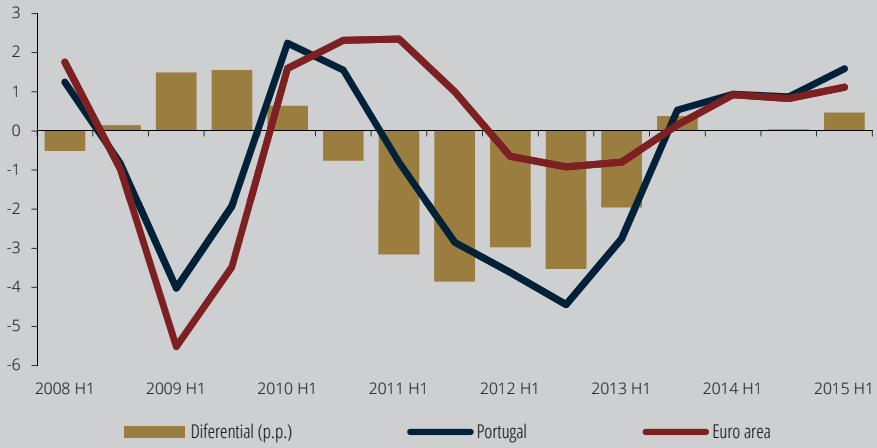
Sources: *INE* and Banco de Portugal calculations.

Chart 6.2 • GDP and its main components
| 2008 Q1=100



Sources: *INE* and Banco de Portugal calculations.

Chart 6.3 • GDP growth in Portugal and in the euro area
| Year-on year growth in percentage



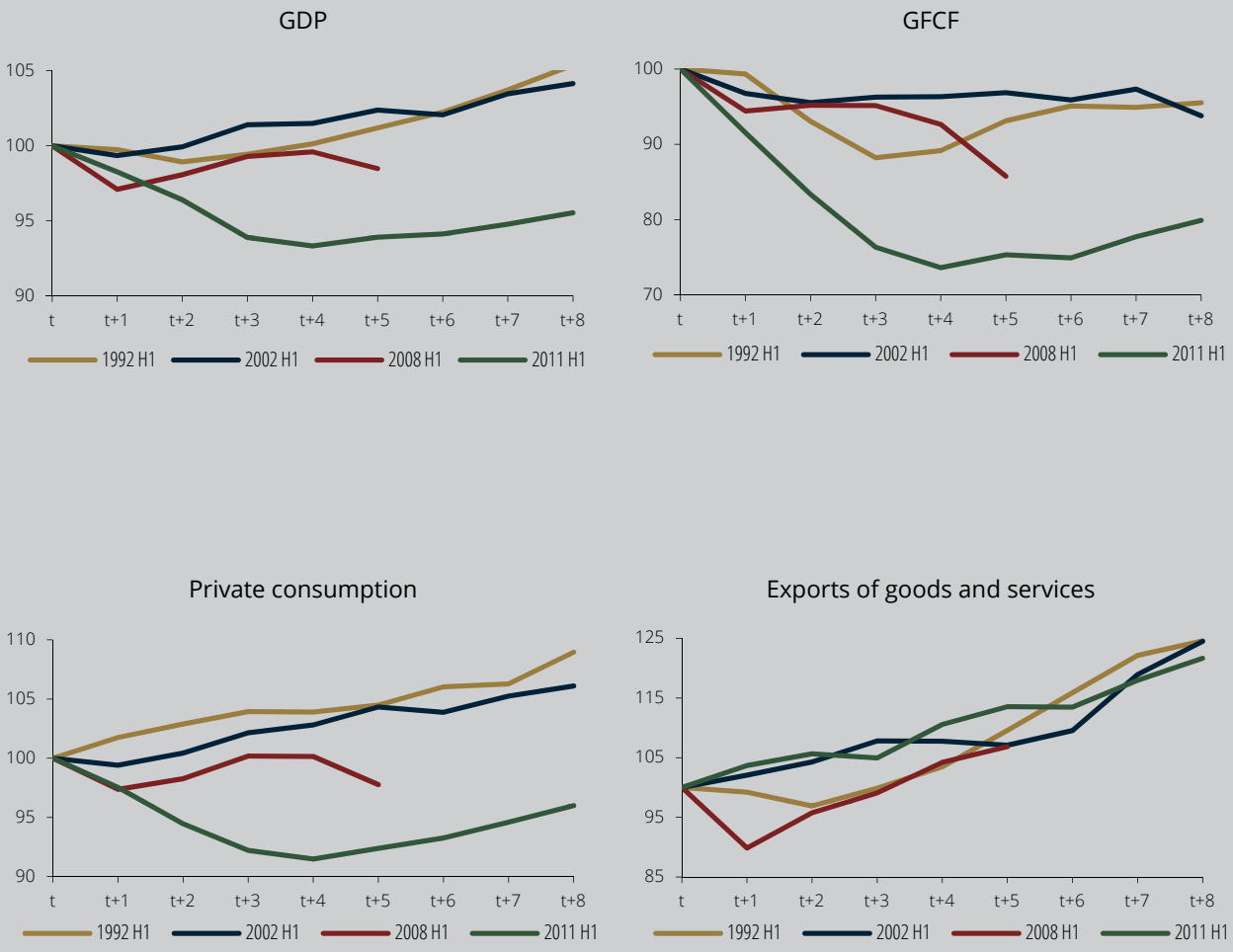
Sources: *INE* and Eurostat.

Continued recovery trend in private consumption amid improvements in labour market conditions and lower household indebtedness

In the first half of 2015, private consumption grew by 2.9 per cent in volume *vis-à-vis* the same period of 2014 (corresponding to a 0.7 p.p. increase against private consumption growth in 2014 as a whole). Private consumption developments in the first half of the year were in line with the private consumption coincident indicator calculated by Banco de Portugal and the stabilisation of consumer confidence at levels above those recorded prior to the crisis, in contrast to the upward trend seen since early 2013.

Private consumption developments in the first half of the year reflected an acceleration in consumption of non-durable goods and services, most notably non-food products, and the

Chart 6.4 • Behaviour of GDP growth and its main components over the last four recessions
| Half-yearly values; Semester t=100

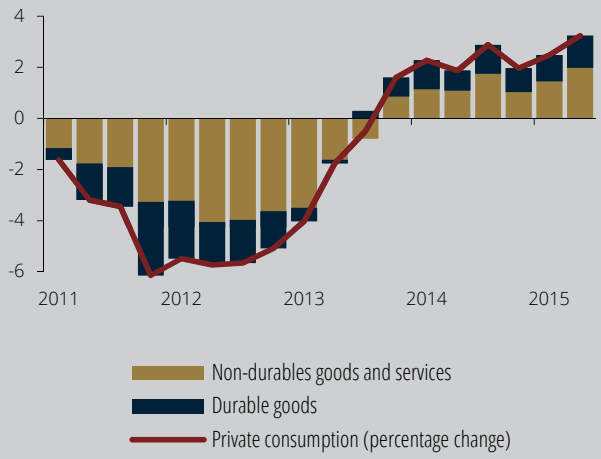


Sources: *INE* and Banco de Portugal.

Note: Time *t* in the four charts corresponds to the semester immediately before the first GDP decline in each of the four recessions which are the first semesters of 1992, 2002, 2008 and 2011. The last period of the 2008-2009 recession was deleted because it overlaps the start of the next recession.

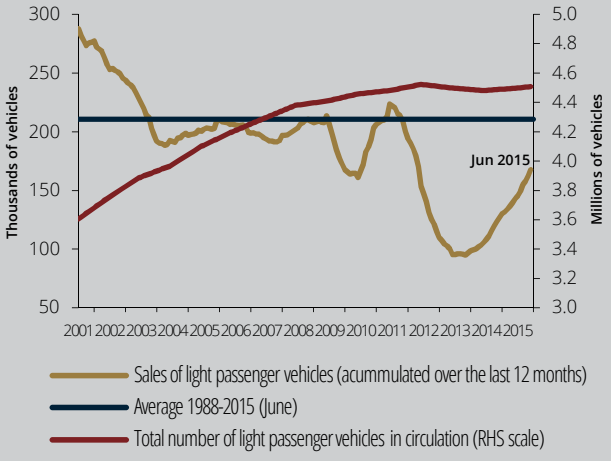
maintenance of highly buoyant consumption of durable goods, particularly motor vehicles, whose sales continued to follow a steep upward path that started in mid-2013 (Chart 6.6). The number of motor vehicles sold remained short of the average levels registered since 1988 – when the quotas for motor vehicle imports were discontinued – with recent growth being largely due to fleet renewal, the size of which has remained close to 4.5 million units since 2010 (Chart 6.6). In this context, loans for the purchase of new cars have closely followed the upward trend in purchases of such vehicles since 2013 (see Section 3).

Chart 6.5 • Decomposition of real private consumption growth | Percentage points



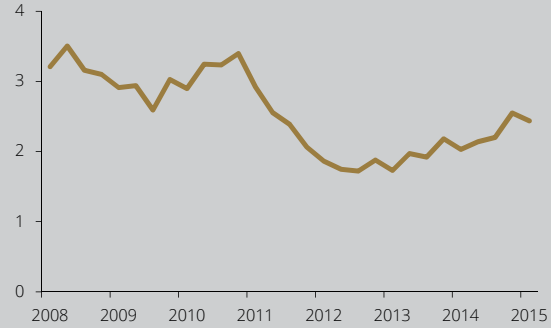
Sources: *INE* and Banco de Portugal calculations.

Chart 6.6 • Sales of light passenger vehicles | Number of vehicles; monthly values



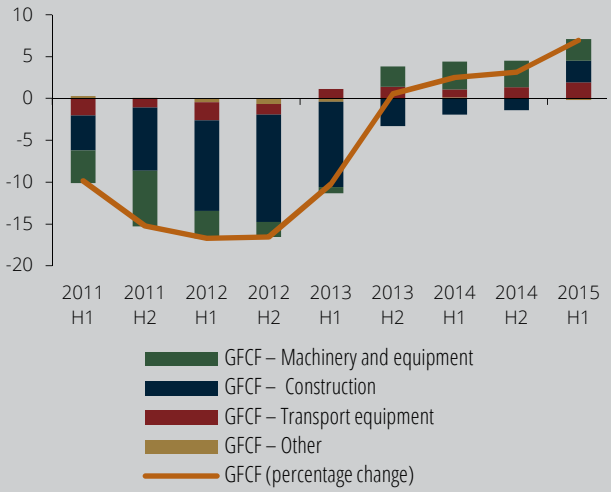
Sources: ACAP and Banco de Portugal calculations.

Chart 6.7 • Share of total credit to consumption in private consumption | Percentage



Sources: *INE* and Banco de Portugal calculations.

Chart 6.8 • Decomposition of real GFCF growth by type of investment | Contributions in percentage points



Sources: *INE* and Banco de Portugal calculations.

The upturn in households' consumption spending has benefited from an improvement in labour market conditions. Indeed, in the first half of 2015, the unemployment rate continued to follow a downward trajectory while employment has continued to grow, albeit against a background of marked wage moderation. Mention should also be made to the potential effect of a reduction in households' debt servicing burden over the most recent period, stemming from a stabilisation in interest rates at low levels, together with a decrease in indebtedness. In this context, financing conditions have improved, most notably as regards consumer loans. There are indications that the share of consumer loans in total private consumption, despite increasing since early 2013, is still below that seen prior to the sovereign debt crisis (Chart 6.7).

Strong GFCF growth in the first half of the year across its main components

In the first half of 2015, investment increased by 4.6 per cent in volume *vis-à-vis* the same period of 2014, 1.8 p.p. above that registered in the second half of 2014. However, investment developments, particularly in the first quarter, were affected by the very substantial negative contribution of changes in inventories, which largely reflect the base effect stemming from the build-up of stocks associated with international fuel trade flows in the first half of 2014.

GFCF growth in the first half of the year stood at 6.9 per cent (3.1 per cent in the second half of 2014), with similar contributions from machinery, transport equipment, and construction. In particular, GFCF in machinery and equipment grew substantially by 10.5 per cent (13.6 per cent in the second half of 2014), while GFCF in transport equipment continued to post quite high growth rates (around 30 per cent).

The acceleration in GFCF in the first half of the year largely reflects an increase in GFCF in construction, following successive falls since 2002, which were particularly marked as of 2011 (Chart 6.8). The greater buoyancy of this component in the first half of the year (5.2 per cent growth in the first half of 2015, following a 3.2 per cent decrease in 2014 as a whole) seems to partly reflect the base effect stemming from adverse weather conditions in early 2014. This is in line with increased confidence in the sector and developments in cement sales, which are the benchmark indicator for this sector's activity.

The more favourable investment developments in 2015 are in line with the lower share of firms reporting investment constraints. On the basis of information for the current year incorporated in the Investment Survey published each July, this share stood at 61.6 per cent in 2013, gradually falling to 57.9 per cent in 2014 and 55.0 per cent in 2015. Although the deterioration of sales prospects continues to be the main constraint on investment according to firms, their relative weight has decreased due to an increase in other factors, such as investment profitability and self-financing capacity (Chart 6.9).

By institutional sector, the upturn in business investment in the first half of the year should be interpreted taking into account the substantial fall in this investment component during the crisis period, which was considerably greater than the euro area average (Chart 6.10).

Acceleration in exports in the first half of 2015

Exports of goods and services continued to grow strongly in the first half of 2015, posting a higher growth rate in volume than in the second half of 2014. Export developments in the first half of 2015 reflected an acceleration in exports of both goods and services (Chart 6.11).

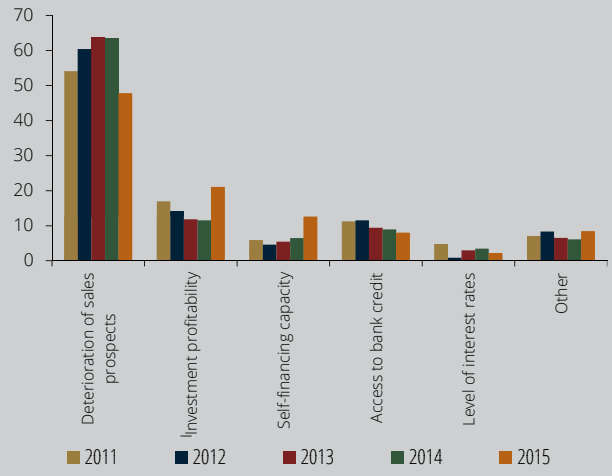
In the first half of 2015, exports of goods grew by 7.8 per cent in volume (2.9 per cent in 2014 as a whole). The momentum of exports of goods was influenced by a strong acceleration in energy exports, year-on-year, largely reflecting the base effect associated with the temporary shutdown of a major refining unit in the first quarter of 2014. As such, in the first half of 2015, energy exports grew by 60.9 per cent in real terms (-12.2 per cent in 2014 as a whole). In turn, exports of goods excluding energy decelerated (from 4.6 per cent in 2014 to 3.5 per cent in the first half of 2015), largely due to a fall in exports to Angola.[17]

In nominal terms, exports of goods increased by 5.7 per cent in the first half of the year *vis-à-vis* the same period of 2014 (1.8 per cent in 2014 as a whole). This acceleration in exports of goods was due to a marked increase in sales of fuels, more buoyant exports of transport equipment, most notably motor vehicles, as well as other types of products, such as machinery and equipment, and minerals excluding fuels.

By destination market, nominal exports of goods to Spain and the United Kingdom grew markedly in the first half of 2015 (11.7 per cent and 14.3 per cent respectively, year-on-year). Extra-EU exports also grew considerably in the first half of the year. Excluding sales to Angola, nominal exports of goods to non-EU countries grew by 10.0 per cent, year-on-year (-0.7 per cent in 2014 as a whole), not least because of the depreciation of the euro in nominal effective terms since mid-2014.

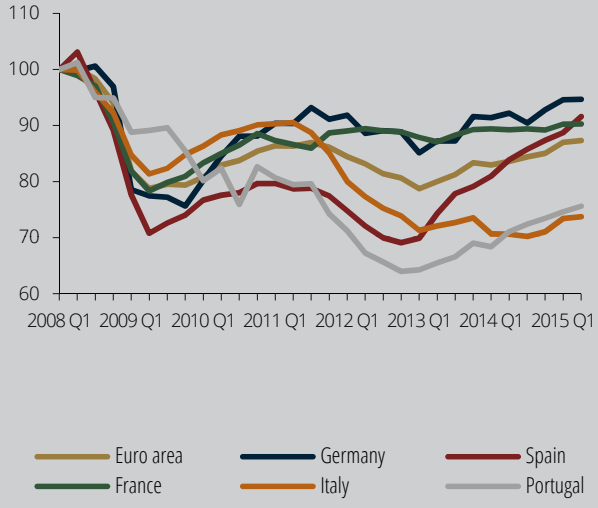
The strong momentum of fuel exports in the first half of 2015 and their high import content render particularly relevant the analysis of the indicator that weighs nominal exports of each type of product by its non-import content, so as to reflect the value added component implied in exports. Developments in this indicator in the first half of 2015 point to a negative differential (approximately 1.0 p.p.) between exports weighted and unweighted by non-import content (Chart 6.12). However, over the most recent months, developments in

Chart 6.9 • Main limitation to investment | As a share of firms reporting investment constraints, in percentage



Sources: *INE*.

Chart 6.10 • Business FBCF in Portugal and in the euro area | 2008 Q1=100



Sources: *INE*, Eurostat and calculations by Banco de Portugal.

exports weighted by non-import content were broadly stable.

Exports of services grew by 6.0 per cent in terms of volume in the first half of the year *vis-à-vis* the same period of 2014 (6.3 per cent in 2014 as a whole). Most notably, the strong momentum of exports of tourism services continued (11.5 per cent increase in the first half of the year), while other services grew by 1.9 per cent. In nominal terms, exports of tourism services grew by 12.2 per cent, year-on-year, in the first half of the year, while exports of other services increased by 1.0 per cent over the same period.

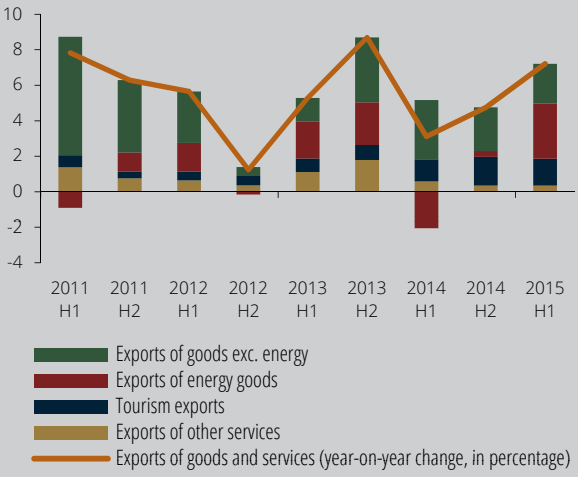
Volume growth in exports of goods and services in the first half of 2015 was higher than that of external demand for Portuguese goods and services, partly influenced by temporary factors that affected fuel exports in 2014 and 2015. Excluding these factors, it can be concluded that exports have developed broadly in line with external demand over the most recent months (Chart 6.13).

Acceleration in imports of goods and services in the first half of the year, most notably due to marked growth in energy imports in real terms

In the first half of 2015, imports of goods and services grew by 9.5 per cent in terms of volume (7.2 per cent in 2014 as a whole). This reflects an acceleration in imports of both goods and services (Chart 6.14). In the first half of 2015, imports of goods grew by 10.1 per cent, year-on-year (6.7 per cent in 2014 as a whole), while imports of services increased by 6.2 per cent (9.9 per cent in 2014 as a whole).

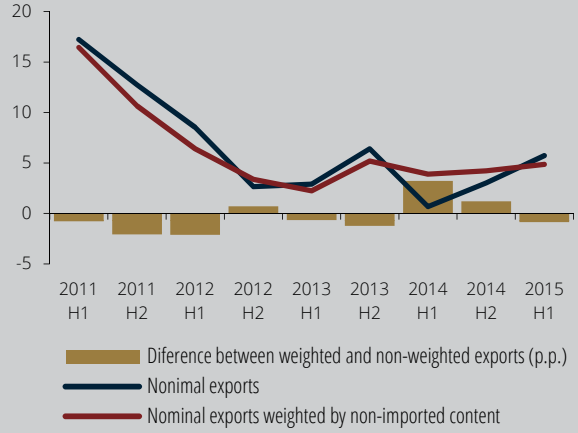
In the first half of 2015, energy imports grew markedly, year-on-year (23.1 per cent, after a 1.1 per cent decrease in 2014 as a whole). Excluding energy, imports of goods grew by 7.4 per cent in the first half of 2015, with a substantial increase in imports of pharmaceuticals, particularly in the second quarter of the

Chart 6.11 • Decomposition of real exports of goods and services | Contributions in percentage points



Sources: *INE* and Banco de Portugal calculations.

Chart 6.12 • Nominal exports of goods weighted by non-imported content | Year-on-year growth, in percentage



Sources: *INE* and calculations by Banco de Portugal.

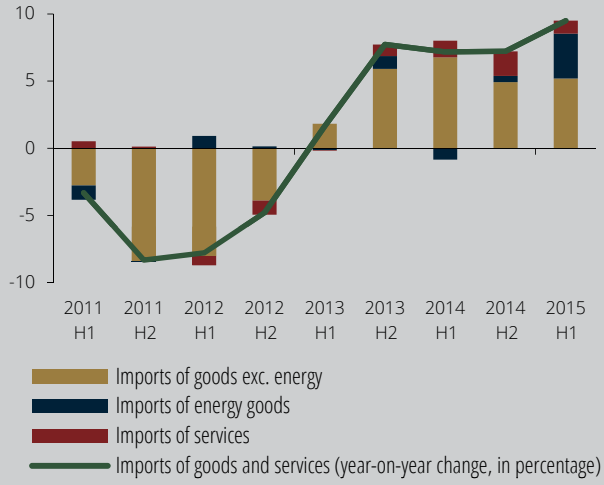
year. In nominal terms, imports of pharmaceuticals grew by 42.2 per cent, year-on-year, in the second quarter of the year, reflecting a 1.2 p.p. contribution to total imports of goods during that quarter (9.0 per cent).[18]

In the first half of 2015, imports grew more than overall demand weighted by import content, which led to an increase in import penetration, similarly to 2013 and 2014. The buoyancy of domestic demand in the first half of 2015 continued to be broadly based on components with high import content, such as consumption of durable goods and energy exports.

Chart 6.13 • Exports of goods and services and external demand | Year-on-year growth, in percentage

Sources: ECB and *INE*.

Chart 6.14 • Decomposition of real imports of goods and services | Contributions in percentage points



Sources: *INE* and Banco de Portugal calculations.

7. Prices

Increase in the inflation rate to positive values in the first half of 2015, against a background of virtually nil inflation in the euro area

In the first half of 2015, the year-on-year inflation rate in Portugal, measured by the Harmonised Index of Consumer Prices (HICP), was 0.4 per cent (Table 7.1). This represents an increase of 0.6 p.p. from the first half of the previous year and of 0.5 p.p. from the second half of the previous year. These developments occur in a context of moderate economic recovery, characterised by low inflationary pressures, both domestic and external. At the domestic level, wage pressures remain low (Section 5. Supply). At the external level, in the energy component the fall in oil prices in US dollars has exceeded the potential effects of the euro depreciation against the dollar. In the non-energy component, there was to a large extent a virtual stabilisation of commodity prices in euros, with prices in dollars being offset by the depreciation of the euro (Section 2. International environment).

The increase in the inflation rate in Portugal is opposed to the developments in the euro area, where the year-on-year HICP inflation declined to -0.1 per cent in the first half of 2015, which compares with 0.6 per cent in the first half of 2014 and with 0.3 per cent in the second half of the same year.

Table 7.1 • IHPC – Main components | Per cent

	Weights	Annual rate of change									
	2014	2012	2013	2014	2014		2015	2014		2015	
					H1	H2	H1	Q3	Q4	Q1	Q2
Total	100.0	2.8	0.4	-0.2	-0.2	-0.1	0.4	-0.3	0.0	0.0	0.7
Total excluding energy	91.8	1.7	0.6	0.0	-0.1	0.0	0.7	-0.2	0.3	0.5	0.9
Total excluding unprocessed food and energy	81.0	1.6	0.4	0.2	0.1	0.4	0.6	0.4	0.4	0.5	0.6
Goods	58.1	2.5	0.0	-1.1	-0.9	-1.3	-0.3	-1.6	-0.9	-1.0	0.3
Food	24.9	3.4	2.3	-0.7	-0.4	-0.9	1.3	-1.9	0.0	0.5	2.2
Unprocessed food	10.7	2.8	2.6	-2.1	-1.7	-2.4	1.6	-4.5	-0.3	0.2	3.0
Processed food	14.2	4.0	2.0	0.4	0.6	0.3	1.2	0.2	0.3	0.7	1.6
Industrial	33.2	2.0	-1.5	-1.4	-1.3	-1.6	-1.5	-1.5	-1.6	-2.1	-1.0
Non-energy	25.0	-2.1	-1.5	-1.4	-1.4	-1.3	-1.0	-1.7	-1.0	-1.0	-0.9
Energy	8.2	9.5	-0.7	-1.5	-0.7	-2.2	-3.9	-0.9	-3.6	-5.9	-1.9
Services	41.9	3.2	1.1	1.1	0.8	1.4	1.3	1.6	1.2	1.3	1.3
Memo items:											
Contribution of administered prices (in p.p.)	–	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2
Contribution of taxes (in p.p.)	–	1.9	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2
Consumer Price Index (CPI)	–	2.8	0.3	-0.3	-0.2	-0.3	0.3	-0.5	-0.1	-0.1	0.7
HICP – Euro area	–	2.5	1.4	0.4	0.6	0.3	-0.1	0.4	0.2	-0.3	0.2

Sources: Eurostat, *INE* and Banco de Portugal's calculations.

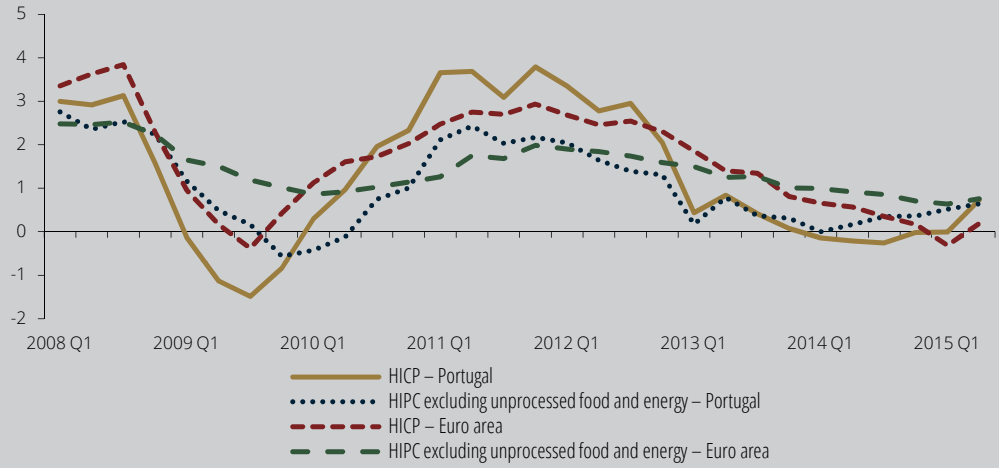
Therefore, the first half of 2015 was also characterised by a positive differential between the year-on-year inflation rate in Portugal and in the euro area, a fact that has not been observed since late 2012 (Chart 7.1). This positive differential is explained, in general terms, by all HICP components except non-energy industrial goods (Chart 7.2). The rate of price change of this component continues to be lower than in the euro area, in line with previous years' developments and within a context of recovery in competitiveness of the Portuguese economy in the tradable goods sector.

Significant contribution of services and unprocessed food prices to inflation

The year-on-year rate of change of services' prices was 1.3 per cent in the first half of 2015, corresponding to an increase of 0.5 p.p. from the first half of 2014 and to a virtual stabilisation from the second half of 2014 (Chart 7.3). These developments are largely based on the increase in accommodation prices registered particularly since mid-2014, against a background of

Chart 7.1 • HICP – Portugal and Euro area

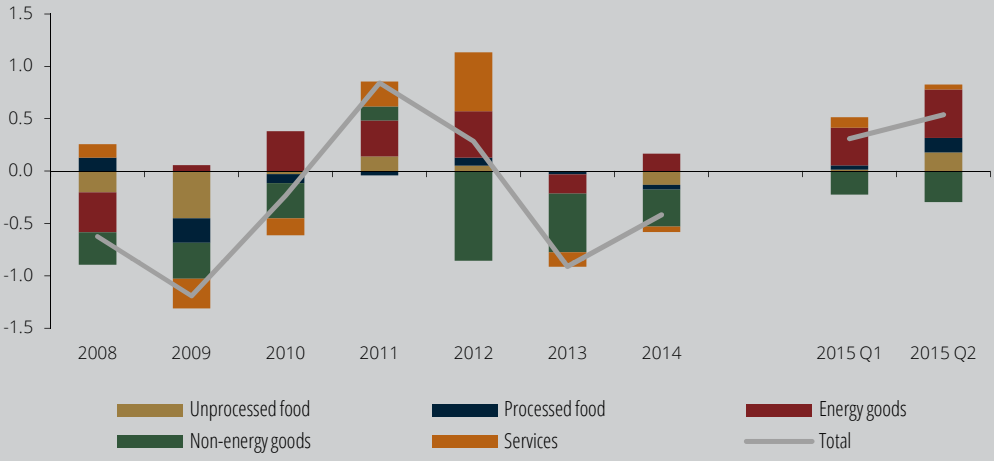
| Year-on-year rate of change, in percentage



Source: Eurostat and Banco de Portugal.

Chart 7.2 • Contributions to the difference in HIPC between Portugal and the Euro area

| In percentage points



Sources: Eurostat and Banco de Portugal.

growing buoyancy in the tourism sector, as well as on the increase in the price of financial services, in particular banking services.

The year-on-year rate of change of unprocessed food prices was 1.6 per cent in the first half of 2015, which compares with -1.7 per cent and -2.4 per cent in the first and second semesters of 2014 respectively. These developments largely reflect the reversal of base effects from 2014, mainly in fruits and vegetables. They might also be partly related to the virtual stabilisation of prices in the means of production of current consumption in agriculture, following the decline during 2014.[19]

Energy goods contribute negatively, albeit on a small scale, to inflation, in a context of a strong decline in oil prices

Energy goods prices declined 3.9 per cent in the first half of 2015 in year-on-year terms, against a background of a strong fall in oil prices. Nevertheless, this decline was substantially lower than in the euro area, where energy prices declined 6.5 per cent in the same period. Therefore, developments in energy prices have made an important contribution to the positive differential in the inflation rate between Portugal and the euro area.

The fall in energy prices was substantially lower than that suggested by the recent decline in oil prices in euros, which reached approximately 34 per cent in the first half of 2015 in year-on--year terms. These developments largely reflect two main factors (in addition to the natural effect induced by the fact that the tax on oil products is a fixed fee and therefore independent of oil price developments). First, the rise in the tax on oil products early this year contributed around 1.5 p.p. to the rate of change of energy goods prices.[20] Second, the differential between the average pre-tax retail selling price and the oil price in euros widened, mainly as regards to petrol (Charts 7.4 and 7.5), against a background of increasing refining margins in international markets.

Reduced contribution of non-energy industrial goods and processed food prices to inflation

The year-on-year rate of change of non-energy industrial goods prices was -1 per cent in the

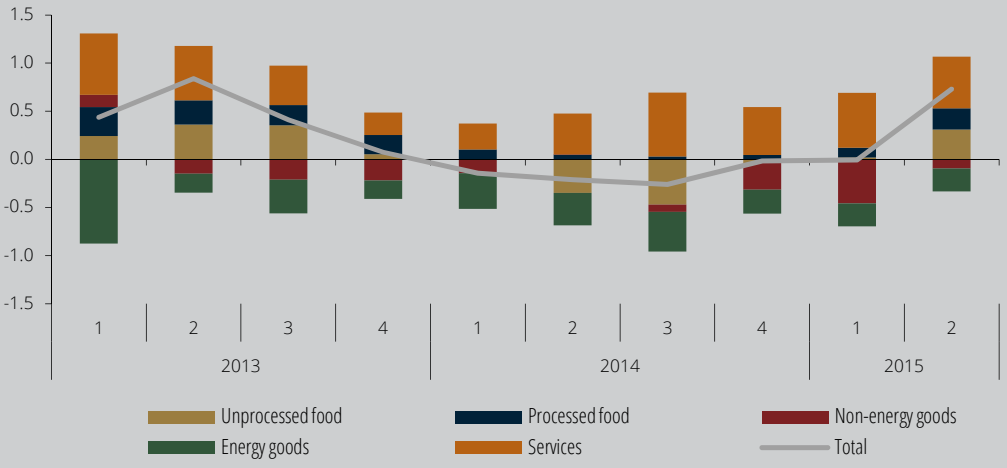


Chart 7.3 • Contributions to HICP

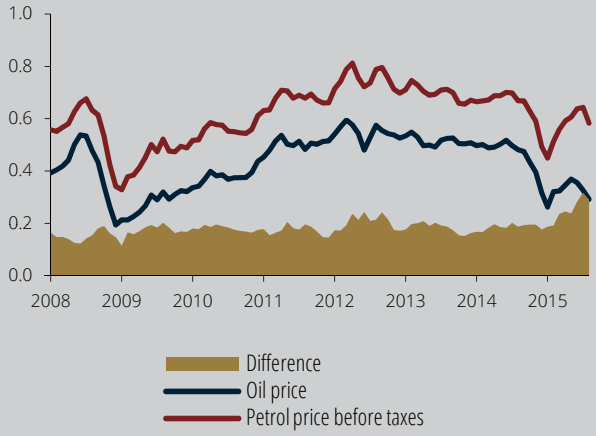
| In percentage points

Sources: Eurostat and Banco de Portugal.

first half of 2015, corresponding to a 0.4 and 0.3 p.p. increase from the first and second halves of 2014 respectively. This development suggests a gradual mitigation of the recent decline in non-energy industrial goods prices, which has been ongoing since 2012.

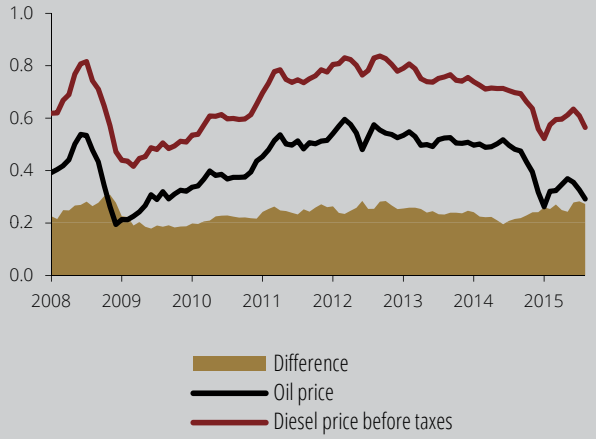
Processed food prices had a year-on-year rate of change of 1.3 per cent, which compares with 0.6 and 0.3 per cent in the first and second halves of 2014 respectively. This development is largely influenced by tobacco prices (which increased substantially during the first half of the year) and by the reversal of base effects in the prices of bread, cereal, oils and fats.

Chart 7.4 • Difference between petrol price before taxes and oil prices in euros | Euros per liter



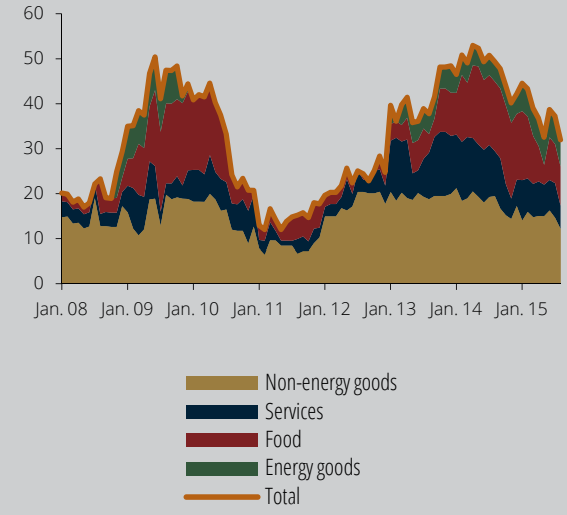
Sources: ECB and DGEG (Directorate General for Energy and Geology).

Chart 7.5 • Difference between diesel price before taxes and oil prices in euros | Euros per liter



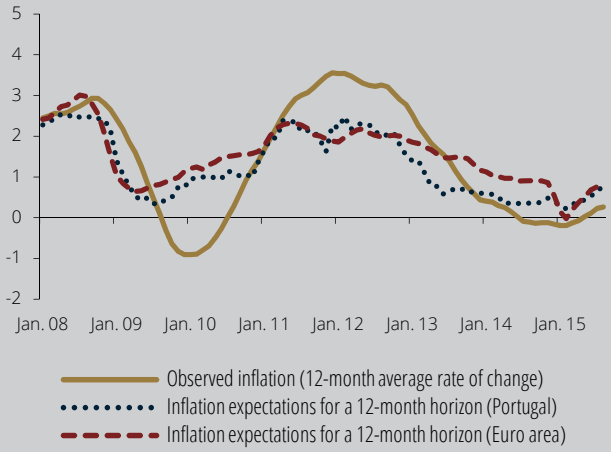
Sources: ECB and DGEG (Directorate General for Energy and Geology).

Chart 7.6 • HICP – Item weights with negative year-on-year rate of change | In percentage



Sources: *INE* and Banco de Portugal's calculations.

Chart 7.7 • Inflation expectations | In percentage



Sources: Consensus Economics and Eurostat.

Sustained decline in the share of components with negative price changes

The share of HICP components with negative price changes has gradually declined since mid-2014, standing at 36 per cent in the second quarter of 2015, which compares with 48 per cent in 2014 and 42 per cent in the first quarter of 2015 (Chart 7.6). This occurs against a backdrop of an acceleration in prices and moderate economic recovery, and seems to confirm the trend observed since the beginning of 2014, when the share of HICP components with a negative rate of change attained a peak over a last five years.

Slight increase in inflation expectations, although they remain at low levels

Inflation expectations published by Consensus Economics for the next 12 months have been revised slightly upwards over the first half of the year, following the recent trend in average inflation. This seems to point to a reversal of the trend observed over the last three years, in which inflation expectations were successively revised downwards. Developments in inflation expectations appear to be in line with expectations in the euro area, which reflect a moderate economic recovery, against a backdrop of an accommodative monetary policy stance carried out by the ECB.

8. Balance of payments

The Portuguese economy kept a positive net lending position in the first half of 2015

In the first half of 2015, the Portuguese economy's net lending, measured by the current and capital accounts balance, remained virtually unchanged as compared with the same period a year earlier, standing at 0.2 per cent of GDP (2.0 per cent for 2014 as a whole) (Table 8.1).

The Portuguese economy kept a positive net lending position in the first half of 2015, similar to the one registered in the same period a year earlier, reflecting, to a large extent, a relative stability in the items of the current and capital accounts (Chart 8.1). Nevertheless, this period registered a slight improvement in the goods and services account balance and consequently in the current account balance, against a backdrop of increasing buoyancy in the travel and tourism sector. This sector's balance improved by 0.3 p.p. of GDP, being offset by the less favourable performance of other services. The combined income balance remained virtually unchanged in the first half of 2015 when compared with the same period a year earlier. However, the secondary income account balance recorded a slight positive change (due to an improvement in the current transfers balance and emigrant/immigrant remittances), in contrast with the primary income account balance (partly affected by a deterioration in the portfolio investment income balance). The improvement in the current account balance was nevertheless offset by a slight deterioration in the capital account balance, explained by a reduction in the total amount of funds received from the European Union.

Table 8.1 • Current and capital accounts | As a percentage of GDP

					1st Half	
	2011	2012	2013	2014	2014	2015
Current and capital accounts	-4.5	0.1	3.0	2.0	0.3	0.2
Current account	-6.0	-2.0	1.4	0.5	-1.1	-1.0
Goods and services account	-3.7	0.1	1.8	1.3	0.6	0.8
Goods	-8.2	-5.5	-4.7	-5.3	-4.9	-4.8
Services	4.5	5.6	6.5	6.6	5.6	5.6
of which:						
Travel and tourism	2.9	3.4	3.6	4.1	2.9	3.2
Primary income account	-2.7	-2.7	-1.3	-1.5	-2.1	-2.3
Secondary income account	0.3	0.6	0.9	0.8	0.3	0.6
of which:						
Emigrants/immigrants remittances	1.0	1.3	1.4	1.5	1.4	1.5
Capital account	1.5	2.1	1.6	1.5	1.4	1.2

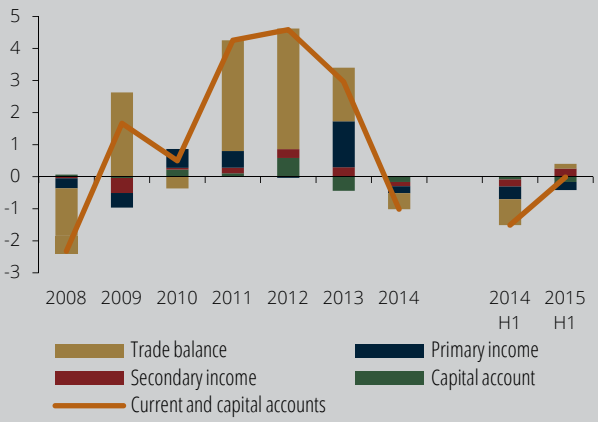
Sources: *INE* and Banco de Portugal.

By institutional sector, and in the year ending in the first half of 2015, the general government increased its net borrowing when compared with the same period a year earlier, in contrast to financial corporations, which increased their net lending (Chart 8.2). This is due to the fact that the share capital of *Novo Banco* underwritten by the Resolution Fund was recorded as a general government capital transfer (Box 2. 'Revisions in general government deficit and debt: 2011-2014'). During the same time horizon, non-financial corporations decreased their net lending, against a background of a reduction in the capital transfers balance[21], as did the household sector, against a backdrop of a reduction in household savings.

The continued positive external net lending, registered since 2012, reflects the process of structural adjustment, and contrasts with more than a decade of high external deficits that resulted in the accumulation of a net external debt without precedent in the recent history of the Portuguese economy. This adjustment reflects, on the one hand, a decrease in investment, mostly from non-financial corporations, and, on the other, an increase in domestic savings, explained to a large extent by a decline in general government net borrowing. These developments led in the first place to a decrease in the Portuguese economy's net borrowing and, since 2013, to positive net lending capability (Chart 8.3). The first half of 2015 was characterised by domestic savings and investment as a percentage of GDP at the levels observed in the same period a year earlier, implying the maintenance of a positive external net lending.

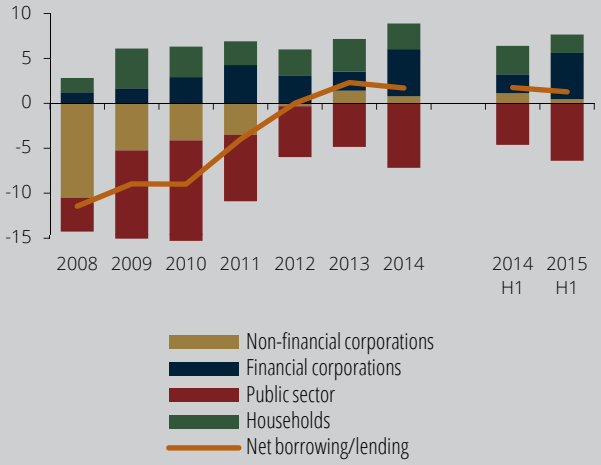
The elimination of the external deficits which characterised the Portuguese economy for more than a decade was largely based on the consolidation of a goods and services account surplus. This was achieved through a rise in net exports of goods and an increasingly strong performance of services, supported by a higher net volume of exports (Chart 8.4). The goods and services account in the first half of 2015 is largely affected by both a decrease in the oil

Chart 8.1 • Breakdown of change in the current and capital accouts | As a percentage of GDP



Sources: *INE* and Banco de Portugal.

Chart 8.2 • Net borrowing/lending, by institutional sector | As a percentage of GDP



Source: *INE*.

Note: Values for 2014 H1 and 2015 H1 correspond to the year ending on the semester.

price – and consequently a decline in the energy account deficit – and by imports of pharmaceuticals (Section 6. Demand), which contributed to an increase in the goods excluding energy account deficit compared with the same period a year earlier.

Net external outflows in the first half of 2015

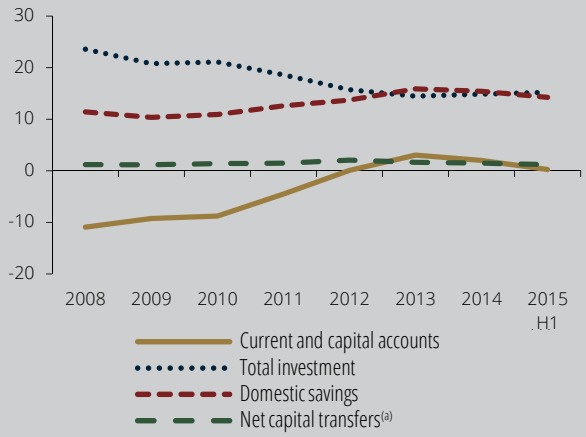
The first half of 2015 was characterised by net external outflows amounting to 0.7 per cent of GDP, which compares with net inflows of 0.1 per cent of GDP in the first half of 2014, and net outflows of 2.1 per cent in 2014. These developments are supported by a larger decrease in net liabilities than in net assets (Chart 8.5). The positive balances of portfolio investment and other investment offset the negative balance of direct investment (Chart 8.6).

Overall, the financial account balance is largely influenced by the redemption of securities and repayment of loans by resident entities to non-resident entities and the purchase of government debt securities by the central bank. These operations result in a positive contribution of portfolio investment to the financial account, which is not fully offset by debt securities issued by the general government. Also important is the early repayment to the International Monetary Fund of part of the loan granted to the Portuguese State under the economic and financial assistance programme, which is only partly offset by an increase in the central bank's net liabilities. This operation thus results in a positive contribution of the general government to net external outflows, in contrast to the central bank (Chart 8.7), and a positive balance of other investment. Developments in direct investment mainly reflect other financial operations.

Slight deterioration in the international investment position

Despite the positive financial account balance, the international investment position deteriorated

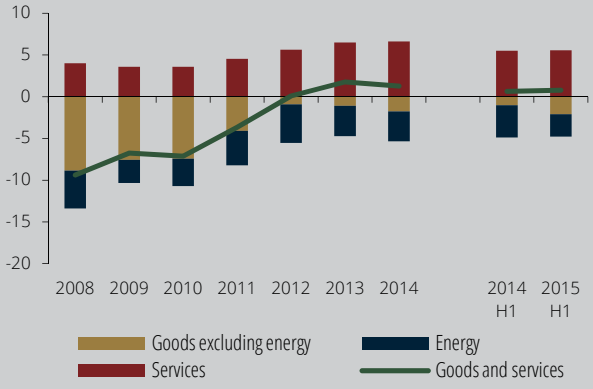
Chart 8.3 • Net borrowing/lending, whole economy | As a percentage of GDP



Sources: *INE* and Banco de Portugal.

Note: (a) Includes acquisitions less disposals of non-financial non-produced assets.

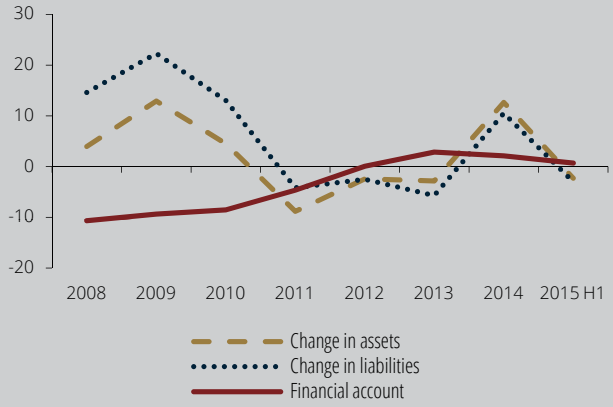
Chart 8.4 • Breakdown of the goods and services account | As a percentage of GDP



Sources: *INE* and Banco de Portugal.

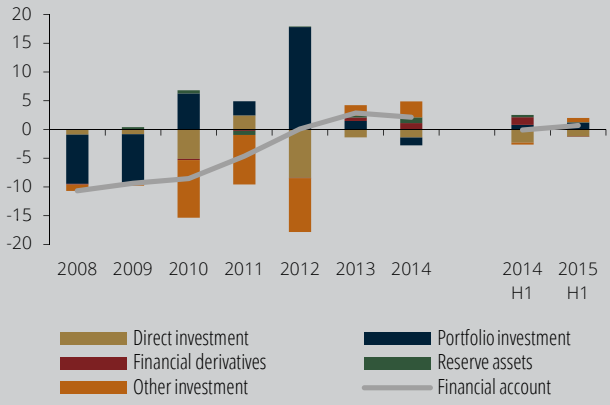
slightly in the first half of 2015, with the net debt position of the Portuguese economy *vis-à-vis* the rest of the world standing at 116.2 per cent of GDP, which compares with 113.3 per cent in 2014 (Chart 8.8). This deterioration was, to a large extent, the result of the effect of price changes affecting non-monetary financial institutions and non-financial corporations, particularly the increase in value of Portuguese firms owned by non-residents.

Chart 8.5 • Financial account | As a percentage of GDP



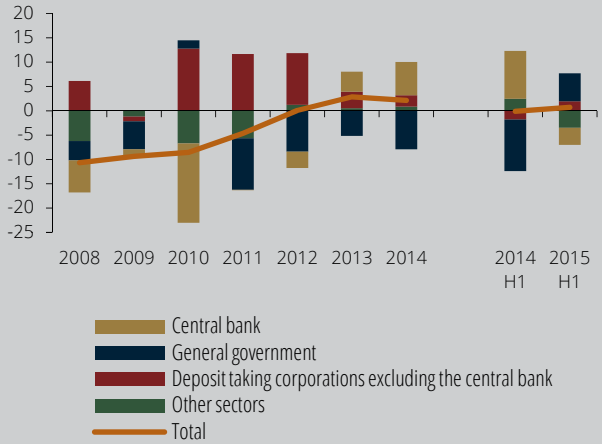
Sources: *INE* and Banco de Portugal.

Chart 8.6 • Financial account, balance and net change by instrument | As a percentage of GDP



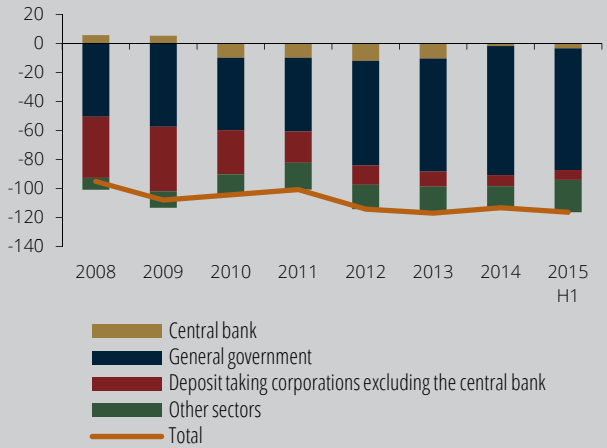
Sources: *INE* and Banco de Portugal.

Chart 8.7 • Financial Account, breakdown by institutional sector | As a percentage of GDP



Sources: *INE* and Banco de Portugal.

Chart 8.8 • International investment position, by institutional sector | As a percentage of GDP



Sources: *INE* and Banco de Portugal.

Notes

1. However, more recently, in the period following the financial instability associated with the economic developments in China, the euro appreciated by around 2 per cent in nominal effective terms from the end of June to mid-September.

2. See 'Co-movement of revisions in short- and long-term inflation expectations', by A. Antunes (2015), Banco de Portugal *Economic Studies* Vol. 1, No. 1.

3. Data collected by the Banking Conduct Supervision Department of Banco de Portugal on consumer credit agreements are used in the analysis of developments in consumer loans by credit category, which is not possible on the basis of money and financial statistical data. This information is collected in accordance with Instruction of Banco de Portugal No. 14/2013, which introduced some amendments to the credit categories that had been in force since 2009 (Instruction of Banco de Portugal No. 12/2009). In the analysis incorporated in this *Economic Bulletin*, the amount of consumer loans related to credit cards, current accounts and overdrafts was not included. Data on new consumer loans is available (in Portuguese) at http://clientebancario.bportugal.pt/pt-PT/Credito/CreditoConsumidores/Paginas/EvolucaoCreditos.aspx

4. Non-consolidated financial accounts by institutional sector include changes in financial assets and liabilities, taking into account all financial operations where institutional units classified in the sector under analysis are involved. In turn, consolidated financial accounts correspond to changes in financial assets and liabilities stemming from financial operations between institutional units classified in the sector and institutional units classified in other institutional sectors. Therefore, compared with non-consolidated financial accounts, financial operations between institutional units classified in the same institutional sector are not considered.

5. It should be recalled that in 2014 the deficit adjusted for the impact of one-off factors stood at 3.6 per cent of GDP.

6. On a national accounts basis, the revenue obtained from the Extraordinary Solidarity Surcharge is recorded on the expenditure side, negatively affecting pension expenditure.

7. In particular, the effect on the change in the ratio of debt associated with the differential between the implicit interest rate and the nominal GDP growth rate (known as 'snowball effect') was nil in the first half of the year.

8. The abrogation of the excess deficit procedure in 2015 is conditional on compliance with the ECOFIN Council Recommendation of 18 June 2013, which set this year as the deadline for bringing general government deficit down to 3 per cent of GDP or below.

9. According to the ECOFIN Council Recommendation of 18 June 2013, the general government deficit must stand below 3 per cent of GDP as of 2015 and a minimum annual fiscal consolidation effort of 0.5 p.p. must be undertaken in line with the convergence of the structural balance towards the Medium Term Objective (-0.5 per cent of GDP).

10. According to the April Stability Programme update, the Ministry of Finance projects awarding the operating licences of Companhia das Lezírias, Silopor, the ports of Pedrouços and Bom Sucesso and A23 highway in 2015. As a whole, these are expected to generate proceeds amounting to €176 million.

11. In Box 2 of Section III.2.3, the MGDD determines that, in those cases where the government is the only investor, a return equivalent to or exceeding the country's 10-year funding rate shall be considered as a 'sufficient rate of return'.

12. The capital increase made by the Resolution Fund in *Novo Banco*, as a measure to support the financial system, falls within the scope of the definition of temporary measures adopted by the Eurosystem. Therefore, its impact does not affect the structural balance (see Special Issue 'European budgetary rules and the calculation of structural balances').

13. It should be recalled that, under the Maastricht definition, public debt is assessed in terms of gross liabilities.

14. The discrepancy between GDP and GVA growth in the first half of 2015 is mainly due to the evolution of taxes less subsidies, which grew by 4.6 per cent compared to the same period in the previous year (against 2.6 per cent in 2014).

15. In the same period, there has been a considerable increase in temporary emigrants, from around 60 thousand in 2011 to 85 thousand in 2014.

16. Taking into account the population dynamics, the pace of convergence would be faster. In 2014 as a whole, GDP *per capita* in the euro area grew by 0.7 per cent, that is, 0.8 p.p. less than in Portugal. Based on Eurostat estimates for population growth, in the first half of 2015, GDP *per capita* in the euro area grew by 0.9 per cent, year-on-year, 1.2 p.p. less than in Portugal.

17. In the first half of 2015 and in line with a decline in Angolan imports due to, *inter alia*, a substantial slowdown in activity, nominal exports of goods to Angola fell by 25.4 per cent, year-on-year, with the share of exports of goods to Angola in total exports of goods standing at 6.6 per cent in 2014.

18. Growth in this component, which was particularly substantial in April, largely reflects the impact of the import of a specific type of pharmaceutical drug to treat Hepatitis C.

19. Index published by Statistics Portugal, covering, inter alia, fertilisers, energy and animal feeding stuffs.

20. The contribution to the year-on-year inflation rate is however small, below 0.15 p.p..

21. The reduction in the capital transfers balance reflects a base effect associated with the funding granted by the State to public transport enterprises in the first half of 2014.

PROJECTIONS FOR THE PORTUGUESE ECONOMY IN 2015

Projections for the Portuguese economy in 2015

Projections for the Portuguese economy point to 1.7 per cent growth of the Gross Domestic Product (GDP) in 2015 (Table 1), which is slightly higher than that projected for the euro area (Chart 1). Higher GDP growth in 2015 should reflect a rise in contribution of domestic demand and an acceleration of exports.

Acceleration of economic activity in 2015

Projections for 2015 take into account information available up to the end of September and are based on a set of assumptions on developments of the Portuguese economy's framework taken from the Eurosystem's projection exercise published on the ECB's website in September (Box 1 'Projection assumptions').

According to current projections, GDP is likely to maintain the upward trend started in mid-2013, accelerating by 0.8 p.p. in 2015 from the previous year. The contribution of domestic demand to GDP growth is expected to be positive and to exceed that observed in 2014, reflecting the acceleration of private consumption and investment. The acceleration of domestic demand, in particular components with high import content, should translate into a significant rise in imports. Exports, in turn, should continue to grow robustly and well above domestic demand growth.

In intra-annual terms, the recovery of economic activity is projected to continue in the second half of the year. Considering the overall demand components net of their import content, the slight acceleration of GDP in the second half of the year will be the result of higher contributions from both domestic demand and exports, when compared to those observed in the first half.

Table 1 • Projections of banco de portugal: 2015
| Annual rate of change, per cent

	Weights 2014	EB October 2015		EB June 2015	
		2014	2015(p)	2014	2015(p)
Gross Domestic Product	100.0	0.9	1.7	0.9	1.7
Private Consumption	65.9	2.2	2.6	2.1	2.2
Public Consumption	18.5	-0.5	0.1	-0.3	-0.5
Gross Fixed Capital Formation	14.9	2.8	6.2	2.5	6.2
Domestic Demand	99.6	2.2	2.5	2.1	2.1
Exports	40.0	3.9	6.1	3.4	4.8
Imports	39.7	7.2	7.9	6.4	5.7
Contribution to GDP growth (in p.p.):					
Domestic Demand		2.2	2.6	2.0	2.1
Exports		1.6	2.5	1.3	2.0
Imports		-2.9	-3.4	-2.5	-2.4
Current plus Capital Account (% of GDP)		2.0	2.3	2.1	3.0
Trade Balance (% of GDP)		1.3	1.7	1.1	2.1
Harmonized Index of Consumer Prices (HICP)		-0.2	0.5	-0.2	0.5

Sources: *INE* and Banco de Portugal.

Note: (p) – projected. For each aggregate, this table shows the projection corresponding to the most likely value, conditional on the set of assumptions considered.

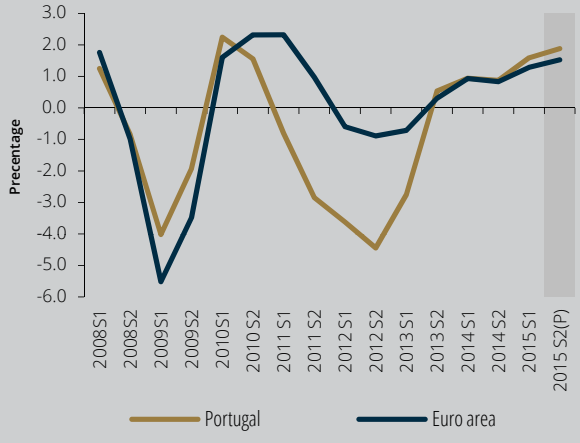
Private consumption is expected to grow by 2.6 per cent in 2015, maintaining the upward trend started in late 2013. In terms of its composition, consumption of durable goods is projected to grow strongly, although more moderately in the second half of the year than in the first half. This consumption component has increased significantly since late 2013, after expressive falls in 2011 and 2012, reflecting its high sensitivity to the economic cycle. More moderate growth is expected as the stock of durable goods converges to new balance levels. In turn, the non-durable consumption component is likely to continue on a gradual recovery trend. The recovery of private consumption reflects some improvement in labour market conditions and household finances, in a context of some decline in indebtedness levels and maintenance of low interest rates. Against this background, new loans to households increased, after expressive declines in previous years.

Gross Fixed Capital Formation (GFCF) is likely to rise by 6.2 per cent in 2015, after 2.8 per cent growth in 2014, with increases in its main components. In particular, GFCF in construction is expected to grow moderately, after several years of consecutive falls. In intra-annual terms, GFCF in construction is expected to decelerate in the second half of the year, after relatively high growth at the start of 2015, partly reflecting a base effect stemming from adverse weather conditions in early 2014 (Section 6. Demand). In 2015 machinery and equipment growth is expected to be significant for the second consecutive year.

The need to renovate the capital stock after considerable investment falls in the 2009-2013 period, as well as the improvement in financing conditions and the increase in confidence among economic agents, are likely to contribute to the continued recovery of this aggregate. Investment developments, however, should continue to be affected by the need to reduce the indebtedness of non-financial corporations, which, in spite of the recent reduction, is still very high in comparison to other euro area countries.

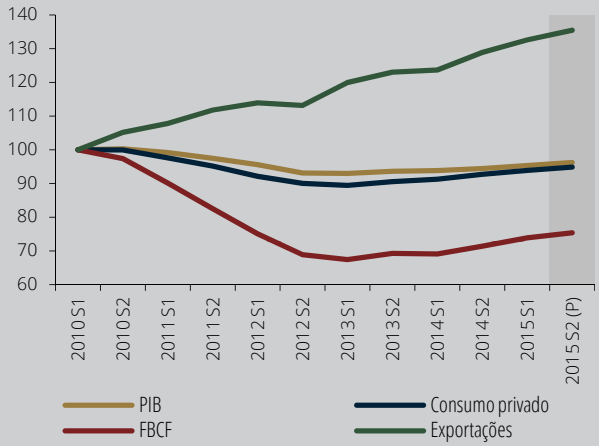
In 2015 the buoyancy of exports of goods and services should continue to be high, with average annual growth of 6.1 per cent. In the year

Chart 1 • GDP year-on-year rate of change
| In percentage



Sources: *INE*, BCE and Banco de Portugal.

Chart 2 • Evolution of GDP composition
| Index 2010 S1=100



Sources: *INE* and Banco de Portugal.

as a whole, exports of non-energy goods are expected to continue to grow similarly in comparison to the previous year. In turn, energy is projected to accelerate strongly in 2015, albeit with a profile of intra-annual deceleration (reflecting a base effect associated with the technical outage of a refinery in the first half of 2014). Exports of services are projected to grow significantly further in 2015, with special focus on the strong developments of tourism services. In average annual terms, the market share of exports of goods and services is expected to increase in 2015, chiefly reflecting gains in the first half of the year (associated with developments in energy exports).

In 2015, imports of goods and services are likely to grow significantly (7.9 per cent), reflecting the dynamics of overall demand and some specific effects observed mainly in the first half of the year, translated into substantial increases in imports of energy and pharmaceuticals (Section 6. Demand). Part of these effects is likely to be reversed in the second half of the year. Growth of imports projected for this period is closer to that resulting from the usual elasticity of this component, compared to the developments of overall demand weighted by import content.

Considering these developments of expenditure components, the current projections for 2015 suggest an increase in the contribution of domestic demand to GDP growth, both in gross terms (to 2.6 p.p., from 2.2 p.p. in 2014) and in terms of the net contribution of import content (which is likely to attain 1.1 p.p., from around 0.3 p.p. in 2014). The contribution of exports to GDP growth in 2015 is projected to increase (Chart 3) in gross terms (to 2.5 p.p., from 1.6 p.p. in 2014) and stabilise net of imports (0.6 p.p., versus 0.7 p.p.in 2014).

Increase in the net lending of the economy

The aforementioned projections are consistent with the ongoing adjustment process of the accumulated external imbalance of the Portuguese economy. In fact, the combined current and capital account balance is projected to attain 2.3 per cent of GDP in 2015, exceeding that observed in 2014 by 0.3 p.p.. This improvement reflects mainly the development of the balance of goods and services, whose surplus

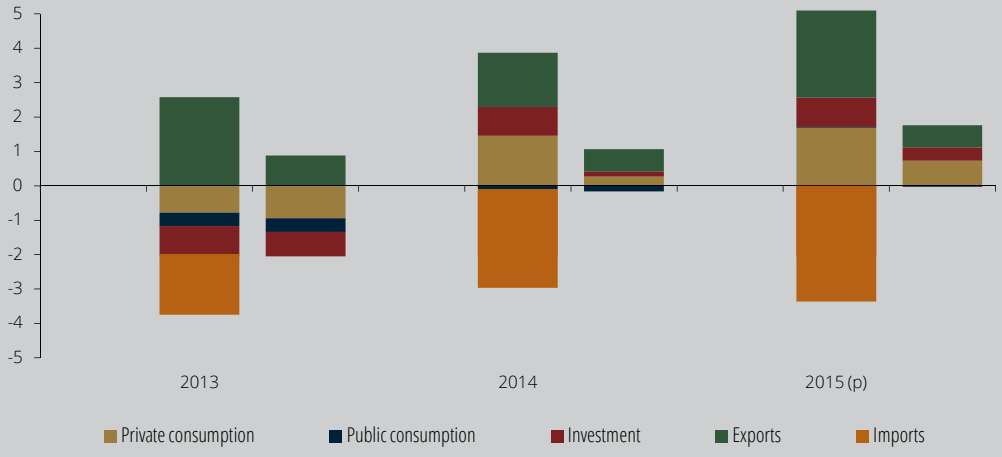


Chart 3 • Gross and net contributions to gdp growth

| In percentage points

Sources: *INE* and Banco de Portugal.

Notes (p) projected; For each year, the left-hand bar refers to gross contributions from each GDP component and the right-hand bar to the corresponding net contributions.

as a percentage of GDP is expected to increase from 1.3 to 1.7 per cent. These developments demonstrate, in particular, the buoyancy of exports and a favourable price effect associated with the sharp fall in oil prices.

Moderate price increase in 2015

Consumer prices measured by the Harmonised Index of Consumer Prices (HICP) are estimated to increase by 0.5 per cent in 2015, after a 0.2 per cent decline in 2014. Price growth, albeit moderate, chiefly reflects the recovery of economic activity, in the framework of continued low inflationary pressures, both domestic and external. The acceleration of prices in 2015 reflects the development of the non-energy component, given that the energy component is expected to decline more markedly than in the previous year. The price acceleration of the non--energy component, although relatively broadly based, is largely explained by the price rise of processed food, reflecting a base effect associated with the fall observed in the previous year (Section 7. Prices) and, to a lesser extent, by the acceleration of services prices. Conversely, the energy component of the HICP is projected to decline by 3.1 per cent in annual average terms, reflecting the fall in oil prices in euros.

After a negative differential of 0.6 p.p. versus the euro area in 2014, prices in Portugal should grow 0.4 p.p. above the euro area average in 2015, according to the projections published by the ECB in September.

Projections for activity and inflation unchanged from the June 2015 issue of the *Economic Bulletin*

Compared to the previous projections published in the June issue of the *Economic Bulletin*, GDP growth in 2015 has remained unchanged, although with some changes in its composition. Domestic demand growth has been revised upwards, and the contributions of exports and imports have been significantly revised upwards. Underlying these projections is higher import penetration, compared to previous forecasts, particularly in the first half of the year. In this context, the goods and services account surplus has been revised downwards by 0.4 p.p.. The main contribution to the revision of domestic demand was made by the upward revision of private consumption, reflecting higher growth than that projected in the first half of the year.

Inflation projections for 2015 have not been revised from the figures published in the June issue of the *Economic Bulletin*. However, current projections point to a sharper fall in energy prices (in line with the downward revision of the assumptions for oil prices) and to higher growth of services prices.

Box 1 | Projection assumptions

Turning to the external framework, current assumptions reflect information underlying the latest ECB projections published on the ECB's website in September 2015, which anticipate an overall deceleration in global trade and GDP in 2015. In this context, external demand for Portuguese goods and services is likely to decelerate slightly (from 4.7 in 2014 to 4.5 per cent in 2015), as a result of the deceleration in demand from extra-euro area countries.

Developments assumed for the three-month Euribor rate are based on the interest rate implied by futures contracts. These contracts point to the maintenance of the short-term interest rate at historically low values over the year, with a nil change being estimated for 2015 as a whole. The assumptions for long-term interest rates of Portuguese debt are based on an estimate of the rate implied in public debt.

In terms of the exchange rates, the average values observed in the two weeks leading to the cut--off date of the information remain unchanged, which translates into a significant depreciation of the euro in 2015 (in nominal effective terms and against the dollar). In the case of oil prices, information implied in futures markets points to a slight decline in the price in dollars in the second half of the year, higher than that forecast in the June projection exercise. In 2015 as a whole, a sharp fall is projected for oil prices, in both dollars (44.1 per cent) and euros (32.7 per cent).

In view of the international framework considered in the previous projection exercise published in the June 2015 issue of the *Economic Bulletin*, assumptions regarding external demand and interest rates are very similar, whereas assumptions relating to oil prices and non-energy commodities point to a more significant fall than previously projected. In turn, assumptions concerning exchange rates point to a slightly sharper depreciation of the euro than previously forecast for 2015.

As regards public finances variables, projections for 2015 include most recent information on budgetary execution. In addition, from among the policy measures included in the State Budget for 2015 and in the update of the Stability and Growth Pact for 2015-2019, those already approved (or highly likely to be approved) and specified with sufficient detail have been incorporated, in accordance with the rules used in the Eurosystem projection exercises.

The current estimate for public consumption in 2015 points to 0.1 per cent growth in real terms. Underlying these developments is a rise in expenditure of goods and services, associated with the impact of the purchase of medicinal products on intermediate consumption, which only partly offsets the expected decline in compensation of employees. In view of the above, current projections represent an upward revision of public consumption, reflecting the assumption of a less marked fall in the number of general government employees, which includes information up to the end of the first half of the year. The estimate for developments in compensation of employees takes into account the impact of the partial reversal of the wage cuts in force in the public sector since the beginning of the year, which is positively reflected on the public consumption deflator.

As regards public investment, similarly to the previous projection exercise, a considerable recovery is assumed for 2015, in real terms, marking a reversal of the downward trend registered since 2011.

Table 2 • Projection assumptions

		EB October 2015		EB June 2015
		2014	2015	2015
External demand	yoy	4.7	4.5	4.5
Interest rate				
Short-term (3-month EURIBOR)	%	0.2	0.0	0.0
Implicit in public debt	%	3.8	3.8	3.8
Euro exchange rate				
Effective exchange rate index	yoy	0.6	-9.8	-9.5
Euro-dollar	aav	1.33	1.11	1.12
Oil prices				
in dollars	aav	98.9	55.3	63.8
in euros	aav	74.2	49.9	57.1

Sources: Bloomberg, ECB, Thomson Reuters and Banco de Portugal calculations.

Notes: yoy – year-on-year rate of change, aav – annual average value. An increase in the exchange rate corresponds to an appreciation. The implicit interest rate on public debt is computed as the ratio between interest expenditure for the year and the simple average of the stock of debt at the end of the same year and at the end of the preceding year.

SPECIAL ISSUE

Demographic transition and growth
in the Portuguese economy

European fiscal rules and the calculation
of structural balances

Demographic transition and growth in the Portuguese economy

1. Introduction

Similarly to other developed countries, Portugal has undergone profound changes in its age structure, as a result of low fertility rates and an ongoing rise in average life expectancy. In comparison with a wide group of European countries, Portugal currently records the lowest total fertility rate[1] (Chart 1), with average life expectancy in the country close to the euro area average (Chart 2). In addition, the most recent period was characterised by a reversal of migration flows, which have registered a negative balance (Chart 3). The latest projections for Portugal suggest a sharp decline in population and an intensification of ageing in the future, even presuming a recovery in net migration flows.

Demographic changes are phenomena that can cause profound changes in social, economic and political structures. In particular, there are questions on the impact on public finances, namely in terms of expenditure on health and especially pensions, on the effect of changes to the voters' age structure on the

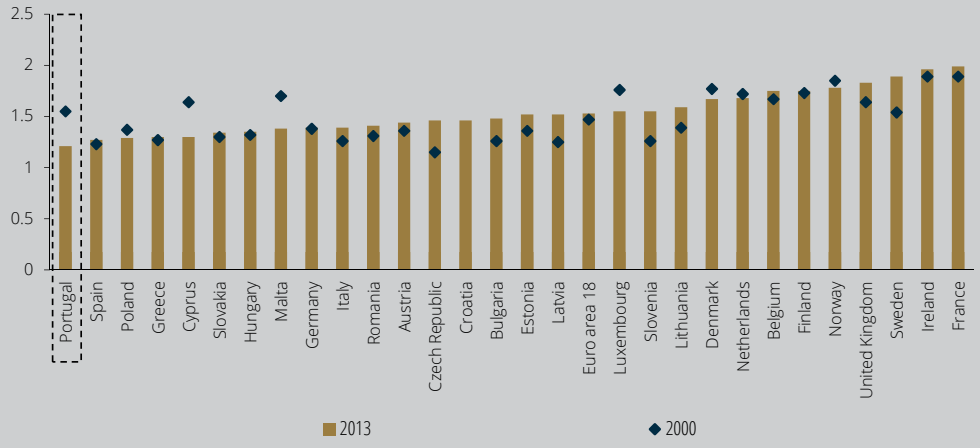


Chart 1 • Total fertility rate
| No. of births per women

Source: Eurostat.

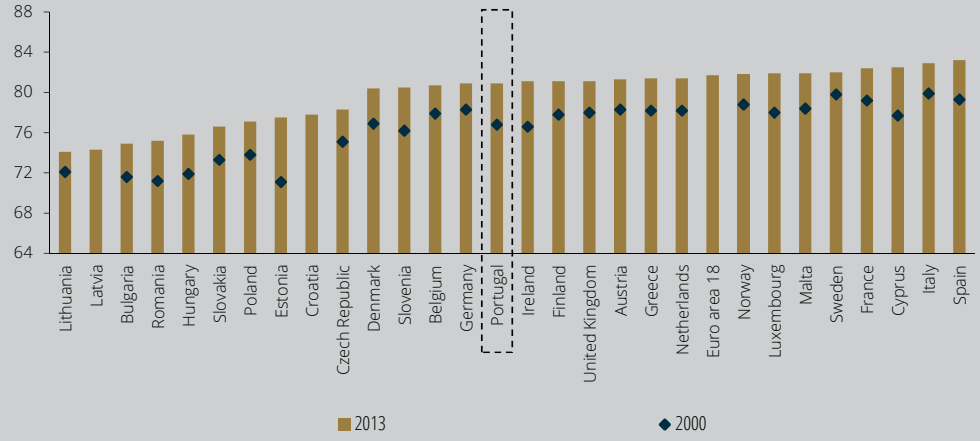


Chart 2 • Life expectancy at birth
| In years

Source: Eurostat.

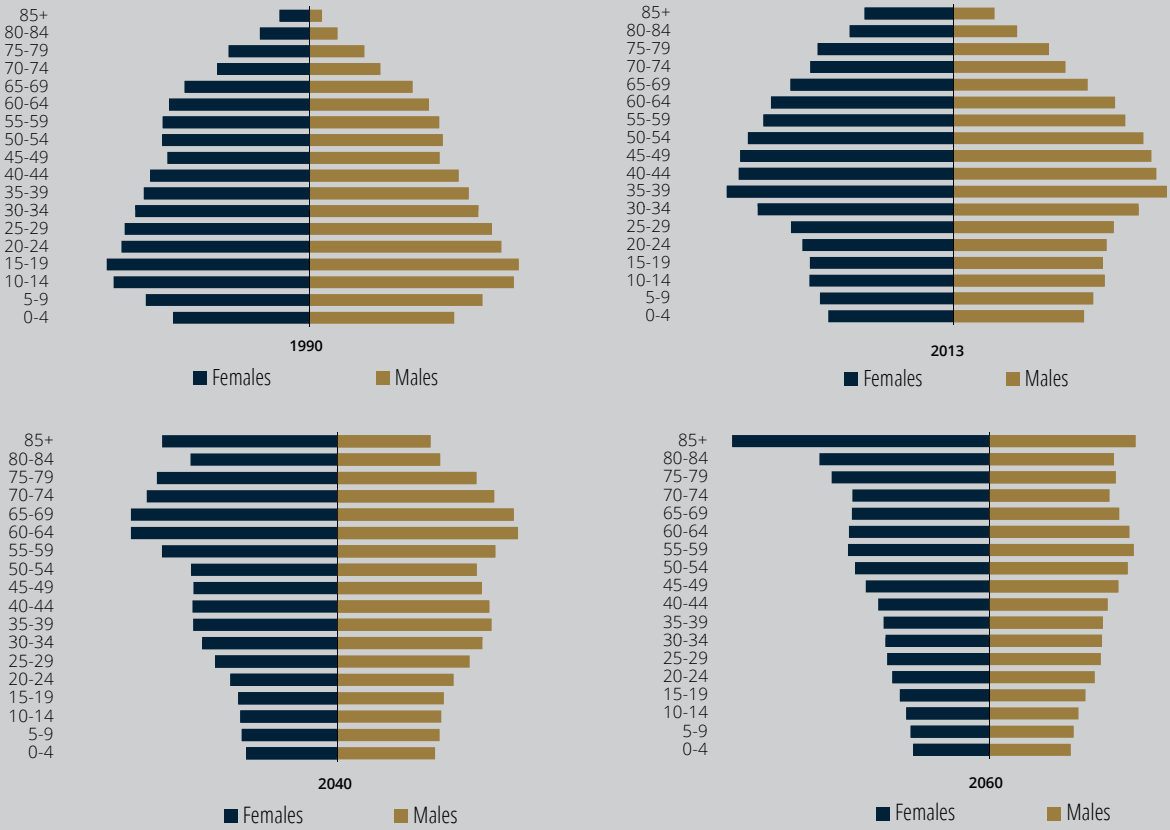
approval of certain policies and more generally on the impact on economic growth. Among these areas on which demographic developments will inevitably have repercussions, this issue focuses on their impact on economic growth in the long term. In particular, the main trends implied in demographic forecasts are discussed, as well as their implications for Portuguese economic growth in the next decades.

Chart 3 • Net migration flows
| Per 1,000 inhabitants

Source: Eurostat.

Note: Net migration is calculated as the difference between the total change and the natural change of the population.

Chart 4 • Age distribution of the Portuguese population



Source: Eurostat.

2. Demographic projections for 2014-60

Eurostat's latest demographic projections for 2014-60 (EUROPOP2013)[2] point to a marked change in the Portuguese population's age structure over the next decades (Chart 4). This evolution reflects low fertility rates,[3] an ongoing increase in average life expectancy and positive net migration levels albeit of low magnitude (Charts 5-7).

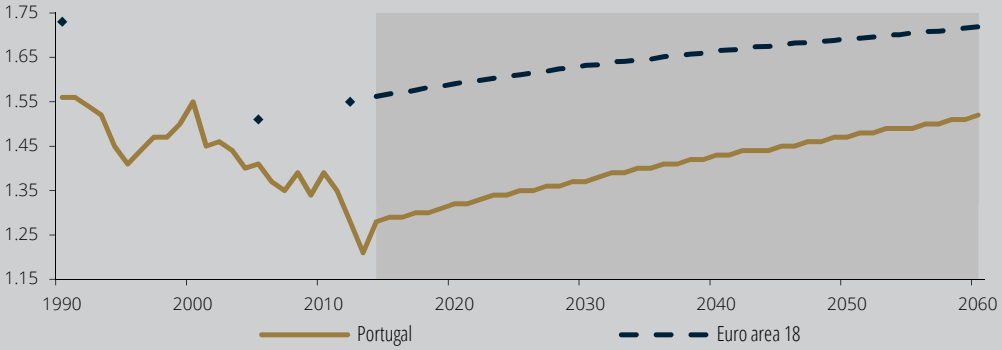


Chart 5 • Total fertility rate
| No. of births per women

Source: Eurostat.

Note: For the euro area, historical data are simple averages while projections are weighted averages, as in European Commission (2014). The projections assume a process of convergence in the total fertility rates across Member States to that of forerunners (northern European countries) over the very long-run.

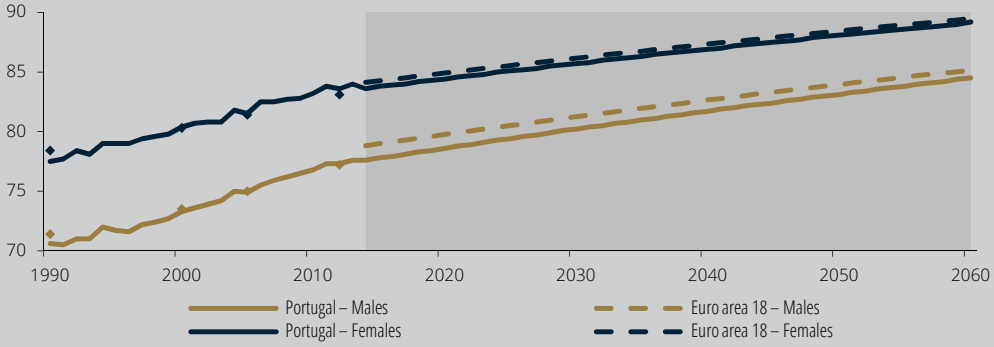


Chart 6 • Life expectancy at birth
| In years

Source: Eurostat.

Note: For the euro area, historical data are simple averages while projections are weighted averages, as in European Commission (2014). The projections assume a process of convergence in mortality rates across Member States to that of forerunners (northern European countries) over the very long-run.

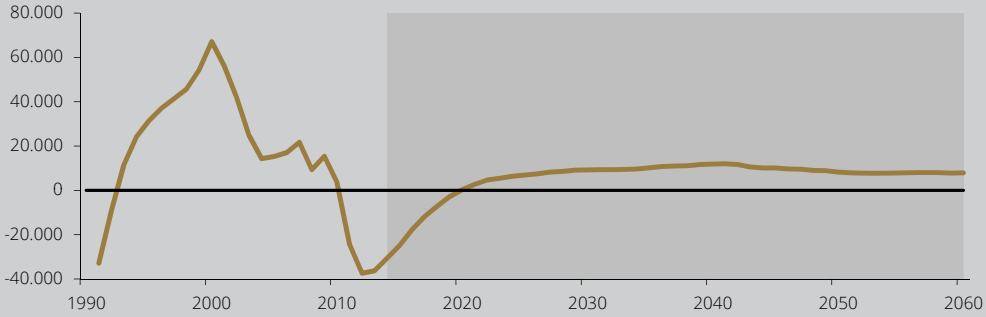


Chart 7 • Net migration flows
| No. of people

Source: Eurostat.

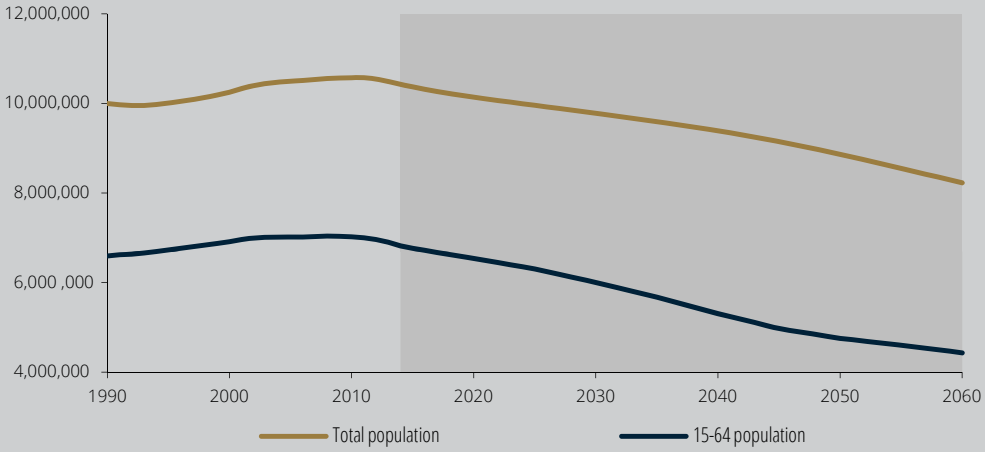
Note: The projection methodology is based on past trends to define both convergence levels and the recovery trajectory in the post-recession period. The values projected for each year also take into account the age structure of the national population in the previous year in order to partially accommodate the additional need for immigration of working-age population as a result of the population ageing.

Based on the dynamics of these variables, these projections show a gradual reduction in total population to around 8.2 million in 2060 (22.5 per cent less than in 2013), essentially reflecting the trend in the working-age population (15-64), for which a 35.5 per cent decline is projected for 2013-60 (Chart 8). In tandem with a decrease in population, an intensification of ageing is projected, translating into a gradual increase in the old-age dependency ratio[4] from 31 per cent in 2015 to 64 per cent in 2060 (Chart 9). The evolution of this ratio reflects a sharp increase in the share of population aged 65 and over combined with an also quite marked decline in the share of the working-age population (Chart 10).

It is interesting to note that, according to these projections, the peak in terms of population and labour force seems to have occurred around 2010. Likewise, the old-age dependency ratio also started to accelerate around this period. The impact of population ageing is thus a current and not only long-term issue.

Chart 8 • Total population and working-age population in Portugal

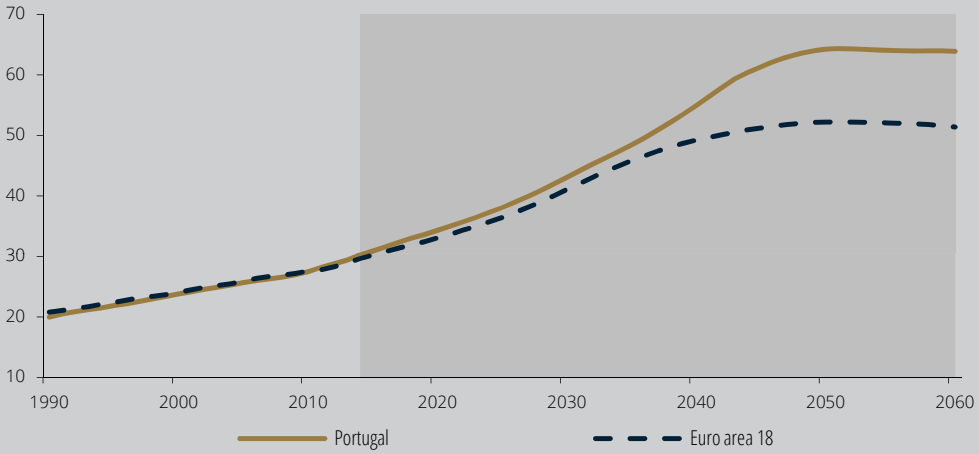
| No. of people



Source: Eurostat.

Chart 9 • Old-age dependency ratio

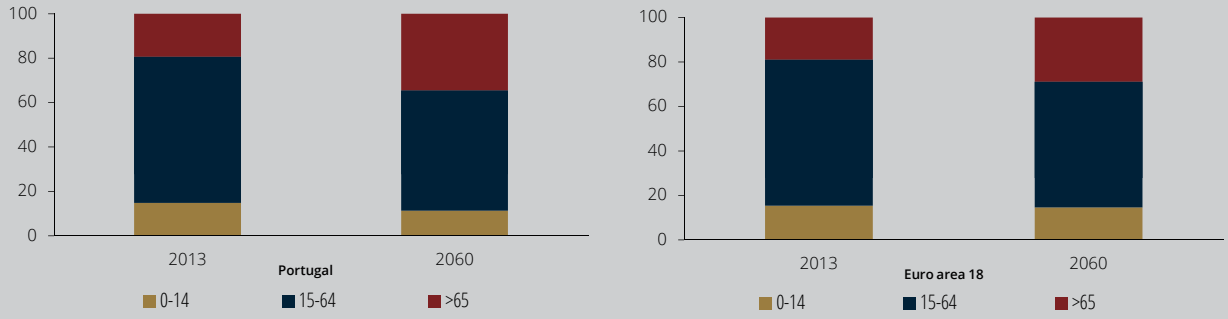
| In percentage



Source: Eurostat.

These demographic developments inevitably have implications for employment and the growth rate in the Portuguese economy. According to European Commission projections for Portugal,[5] employment will record a negative rate of change as of 2024 (Chart 11). This evolution mainly reflects the outlook for the evolution of the working-age population. However, this will be partly offset by a gradual rise in the participation rate up to around 2040 and a decline in the unemployment rate over the same period. With regard to the annual growth rate of gross domestic product (GDP), European Commission projections point to a gradual decline from 1.5 per cent in 2015-24 to approximately 0.8 per cent at the end of the horizon considered (Chart 11). In *per capita* terms, projections point to the maintenance of growth at around 1.5 per cent from 2025 onwards. The methodology underlying these projections is shown in Annex 1.

Chart 10 • Population distribution by age group | In percentage



Source: Eurostat.

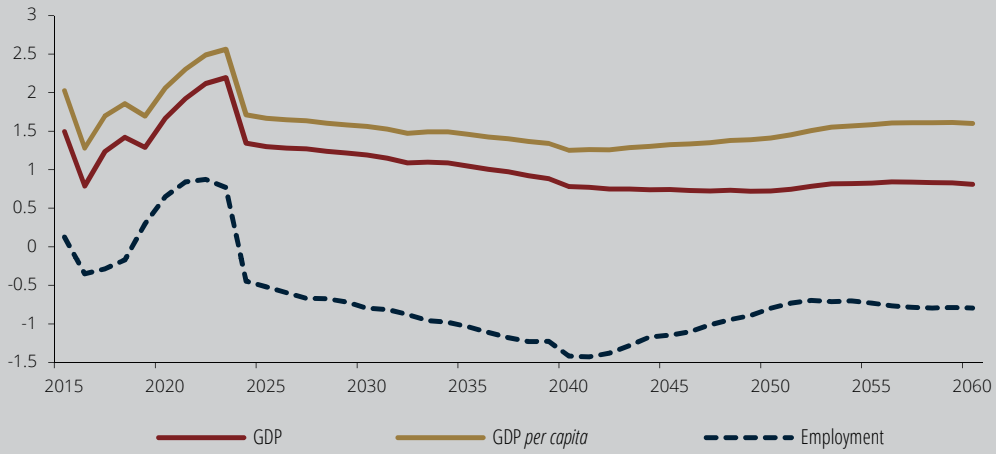


Chart 11 • GDP, GDP *per capita* and employment | Annual rate of change, in percentage

Sources: European Commission and Banco de Portugal calculations.

3. Impact on economic growth: methodology

The impact of the demographic transition on economic growth may be addressed from different perspectives. This analysis adopted a growth accounting perspective to the detriment of a more complex analysis relying on a macroeconomic model. This exercise is therefore a first approach to the impact of demographic transition on growth rather than an exhaustive analysis that considers the interaction among different growth factors.

As a starting point, a Cobb-Douglas production function with the following specification has been considered:

$$Y = A(hL)^{\alpha}K^{1-\alpha},$$

where *Y* represents real GDP, *A* corresponds to total factor productivity (TFP), h to the level of human capital as measured by the average number of years of schooling of the labour force, *L* to the quantity of labour, *K* to the capital stock and *α* to the GDP elasticity with respect to labour. By using a Cobb-Douglas production function one assumes a unitary elasticity of substitution across factors.[6]

Taking the logarithm and considering the first difference, *per capita* GDP growth can be described as follows:

$$\widehat{\left(\frac{Y}{P}\right)} = \hat{A} + \alpha\hat{h} + \alpha\widehat{\left(\frac{L}{P}\right)} + (1-\alpha)\widehat{\left(\frac{K}{P}\right)}$$

where *P* corresponds to total population.

So as to isolate the impact of demographic developments in a strict sense, *per capita* employment can also be broken down into:

$$\frac{L}{P} = \frac{L}{P_A} \times \frac{P_A}{P_{15-64}} \times \frac{P_{15-64}}{P}$$

where P_A corresponds to the labour force and P_{15-64} to population aged 15-64.

The *per capita* capital stock can be broken down into:

$$\frac{K}{P} = \frac{K}{L} \times \frac{L}{P}$$

Hence, *per capita* GDP growth can be broken down into the following contributions:

$$\widehat{\left(\frac{Y}{P}\right)} = \underbrace{\hat{A}}_{\text{TFP}} + \underbrace{\alpha\hat{h}}_{\substack{\text{Human}\\\text{capital}}} + \underbrace{\widehat{\left(\frac{L}{P_A}\right)}}_{\substack{\text{Employ-}\\\text{ment rate}}} + \underbrace{\widehat{\left(\frac{P_A}{P_{15-64}}\right)}}_{\substack{\text{Activity}\\\text{rate}}}$$

$$+ \underbrace{\widehat{\left(\frac{P_{15-64}}{P}\right)}}_{\substack{\text{Pure}\\\text{demographic}\\\text{effect}}} + \underbrace{(1-\alpha)\widehat{\left(\frac{K}{L}\right)}}_{\substack{\text{Capital stock}\\\text{per worker}}}$$

In this issue, the analysis focuses on the contribution from human capital, the employment rate, the activity rate and the pure demographic effect, not analysing the contribution from the other two components (TFP and capital stock per worker).

The *α* elasticity is approximated by the historical labour income share as a percentage of value added, which equals 0.64.[7]

As far as human capital is concerned, it is presumed that the average number of years of schooling in the labour force will continue to increase, converging to around 11 years in 2060 (Chart 12). This results from the fact that the level of human capital in Portugal is quite low in comparison with other developed countries. In particular, in 2013 the average number of years of schooling in Portugal was eight, against an average of 11 years in the euro area.[8] As a result, the distribution of the number of years of schooling in each age group is expected to change considerably over the next few decades (Chart 13). The quality of human capital, although relevant, is not taken into account in the analysis given that it is difficult to quantify, particularly in the context of a projection scenario.

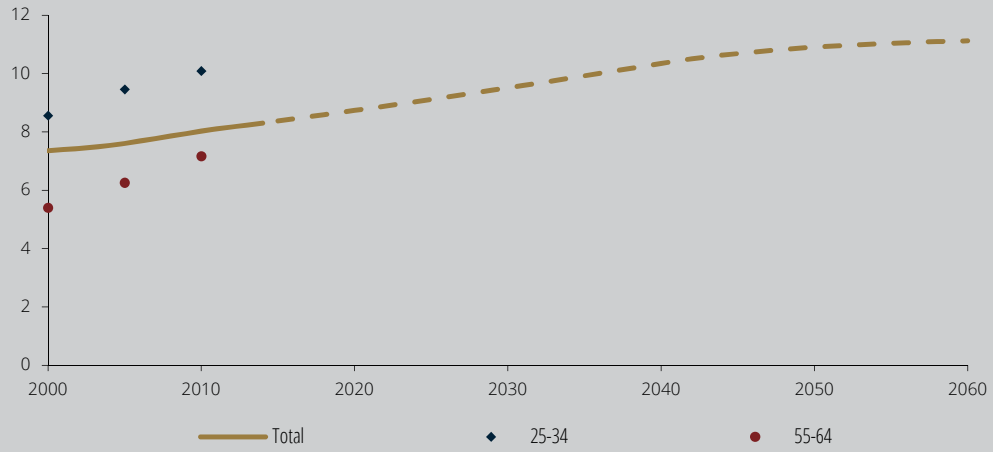


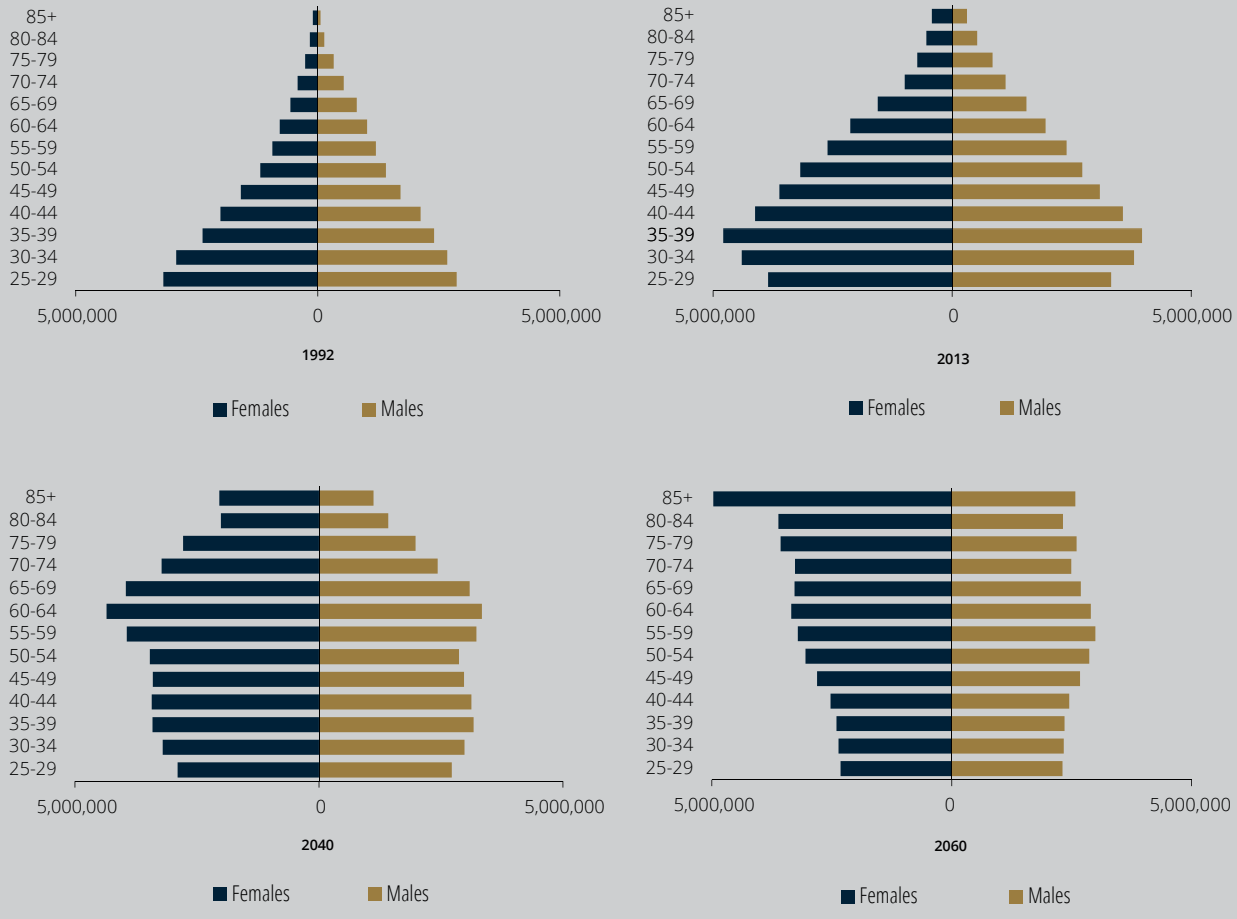
Chart 12 • Average number of years of education of the labour force

| In years

Sources: Barro and Lee (2013), *INE*, *Quadros de Pessoal* and Banco de Portugal calculations.

Notes: For the age groups 25-34 and 55-64, the average number of years of education was computed from the data of Barro and Lee (2013). For the total, data from Barro and Lee (2013) were annualized and extended up to 2014 using the profile of the average years of education of employment of *Quadros de Pessoal* (until 2012) and of the Labour Force Survey of *INE* (for 2013 and 2014). From 2015 onwards, it is assumed that the average number of years of education converges to 11 years in 2060.

Chart 13 • Number of years of education in each age group | Population × average no. of years of education



Sources: Eurostat, Labour Force Survey of *INE* (for 1992 and 2013) and Banco de Portugal calculations.

For the pure demographic effect, the employment rate and the activity rate, the aforementioned Eurostat and European Commission long-term projections were used. The definition of labour force corresponds to that used in these projections (population aged 15-64).[9]

Given the high uncertainty surrounding the projections of net migration flows,[10] reference scenario projections were used at a first stage and the exercise was subsequently repeated with alternative scenarios. However, these scenarios only take into account the number of persons that determine net migration flows, without considering their level of education. In addition to this limitation, there are endogeneity issues inherent to the exercise. As such, results should be interpreted with caution.

4. Impact on economic growth: results

4.1. Reference scenario

Chart 14 shows the contribution of each component under analysis to *per capita* GDP growth in the 2015-60 period. Chart 15 shows these contributions in cumulative terms for the same period.

An immediate conclusion is that pure demographic developments, as measured by the ratio of population aged 15-64 to total population, have a very sharp negative contribution to *per capita* GDP growth up to around 2050, more pronounced up until the early 2040s. In cumulative terms, this contribution amounts to -19.5 p.p. in 2050 and -19.0 p.p. in 2060.

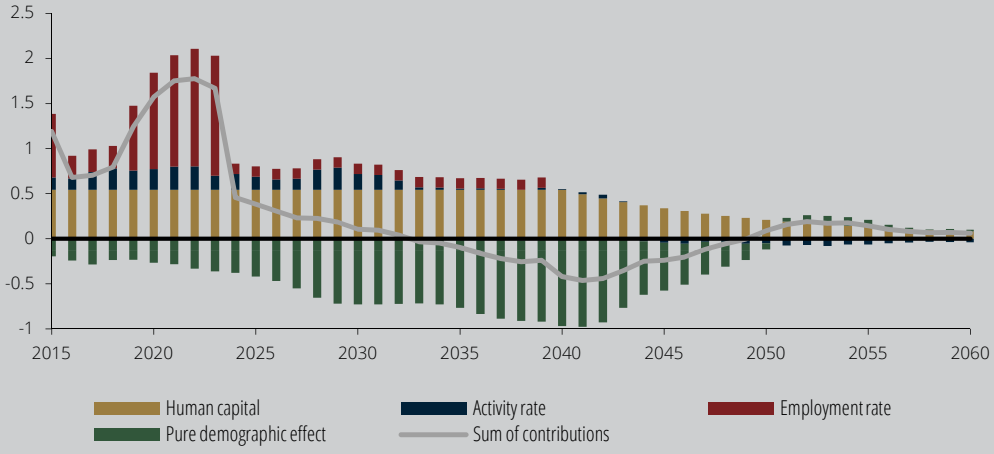
By contrast, based on the previously explained assumptions, the contribution from human capital can be expected to largely offset the negative contribution from the pure demographic effect over this period. Cumulatively, its contribution amounts to 16.9 p.p. in 2050 and 18.2 p.p. in 2060.

The contribution from the employment rate is particularly strong in the first 10 years, reflecting a decline in the unemployment rate from 14.8 per cent in 2015 to 8.9 per cent in 2025. Subsequently, this contribution becomes somewhat low, as that of the activity rate over the whole period.

The key conclusion drawn from the analysis is that in Portugal the adverse impact of demographic developments on growth will coexist with a favourable impact from a more skilled labour force, the latter being dominant in absolute terms up to around 2025. As regards the convergence of *per capita* GDP with the euro area, it is worth highlighting that the increase in the levels of human capital in Portugal will be

Chart 14 • Contributions to the growth in GDP *per capita*

| In percentage points



Sources: European Commission, Eurostat and Banco de Portugal calculations.

decisive, against a background where the euro area as a whole will also be affected by population ageing (Chart 9).

4.2. Alternative scenarios

Given the high uncertainty associated with demographic projections, in particular with net migration flows, two alternative scenarios were considered.

Firstly, the exercise was repeated using Eurostat's population projections for a zero net migration scenario as of 2015. Given that there are no projections for employment and the labour force under this assumption, a scenario was considered where net migration flows would be fully integrated into employment.

Secondly, a scenario was considered with a higher net migration profile. In this sense, Eurostat projections for 2011 were used, with 2010 as base year (EUROPOP2010). These projected substantially higher net migration flows (Chart 16).[11]

The results of these alternative exercises are shown in Chart 17. In both scenarios, demographic developments continue to have a negative

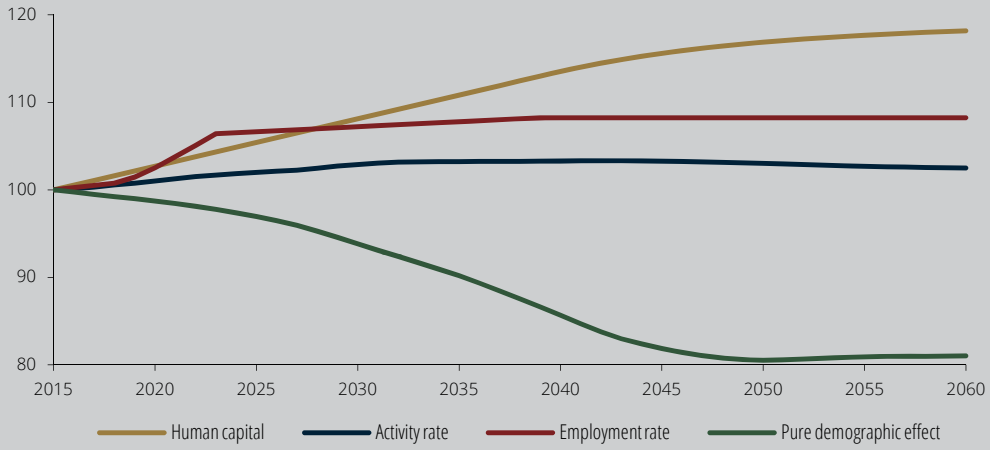


Chart 15 • Contributions to the growth in GDP *per capita* – accumulated 2015-2060

| In percentage points

Sources: European Commission, Eurostat and Banco de Portugal calculations.

Note: 2015=100.

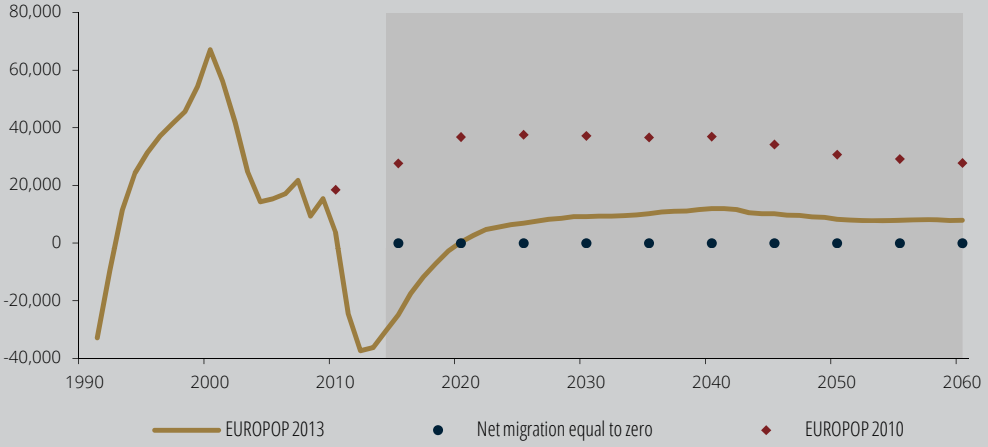


Chart 16 • Net migration flows in Portugal –alternative scenarios

| No. of people

Source: Eurostat.

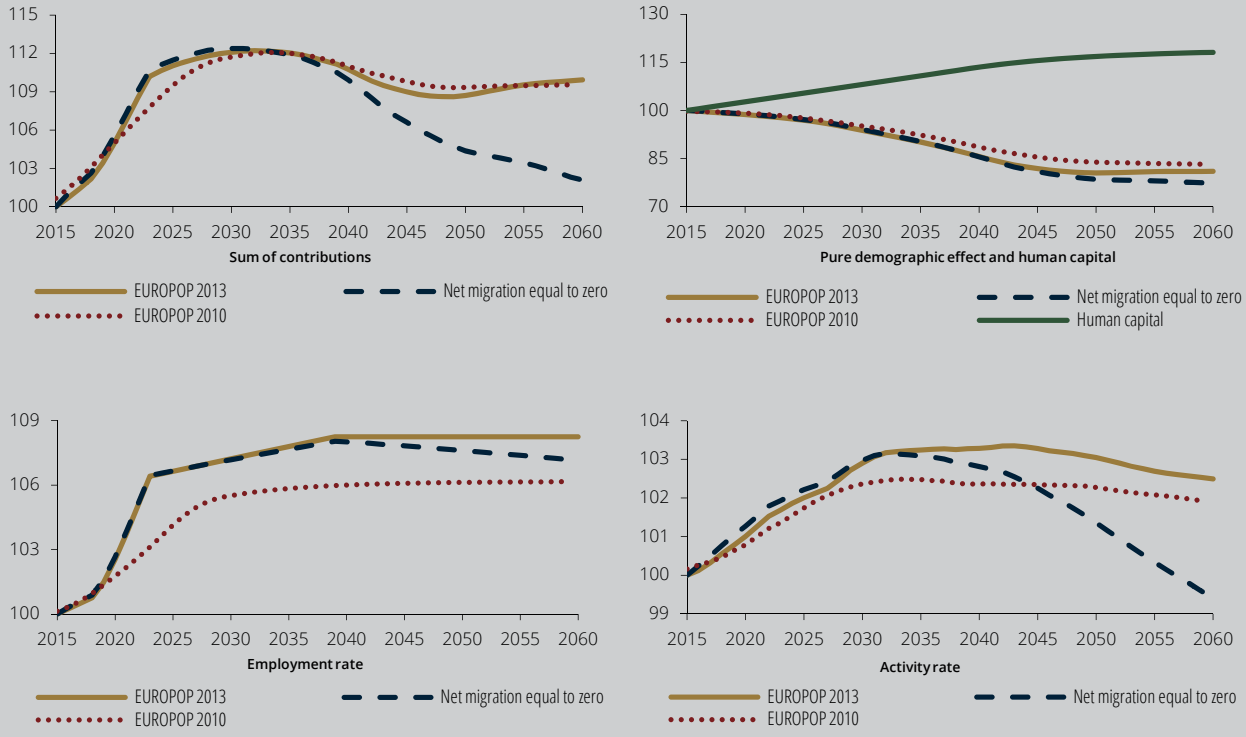
and very strong impact on *per capita* GDP. In cumulative terms for 2015-60, this contribution ranges from -22.6 p.p. in the zero net migration scenario to -16.7 p.p. in the EUROPOP2010 scenario.

With regard to the net sum of the components under analysis, the EUROPOP2010 scenario shows a lower cumulative contribution until around 2035, given that these projections presumed a slower recovery of employment, based on higher figures in the base year. In turn, the zero net migration scenario shows a lower cumulative contribution as of that date, essentially due to a more negative contribution from the pure demographic effect and a negative contribution from the activity rate (the latter contribution arising from the assumption that the net migration flows would be part of employment).

Regardless of the differences between scenarios, results suggest that cumulatively the positive contribution from human capital will offset to a great extent the negative contribution from changes to the demographic structure. As such, this result is generally maintained in the various scenarios despite different assumptions about net migration levels.

If these contributions are added to the population growth rate to obtain the sum of contributions to GDP, the difference across scenarios is much more marked, reflecting very different projections for population developments (Charts 18 and 19). In cumulative terms up to 2060, the sum of the contributions under

Chart 17 • Contributions to the growth in GDP *per capita* – accumulated 2015-2060 – alternative scenarios
| In percentage points



Sources: European Commission, Eurostat and Banco de Portugal calculations.

Note: 2015=100.

analysis ranges from 5.3 p.p. in the EUROPOP2010 scenario to -26.3 p.p. in the zero net migration scenario, standing at -13.3 p.p. in the reference scenario.

5. Policies and issues for discussion

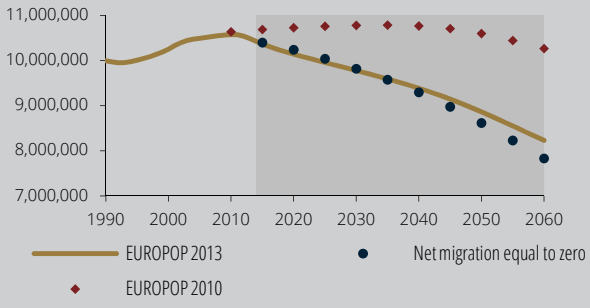
Even though population ageing is an undisputed trend shared by most developed and emerging countries, the economic impact of the high degree of population contraction and ageing projected for Portugal should be mitigated by a series of suitable public policies.

The necessary improvement of the institutional, legal and tax framework governing the activity of economic agents and the increase in quality of public expenditure require measures that in various cases may be more difficult to approve by an older electorate. This stresses the urgency of consensus and approval of the policy guidelines needed for a successful response to demographic challenges in the long term.

This issue highlights the importance of education policies for mitigating demographic developments, and therefore these policies must be analysed (even more) carefully. In addition, policies that support a higher birth rate (Box 1), policies to attract (and if necessary integrate) foreign workers, and the revision of employment policies, in particular in the higher age cohorts of the labour force, will also play a relevant role.

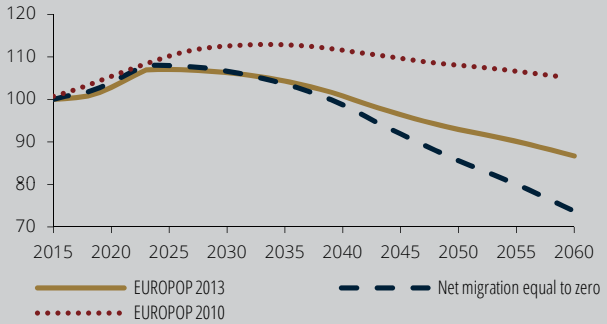
These policies should be credible and ongoing, for their success largely depends on agents' expectations. Furthermore, they should be designed in an integrated manner and combined with structural reforms that raise productivity, notably as regards factor mobility, innovation and competition in product markets. Ultimately, the effects of demographic trends should be accommodated via sustained total factor productivity growth.

Chart 18 • Total population in Portugal | No. of people



Source: Eurostat.

Chart 19 • Sum of contributions to the growth in GDP *per capita* – accumulated 2015-2060 – alternative scenarios | In percentage points



Sources: European Commission, Eurostat and Banco de Portugal calculations.
Note: 2015=100.

Box 1 | Family support policies and their impact on fertility – international comparison

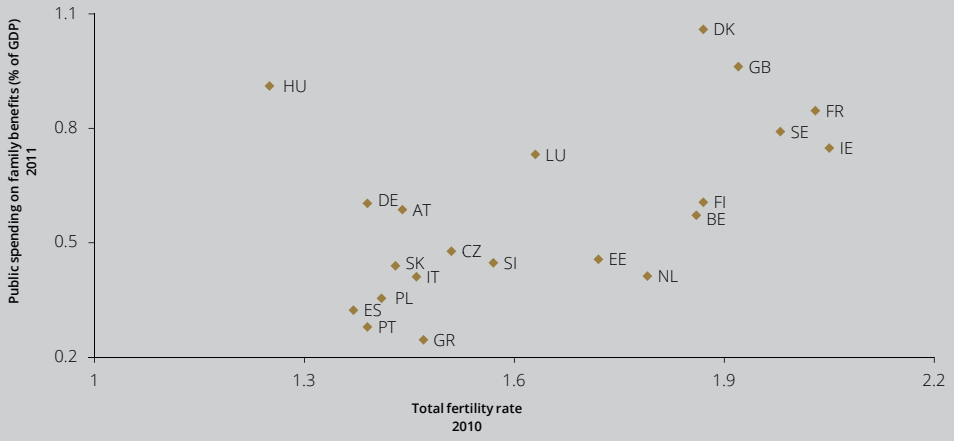
Incentives to increase the birth rate are a recurrent topic in economic debate, particularly in countries with persisting low total fertility rates, which is the case of Portugal. In this context, research has sought to understand the degree to which family support policies may have a positive impact on fertility.

Most analyses take as a starting point the economic model developed by Becker (1960), in which the ideal number of children depends, for a given level of income, on both individual preferences and the associated direct and indirect costs. Direct child-related costs refer to current expenditure, for instance food, whereas indirect costs relate to loss of income incurred by the parents, for instance where they to reduce their participation in the labour market.

Family support policies serve a range of purposes that extend beyond incentives to increase the birth rate, such as supporting child wellbeing and development, reducing potential disparities in terms of quality of life among families with or without children, reducing child poverty and promoting gender equality and participation in the labour market. Even if their direct objective is not to support the birth rate, these policies may have a positive effect on fertility, due to the fact that they reduce private costs associated with having children. Alternatively, these policies may result in an increase in investments made with existing children, for instance in education (quantity-quality trade-off described in Becker (1960)).

Overall, countries with higher total fertility rates generally have relatively higher levels of public spending on family benefits (Chart 1). For instance, in 2010 Portugal had one of the lowest total fertility rates in the European Union and, simultaneously, a relatively low level of this type of expenditure. In addition, the existence of countries with substantially different policies

Chart 1 • Public spending on family benefits (in per cent of GDP) and total fertility rate



Sources: Eurostat, OECD (*Family Database*) and Banco de Portugal calculations.

Note: This graph includes the European Union countries that are OECD members. Public spending on family benefits comprises spending in cash, services and tax measures, adjusted by the proportion of the population aged between 0 and 18 years in each country.

(such as Anglo-Saxon countries versus Nordic countries),[12] but with similar total fertility rates, suggests that different policy combinations may attain similar objectives (Table 1).

In empirical literature, however, there is no consensus regarding a possible causality between family support policies and fertility (for a summary of literature, see Thénevon and Gauthier (2011) and Luci-Greulich and Thénevon (2013)). In fact, evidence suggests that these policies significantly reduce direct and indirect costs associated with children, but their impact on fertility is relatively small. In particular, although literature may suggest that such policies could influence the timing of birth, their impact on the total number of children is more controversial.

In spite of the diversity of results, the literature points to some general conclusions regarding the impact of the different types of instruments. First, the impact of the duration of parental leaves is rather ambiguous, with studies showing very contradictory results. Second, some evidence suggests that financial transfers as a whole may have a small positive impact on fertility, although largely due to an anticipation of birth. Finally, the availability and price level of childcare facilities for children of up to three years of age appear to have a more decisive impact by facilitating the link between family and professional life.

Irrespective of the type of instrument, the literature focuses on the importance of having a diversified set of policies in place, allowing for consistent and continued support to families. In this regard, the policies implemented in France in recent decades are worthy of note, as they aim at providing comprehensive and continued support throughout childhood. An example of these policies is the funding of nurseries, which are available right after maternity leave and with relatively long opening hours (for a description of the policies implemented in recent decades in France and an analysis of their impact on fertility, see Letablier (2008) and Thénevon (2009)).

In short, literature indicates that some policies may boost the birth rate. However, there is a high level of uncertainty surrounding the causal impact of such policies. Part of this uncertainty is a result of the complexity associated with the analysis of this issue, in particular due to the fact that policies interact with one another and with the cultural, social and institutional circumstances of individual countries, and due to the difficulty in evaluating their coherence and intertemporal effects.

Table 1 • Family policies – international comparison

	Full-rate equivalent total paid leave for mothers – weeks	Public spending on family benefits (% of GDP)						*Memo item: total fertility rate*	
		Cash			Services		Tax breaks		
		Total	Child allowances	Parental leaves	Total	Childcare and pre-primary			
	2014	2011	2011	2011	2011	2011	2011	2010	2013
France	20.8	1.6	1.2	0.3	1.4	1.2	0.7	2.0	2.0
Ireland	9.0	2.9	1.4	0.2	1.0	0.5	0.1	2.1	2.0
Sweden	43.7	1.5	0.7	0.7	2.1	1.6	0.0	2.0	1.9
United Kingdom	12.1	2.6	0.8	0.3	1.4	1.1	0.3	1.9	1.8
Norway	36.1	1.3	0.5	0.6	1.8	1.2	0.1	2.0	1.8
Germany	34.7	1.2	0.9	0.2	1.0	0.5	0.9	1.4	1.4
Italy	25.2	0.7	0.4	0.2	0.8	0.6	0.5	1.5	1.4
Spain	16.0	0.5	0.2	0.2	0.8	0.6	0.1	1.4	1.3
Portugal	**20.4**	**0.8**	**0.4**	**0.3**	**0.5**	**0.4**	**0.2**	**1.4**	**1.2**

Sources: Eurostat and OECD (*Family Database*).

Annex 1
European Commission's methodology for the projection of potential GDP growth

The European Commission's methodology for the projection of potential GDP growth is based on a production function framework (Cobb-Douglas with standard specification of constant returns to scale and labour input income share fixed at 0.65).[13] Projections are made of the trend components of total factor productivity (TFP) and employment, and it is assumed that the capital stock adjusts in the long term.

Each of these components is projected taking into account: i) the historical values observed since the mid-1960s; ii) medium-term projections for 2016-2023 based on the European Commission's spring 2014 projections for 2014 and 2015 (methodology T+10 presented in D'Auria *et al.* (2014)); and iii) projection assumptions for the 2024-2060 longer-term period.

TFP growth until 2023 is projected using a Kalman filter. After that date a real convergence approach to 1 per cent in 2060 is applied.

Employment is projected as a residual variable, after the projection of participation and unemployment rates. Activity rates by age and gender are projected using a cohort simulation model based on the calculation of the average probabilities of labour force entry and exit observed over the last 10 years (with correction mechanisms to accommodate the rise in years of schooling and the postponement of retirement age). The unemployment rate converges to NAWRU (used as proxy for the structural unemployment rate) by 2018 (the year when the output gap is assumed to be zero in all Member States), and by 2040 to a minimum between each Member State's 'anchor', calculated by the European Commission for the correction of counter-cyclical effects, and the weighted median of national 'anchors' in the European Union (7.5 per cent, which is the active restriction for Portugal). From 2040 onwards, the unemployment rate remains constant.

The capital stock adjusts to the steady state trend according to the 'capital rule': the capital stock per hour worked (capital deepening) grows at the same pace as the labour augmenting technological progress, i.e., the ratio of capital stock to labour expressed in efficiency units remains constant. Since it is assumed that TFP growth converges to 1 per cent and the labour input income share is 0.65, in the long run the contribution of capital deepening to labour productivity growth is equal to 0.5 per cent and labour productivity growth is equal to 1.5 per cent.

References

Almeida, V. and Félix, R., 2006, 'Computing potential output and the output gap for the Portuguese economy', Banco de Portugal, *Economic Bulletin*, Autumn, pp. 75-92

Barro, R. J. and Lee, J. W., 2013, 'A new data set of educational of educational attainment in the world, 1950-2010', *Journal of Development Economics*, 104(C), pp. 184-198

Becker, G., 1960, 'An economic analysis of fertility', *Demographic and economic change in developed countries*, pp. 225-256

D' Auria, F. *et al.*, 2014, 'The production function methodology for calculating potential growth rates and output gaps', *European Economy Economic Papers*, 420

European Commission, 2014, 'The 2015 ageing report: underlying assumptions and projection methodologies', *European Economy*, 8

European Commission, 2015, 'The 2015 ageing report: economic and budgetary projections for the EU28 Member States (2013-2060)', *European Economy*, 3

Gauthier, A. H., 2002, 'Family policies in industrialized countries: is there convergence?', *Population*, 57(2), pp. 447-474

Gornick, J., Meyres, M. and Ross, K., 1997, 'Supporting the employment of mothers: policy variation across the fourteen welfare states', *Journal of European Social Policy*, 7(1), pp. 45-70

Letablier MT, 2008, 'Why France has high fertility: The impact of policies supporting parents', *The Japanese Journal of Social Security Policy*, 7(2), pp. 41-56

Luci-Greulich, A. and Thénevon, O., 2013, 'The impact of family policies on fertility trends in developed countries', *European Journal of Population*, 29 (4), pp. 387-416

Thénevon, O. and Gauthier, A., 2011, 'Family policies in developed countries: a 'fertility-booster' with side-effects', *Community Work and Family*, 14(2), pp. 197-216

Thénevon, O., 2009, 'Does fertility respond to work and family-life reconciliation policies in France', *Fertility and Public Policy: How to Reverse the Trend of Declining Birth Rates*, chapter 10

Thénevon, O., 2011, 'Family policies in OECD countries: a comparative analysis', *Population and Development Review*, 37(1), pp. 57-87

United Nations, 2014, 'Human Development Report 2014'

Notes

1. The total fertility rate is the mean number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the fertility rates by age of a given year. It is therefore the completed fertility of a hypothetical generation, computed by adding the fertility rates by age for women in a given year.

2. Projections available at http://ec.europa.eu/eurostat/web/population-demography-migration-projections/population-projections-/database.

3. Throughout the whole projection horizon, Portugal remains the European Union country with the lowest total fertility rate.

4. The old-age dependency ratio corresponds to the ratio of population aged 65 and over to working-age population (15-64).

5. See European Commission (2015).

6. The use of a more complex functional form, notably a constant elasticity substitution (*CES*) production function, would make it possible to render this assumption more flexible and assume complementarity between inputs.

7. See Almeida and Félix (2006).

8. See *United Nations* (2014).

9. Taking into account the increase in compulsory schooling and retirement age, the population aged 17-67 was considered as an alternative. The results obtained are very similar to those shown in the reference scenario.

10. For example, for 2013 the value estimated by Statistics Portugal for the ratio of net migration is -36.2 thousand, whereas the value projected in the EUROPOP2013 was -40.3 thousand. The value estimated for the euro area as a whole points to 0.4 per cent of resident population, while that projected was -0.1 per cent.

11. The values for cumulative migration flows in 2010-60 for Portugal in this scenario accounted for 20.4 per cent of total population in 2060, while in the EUROPOP2013 scenario for the 2013-60 period they account for 2.7 per cent. In the euro area as a whole the downward revision was only of 1.6 p.p. to 11.8 per cent.

12. The traditional aggregation of countries, according to the typologies of the policies being implemented, for instance as described in Gornick, Meyers and Ross (1997) and Gauthier (2002), has recently become less apparent. See Thénevon (2011) for a recent aggregation.

13. A more detailed methodology is described in European Commission (2014).

European fiscal rules and the calculation of structural balances[1]

1. Introduction

Over the last few decades, the concept of budget balance adjusted for the effects of the economic cycle has gained prominence both in economic literature and in the analysis of public finances' developments. Indeed, in periods of strong (weak) economic growth, the budget balance improves (deteriorates) essentially due to a favourable (unfavourable) performance of tax revenue and expenditure on unemployment benefits, which is automatic, i.e. not resulting from the authorities' direct intervention. This means that any assessment of fiscal policy should be complemented with indicators that eliminate cyclical effects.

In conceptual terms, the cyclically adjusted balance is the budget balance that would have been achieved if the economy reached its full potential output. In practice, it is calculated by deriving a cyclical component that is subsequently deducted from the observed balance. The choice of methodology for calculating this cyclical component is not clear-cut, which leads to the existence of different results according to the method used. Currently, institutions such as the European Commission, the International Monetary Fund (IMF), the Organisation for Economic Cooperation and Development (OECD) and the European System of Central Banks (ESCB) release estimates for cyclically adjusted balances that differ due to the distinct methodologies used.

Most methodologies base the cyclically adjusted balance computation on forecasts for macroeconomic variables, which tends to involve revisions of past values. In addition, the most commonly used methods only capture the effects of economic activity in real terms on the budget balance, not taking into account the potential effect of other variables like deflators or interest rates. Finally, the methodologies normally used do not capture other, possibly cyclical, tax revenue developments, such as trends in asset prices or fraud or tax evasion phenomena.

Currently, it is also common to exclude the effect of temporary measures from the actual budget balance in the analysis of budgetary policy, giving rise to the concept of the structural or underlying balance. The goal of this adjustment is to eliminate the effect of one-off measures that have affected the budget balance in a given year, normally positively, but that do not improve public finances in a sustainable manner. However, the derivation of these effects varies from entity to entity, and often the criteria behind identifying them are not fully clear.

The concept of structural balance came to the fore in the context of budgetary surveillance in Europe upon its explicit inclusion in the 2005 reform of the Stability and Growth Pact. In its initial version, the Pact was based essentially on the concept of actual budget balance, which gave rise to difficulties in terms of practical implementation, despite being a simple and objective criterion, because it did not take into account the cyclical effects and the adoption of one-off measures. Indeed, the incentives for improving the public finances' underlying position during periods of favourable economic growth had not been created and the 3 per cent of GDP benchmark for the deficit was often reached through the deployment of temporary measures. In an attempt to avoid these issues, targets based on the structural balance were introduced, as a complement to the benchmarks in terms of the actual balance established previously.

This Special Issue describes the concept of structural balance within the scope of the Stability and Growth Pact in Section 2. Section 3 discusses the methodologies for computing the

cyclically adjusted balances as used by the different institutions (the European Commission, the IMF, the OECD and the ESCB) and presents some comparative results for Portugal. The concept of temporary measures and the different estimates available are also analysed. Finally, the most recent estimates for Portugal's structural balance as calculated by the four institutions are presented, and compliance with the European commitments is assessed. Section 4 draws conclusions.

2. European fiscal rules

2.1. The Stability and Growth Pact

The legislation underpinning the initial version of the Stability and Growth Pact was adopted in 1997. The three legal documents in which it was based had the following objectives:

- To establish the mechanisms for the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies – 'the preventive arm', for countries whose fiscal developments are compatible with respecting the benchmarks defined under the Pact;
- To clarify the implementation of the excessive deficit procedure – 'the corrective arm', which applies to countries in which budgetary developments led to the limits imposed by the Pact being exceeded.

The Stability and Growth Pact was first amended in 2005 and involved changes both to the preventive arm and to the corrective arm. Regarding the preventive arm, the 3 per cent of GDP reference value for the actual deficit was retained, but the requirement to achieve a budgetary position close to balance or in surplus in nominal terms was replaced by a country-specific objective – the medium-term budgetary objective (MTO) – defined in structural terms based on the respective general government debt ratio and the fiscal pressure caused by the ageing of population. The option to extend the deadline for correcting the excessive deficit was introduced into the corrective arm, for countries that actually adopted measures but faced adverse economic situations. In both arms, the legislation specified the size of the structural balance correction for the countries that still had not reached the MTO or that had excessive deficits. It was also defined that convergence to the MTO could take into account the short-term budgetary costs of structural reforms, where these improved the sustainability of the public finances in the long term due to a direct impact (for example, reform of the pension system) or the increasing of potential output.

The Stability and Growth Pact was revised for a second time in 2011 through a set of laws known as the Six-Pack. These legal documents strengthened the preventive arm by imposing an expenditure growth benchmark as a complement to the change in the structural balance under convergence to the MTO. The other relevant innovation was the specification of the concept of significant deviation from the adjustment path towards the MTO and the definition of the corrective mechanism upon identification of this situation. Regarding the corrective arm it was made an attempt to operationalise the debt criterion. In terms of the sanctions imposed on euro area Member States, the preventive arm was strengthened, brought forward and extended. Specific rules were also established on the nature of the Member States' fiscal frameworks. Finally, an early warning mechanism to identify macroeconomic imbalances was introduced and a specific correction procedure for cases where these were deemed excessive was created.

In March 2012, 25 European Union countries[2] signed the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union (TSCG) which contains the Fiscal Compact. The Six-Pack and the Fiscal Compact are implemented in parallel. Several provisions in the Fiscal Compact reflect concepts from the revised Stability and Growth Pact but others

are more demanding. For example, the Fiscal Compact set a lower limit for the MTO, defined that it should be included in national legislation, preferably at constitutional level, established that the Commission's recommendations on the excessive deficit procedure are adopted in the absence of a qualified-majority vote against them and strengthened economic governance. In May 2013, two additional legal documents were published (the Two-Pack) which aimed to strengthen economic and budgetary surveillance of the euro area Member States experiencing or threatened with serious difficulties with respect to their financial stability and the establishment of common provisions for monitoring and assessing draft budgets and for correcting the excessive deficit of euro area Member States. The guidance on applying this legislation, in particular that regarding the contents of budgets to be submitted to the European Commission, was defined in a November 2014 document. Lastly, at the beginning of 2015, the Commission issued a communication on using the flexibility within the existing rules of the Pact, defining specific guidance on the exceptional circumstances arising from public investment, implementation of structural reforms and adverse economic conditions.

Figure 1 presents the timeline of these events, with links to various relevant documents, available online.[3]

2.2. The importance of the structural balance in the Stability and Growth Pact

The structural balance gained prominence in the Stability and Growth Pact after the 2005 reform, with the introduction of the MTOs. The MTOs are defined in terms of the structural balance, which is in turn defined as the cyclically adjusted balance net of the impact of one-off and other temporary measures. Details behind the computation of the cyclical component of the budget balance and the derivation of the temporary measures' impact are set out in Section 3.

According to the Pact, the MTOs have three purposes: (i) to provide a safety margin with respect to the 3 per cent of GDP reference value for the deficit; (ii) to ensure that the debt ratio progresses rapidly towards sustainability; and (iii) in compliance with the two points above, to allow room for budgetary manoeuvre. The MTOs are country-specific and three components are taken into account in their calculation: (i) the budget balance that stabilises the debt ratio at the benchmark level of 60 per cent of GDP; (ii) a fraction of the adjustment needed to cover the projected increase in age-related expenditure; and (iii) a supplementary effort for countries with debt ratios above 60 per cent of GDP that ensures a faster convergence to the benchmark.

$$MTO^{country} = Budget\ balance_{\text{stab. debt 60\%}} + \alpha * Ageing\ costs + Addit.effort_{\text{red. debt}} \quad (1)$$

The final MTO level corresponds to the maximum between the country-specific MTO and the -0.5 per cent of GDP defined in the TSCG (-1.0 per cent of GDP only for countries with a debt ratio below 60 per cent of GDP and with low sustainability risk in public finances). The MTOs are updated every three years, in order to take into account the most recent projections released in the Ageing Report, or more frequently when structural measures are adopted with a significant impact on the sustainability of the public finances for example. Member States may however set more ambitious MTOs in the Stability and Convergence Programme updates than those produced from the above formula. The current MTO for Portugal is a structural balance of -0.5 per cent of GDP.

Figura 1 • Chronology of the Stability and Growth Pact

Sources: European Commission and Banco de Portugal.

Notes:
(a) http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV:xy0026
(b) http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV:l25021
(c) http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31997R1466
(d) http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31997R1467
(e) http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32005R1055
(f) http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32005R1056
(g) http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV:ec0021
(h) http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/coc/code_of_conduct_en.pdf
(i) http://europa.eu/rapid/press-release_DOC-12-2_en.htm
(j) http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R0472 and http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R0473
(k) http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/coc/2014-11-07_two_pack_coc_amended_en.pdf
(l) http://ec.europa.eu/economy_finance/economic_governance/documents/com(2014)905_en.pdf
(m) http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/2015-01-13_communication_sgp_flexibility_guidelines_en.pdf

Under the preventive arm of the Pact, a Member State that has not yet attained its MTO must adopt measures towards convergence over the economic cycle. According to the Commission's recent communication on using the flexibility within the Pact, the annual adjustment of the structural balance depends on the economy's cyclical conditions, measured by the growth of real GDP and the output gap, and the debt ratio and sustainability risk, as presented in Table 1.

A deviation from the MTO or from the adjustment path towards it is deemed significant if the two following conditions are observed, or if only one is observed and the overall assessment reveals limited compliance with the other:

- The adjustment path's deviation from the structural balance is at least 0.5 per cent in one year or at least 0.25 per cent of GDP on average over two consecutive years;
- The excess of expenditure growth net of discretionary measures on the revenue side[4] in relation to the adjustment path defined based on the average growth rate of potential GDP has implied a negative impact on the balance of at least 0.5 p.p. of GDP in one year or cumulatively over two consecutive years.

The investment clause and the structural reform clause may also justify deviations from the MTO adjustment path without deeming them excessive, as defined in the aforementioned communication on using the flexibility within the Pact.

The structural balance also performs a very important role in the Pact's corrective arm. Under an excessive deficit procedure (EDP), recommendations are made to the Member State in question that specify the deadline year for correcting the situation (one year as a rule) and an adjustment path in terms of the nominal and structural balances. The Commission analyses compliance with these targets ex post as part of the assessment of the effective action. In this analysis, aside from the comparison between the change in the 'observed' structural balance and the objective laid down in the EDP, the Commission calculates an 'adjusted fiscal effort' that encompasses the impact of revisions on the growth of potential output versus the scenario considered at the time

Table 1 • Annual adjustment of the structural balance towards the MTO in the context of the preventive arm of the Pact

		Required annual fiscal adjustment (p.p. of GDP)	
	Condition	Debt < 60% and no sustainability risk	Debt > 60% or sustainability risk
Exceptionally bad times	Real growth < 0% or output gap < -4%	No adjustment needed	
Very bad times	-4% ≤ output gap < -3%	0	0.25
Bad times	-3% ≤ output gap < -1.5%	0 if growth below potential, 0.25 if growth above potential	0.25 if growth below potential, 0.5 if growth above potential
Normal times	-1.5% ≤ output gap < 1.5%	0.5	> 0.5
Good times	output gap ≥ 1.5%	> 0.5 if growth below potential, ≥ 0.75 if growth above potential	≥ 0.75 if growth below potential, ≥ 1 if growth above potential

Source: European Commission.

of the recommendation's issue, the effect of revisions on the composition of economic growth or of other revenue shortfalls/windfalls and the possible impact of other unforeseeable events. Even when both indicators (observed and adjusted fiscal effort) do not meet the requirements defined, a careful analysis is undertaken for the decision over the effective action, taking into account factors like the adoption of the planned discretionary measures and compliance with the expenditure benchmark. In the practical implementation of this legislation there is still a significant degree of discretion over producing recommendations and adopting decisions.

3. Calculation of structural balances

As mentioned above, underlying the computation of the structural balance is the derivation of a cyclical component and the calculation of the magnitude of temporary measures affecting the public accounts in a specific economic year. Given the profusion of methodologies for the cyclical adjustment of budget balances and the different concepts of temporary measures, the same set of information gives rise to different values for structural balances. Furthermore, there are frequent a posteriori revisions of structural balances, even without revision of the underlying data, as the calculation of the cyclical component in the various methodologies uses projections for macroeconomic variables that may not materialise. Subsection 3.1 presents the methodologies for computing the cyclically adjusted balances as used by the different institutions and some comparative results for Portugal. Subsection 3.2 discusses the concept of temporary measures and presents Banco de Portugal's estimates in comparison with those of the European Commission and the OECD. Finally, subsection 3.3 shows the most recent estimates for the structural balance calculated by the four institutions and discusses compliance with European commitments.

3.1. Methodologies for calculating cyclically adjusted balances

3.1.1. The European Commission's methodology

As far as the Stability and Growth Pact is concerned, the relevant methodology for adjusting the budget balance is that used by the European Commission. Under this methodology, the cyclical component is the semi-elasticity of the budget balance as a percentage of GDP relative to real GDP, multiplied by the output gap (equation 2).

$$BB_{\%GDP}^{cycle} = \varepsilon_{BB\%GDP,GDP} * output\ gap = \frac{\frac{\Delta BB_{\%GDP}}{\Delta GDP}}{\frac{}{GDP}} * \frac{(GDP - GDP^{pot})}{GDP^{pot}} \quad (2)$$

where

$BB_{\%GDP}$ – budget balance as a percentage of GDP

$BB_{\%GDP}^{\text{cycle}}$ – cyclical component of the budget balance as a percentage of GDP

$\varepsilon_{BB\%GDP,GDP}$ – semi-elasticity of the budget balance as a percentage of GDP relative to GDP

GDP^{pot} – potential GDP

Thus the cyclically adjusted balance as a percentage of GDP is obtained from the difference between the observed balance and the cyclical component calculated above (equation 3).

$$BB_{\%GDP}^{\text{cyc. adjust.}} = BB_{\%GDP} - BB_{\%GDP}^{\text{cycle}} \quad (3)$$

In terms of semi-elasticity, the value currently used for Portugal within the scope of European budgetary surveillance is 0.51 (very similar to

the average for the European Union as a whole which stands at 0.50) and the calculation method is set out in Mourre *et al.* (2014). This value can be interpreted as the change in the budget balance as a percentage of GDP resulting from a 1 per cent increase in real GDP. In its computation the semi-elasticity is decomposed into the weighted sum of individual elasticities of five revenue and two expenditure components (Annex 1 provides further details).

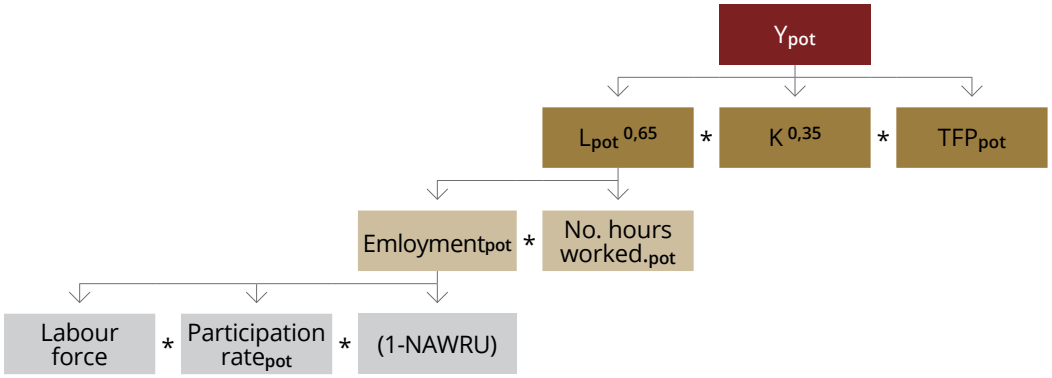
With regard to deriving the output gap, since 2002 the European Commission has used a methodology based on a production function to calculate potential output for the purposes of computing cyclically adjusted balances. Before, a statistical filter (*Hodrick Prescott – HP*[5] with a smoothing parameter of 100 for annual data) had been used to estimate trend GDP and, subsequently, the output gap. The main argument for the modification was that a statistical filter has no connection to economic theory, making the interpretation of the results much more difficult. However, the adoption of an economic model also involves a high number of arbitrary choices, in particular in terms of the specifications, data and techniques for estimation.

The current methodology was approved at the ECOFIN Council of 6 November 2001, but since then it has been subject to several revisions, with the most recent version described in Havik *et al.* (2014).[6] According to this version, potential output is derived from a Cobb-Douglas production function:

$$Y = L^{\alpha} * K^{1-\alpha} * TFP \qquad (4)$$

The output elasticities of labour (α) and capital $(1-\alpha)$ were set at the conventional levels of 0.65 and 0.35 for all Member States. Deriving potential output requires the calculation of the trends for the labour component (L) and total factor productivity (TFP), as it is assumed that capital (K) is by definition at its potential level, i.e. its maximum potential contribution corresponds to the full usage of the capital stock available in the economy. Figure 2 summarises this calculation. It is important to note in this regard that the potential levels of the participation rate and the number of hours worked are obtained based on applying an *HP* filter to the observed values, extended with projections for three years beyond the forecast horizon to avoid the end-point bias problem.[7] Regarding the non-cyclical unemployment component, the European Commission methodology uses an approach based on a Phillips curve. In these types of models, cyclical unemployment is linked to wage developments, as opposed to the non--cyclical component, for this purpose referred to as the non-accelerating wage rate of unemployment (NAWRU). The Phillips curve may have various specifications, reflecting different hypotheses with regard to formation of expectations. In 2014, the Commission changed its methodology, to consider rational expectations in the case of most countries, maintaining however the adaptive expectations hypothesis for seven countries. Finally, regarding total factor productivity, the *HP* filter was used up to autumn 2010 to exclude the trend, and thenceforth an approach based on the Kalman filter was used, exploring the relationship between total productivity and capacity utilisation of the factors.

Figure 2 • Calculation of potential GDP in the European Commission methodology



Sources: European Commission and Banco de Portugal.

Despite the greater connection to economic theory and the (almost) uniform application to various countries, a number of criticisms of the European Commission's methodology have arisen. The complexity of the methodology is often suggested as the main disadvantage, which, despite the availability of calculation instruments, makes duplication of the values calculated by the Commission difficult. Furthermore, the fact that the approach is not symmetrical, by construction, and that the methodology changes frequently, preventing analysis of the revisions over time, are also important limitations. Finally, there is evidence that the magnitude of the revisions to the output gap in absolute terms between the moment at which the budgets are considered (Autumn of t-1) and the first outturn (Spring of t+1) is significant on average for the European Union taken as a whole, in particular in the last few years of crisis (Tereanu *et al.* (2014)). Chart 1 presents the results for Portugal over the period 2003-2014. The average absolute difference of the output gaps between the estimate in real time and the first outturn stands at 1.1 p.p., reaching a maximum of 2.2 p.p. in 2010. However, in only one year (2008) was there a change in the output gap's sign. Additionally, it is worth noting that these differences are influenced by methodological changes introduced and by statistical revisions, factors that should be excluded for a better understanding of the methodology's performance. For the most recent output gap estimate (Spring 2015) the average absolute values of the revisions would increase to 1.8 p.p..

Aside from the difficulties inherent to measuring the cycle in real time, the Commission's methodology does not take into account that budget elasticities relative to GDP may vary over the cycle, giving rise to an incorrect quantification of the cyclical and structural components. In particular, countries with stronger (weaker) domestic demand versus GDP growth must have higher (lower) budget elasticities, and therefore must be overestimating (underestimating) the cyclically adjusted balances in the absence of any correction. It should be noted that regularly updating the weightings (i.e. the weights of the different items in total revenue), as mentioned above, only captures a part of this effect.

In this context, in 2011 the European Commission proposed an alternative measure for the cyclically adjusted balance (CAAB – cyclically and absorption-adjusted budget balance) which aside from the output gap takes into account the external imbalances, but in practice it is not being implemented (Lendvai *et al.* (2010)).

3.1.2. The Eurosystem's methodology

In 2001, the ESCB adopted a cyclical adjustment methodology for budget balances that thereafter was followed by Banco de Portugal.[8] This methodology assumes that the budgetary components

affected by the economic cycle have macroeconomic bases (defined in real terms) that are different from GDP and that explain their evolution better. The cyclically adjusted budgetary variables are as follows (the respective macroeconomic bases are given in brackets): personal income taxes (private sector wage bill), corporate income taxes (private sector GDP), taxes on production and imports (private sector consumption), social security contributions (private sector wage bill), and, on the expenditure side, unemployment-related expenditure (number of unemployed).

Thus the cyclical component of the budget balance as a percentage of GDP is calculated according to the following formula:

$$BB_{\%GDP}^{cycle} = \frac{\sum_{i=1}^{4} R_i^{cycle} - E_U^{cycle}}{GDP} = \frac{\sum_{i=1}^{4} \varepsilon_{R_i,X_i} * \left(\frac{X_i - X_i^{trend}}{X_i^{trend}}\right) * R_i - \varepsilon_{E_U,X_U} * \left(\frac{X_U - X_U^{trend}}{X_U^{trend}}\right) * E_U}{GDP} \quad (5)$$

onde

R_i – revenue item i

E_U – unemployment-related expenditure

X_i – macro base of revenue item i

X_U – macro base of unemployment-related expenditure

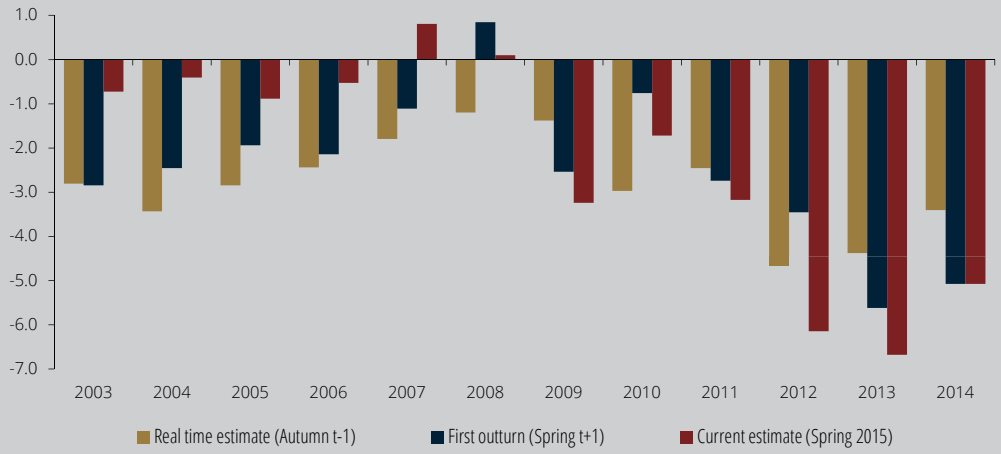
ε_{R_i,X_i} – elasticity of revenue item i to the respective macro base

ε_{E_U,X_U} – elasticity of unemployment-related expenditure to the respective macro base

R_i^{cycle} – cyclical component of revenue item i

E_U^{cycle} – cyclical component of unemployment-related expenditure

$BB_{\%GDP}^{cycle}$ – cyclical component of the budget balance as a percentage of GDP



Source: European Commission.

Chart 1 • Output gap in the European Commission methodology: revisions since the real time estimate

| Portugal

The trend values for the macroeconomic bases $\left(X_i^{trend}\right)$ are obtained by applying the *HP* filter to the annual series extended with forecasts produced by each of the national central banks, in order to avoid the end-point bias problem, using a smoothing parameter of 30.

One of the main advantages of the disaggregated approach proposed by the ESCB versus the other methodologies is the ability to take into account the effects of different economic growth compositions on the public accounts. This composition effect may be estimated through the difference between the cyclical component described above and that obtained by multiplying an aggregate semi-elasticity by the output gap. Banco de Portugal's latest estimate for this semi-elasticity was 0.50, however this is being updated as it was calculated in 2006.[9]

The Eurosystem's methodology is not based on an economic model to derive the trend values of the macroeconomic bases. However it is symmetrical, reasonably transparent and easy to implement, in particular in a context involving a high number of countries. Furthermore it allows the impact of the different compositions of economic growth to be derived and offers a disaggregated breakdown of the budgetary developments in terms of the main revenue and expenditure items, with particular regard to tax revenue (Kremer *et al.* (2006)). The stability of the methodology over time is one of its positive features, allowing the revisions of the values obtained in real time to be analysed.[10]

3.1.3. Other methodologies

In 1995, the OECD published an analysis of the methods used to calculate cyclically adjusted balances, presenting comparative results for potential output derived from average growth of output in each economic cycle, the *HP* filter (with a smoothing parameter of 25 on annual data) and a production function (Giorno *et al.* (1995)). Following this research, the approach based on the production function was adopted, as the methodology takes into account structural information in the potential output calculation. Specific improvements were introduced in 2006 based on new statistical information and in terms of the medium-term projections (Beffy *et al.* (2006)). Regarding the elasticities, as mentioned above, the OECD has played a very important role in their estimation, updating them regularly. The most recent results are presented in Price *et al.* (2014).

In the IMF, potential output estimation is the responsibility of country desk officers, mostly involving the use of a production function, particularly in the case of industrialised countries (Hagemann (1999)). The semi-elasticity of the budget balance versus GDP is based on individual revenue and expenditure elasticities calculated by the OECD, which may be adjusted by the country experts where there is additional information. More recently in 2011, the IMF published a technical note (Bornhorst *et al.* (2011)) recognising the limitations of the cyclically adjusted balance as an economic indicator. Indeed, aside from the adjustment to capture the direct impact of the economic cycle, the IMF recommends that other factors such as asset prices or effects of the growth's composition are taken into consideration, where relevant, in identifying the budget balance's cyclical component.

Importantly, in both institutions the degree of harmonisation of the results for the potential output between the different countries seems to be lower than that of the values computed by the European Commission for the European Union. Indeed, the information available suggests that the base methodologies are adopted and specific guidance is defined, leaving it thereafter to the country experts for their practical implementation.

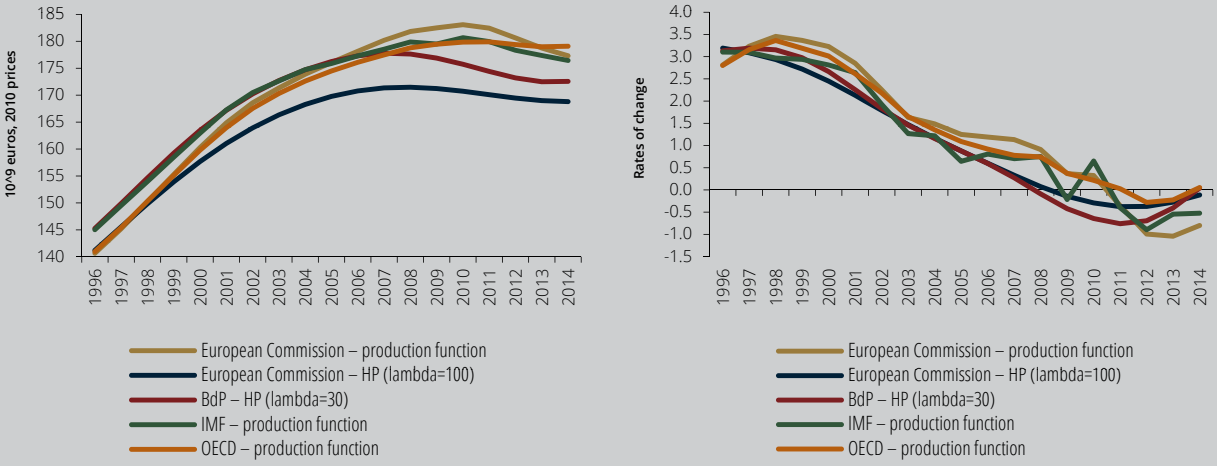
3.1.4. Comparative results

Chart 2 presents the latest values available for the rates of change in potential output in Portugal calculated by the four institutions: the European Commission, the IMF, the OECD and Banco de Portugal, within the scope of their

methodologies of the cyclical adjustment of budget balances. As the chart shows, potential output calculated using the *HP* filter is smoother, with the version calculated with the smoothing parameter of 30 showing a slightly more cyclical evolution. The values at the end of the sample are also affected by the fact that the GDP growth used by the European Commission and by Banco de Portugal over the projection horizon are different. On the other hand, as mentioned above, in the Eurosystem's methodology, potential output is not used directly to calculate cyclically adjusted balances, allowing only to derive the effect of economic growth composition. Regarding the results obtained using production functions, a key finding is that the IMF's methodology makes the potential output series more volatile. In contrast, the values calculated by the European Commission and the OECD for most years in the period analysed are higher than those derived using the *HP* filter, apart from 1996, and 2012-2014 only in the case of the European Commission.. Finally, the values for potential output over the most recent period are persistently low in the results calculated by the European Commission (-0.8 per cent in 2014), which does not seem to be explained at first sight by differences in the values projected for GDP in 2015 and 2016.

The differences in potential output level are however significant, which has direct consequences for the output gap. If the absolute value of the difference in the output gap under the IMF and OECD methodologies is seen against that of the European Commission, the average for the 1996-2014 period is 1.3 and 0.7 per cent, reaching highs of 3.3 (1996) and 1.5 (2010) per cent respectively (Chart 3). These results have a non-negligible impact on cyclically adjusted balances calculated by the three institutions, if the semi-elasticity of the budget balance relative to GDP of around 0.5 in the case of Portugal is taken into account. Regarding the change in the output gap, which is relevant for deriving the change in the cyclically adjusted balances, the differences versus the European Commission are of a much lower magnitude: 0.3 per cent in absolute average terms in the case of both the IMF and the OECD, reaching maximums of 0.6 (2005) and 0.8 (2013 and 2014) per cent, respectively.

Chart 2 • Potential GDP | Portugal



Sources: European Commission (*Spring 2015 Economic Forecasts*), IMF (*World Economic Outlook April 2015*), OECD (*Economic Outlook June 2015*) and Banco de Portugal.

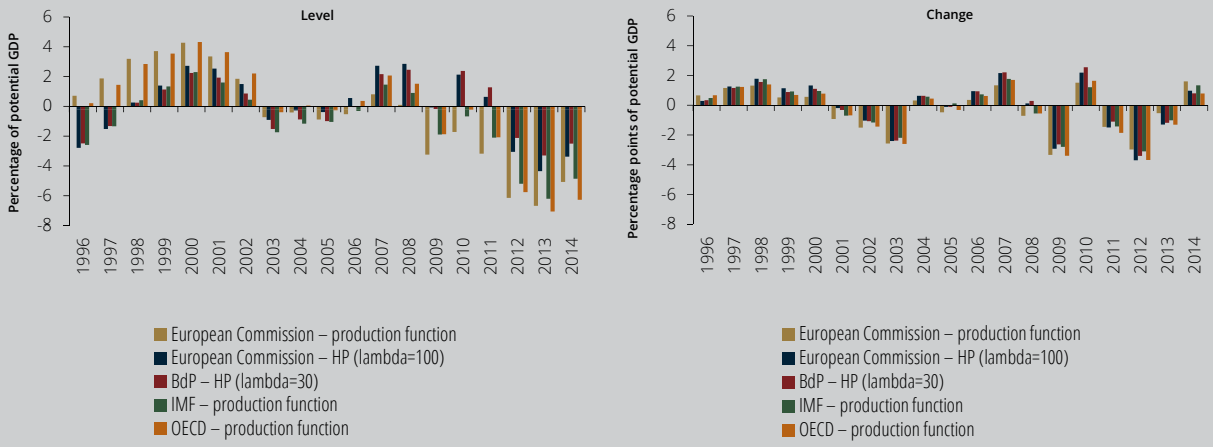
The comparison between Banco de Portugal estimates for cyclically adjusted balances and the values calculated by the European Commission, aside from the discrepancy created by the output gap, shows a difference due to the effect of economic growth composition, as the semi-elasticity used is similar (Chart 4). The average absolute value of the difference between Banco de Portugal and the Commission's estimates is 1.0 per cent of GDP for the 1996-2014 period (maximum 2.3 per cent of GDP in 2010). The composition effect underlying Banco de Portugal calculations only explains this discrepancy to a small extent. The differences are reduced substantially in the case of the change in the cyclically adjusted balance: 0.3 p.p. of GDP (maximum 0.8 in 2008 and 2012). In turn, the change in the composition effect also increases its explanatory power considerably: in 13 of 19 years the sign is the same and the average change in absolute value is 0.2 p.p. of GDP.

3.2. Temporary measures: definition and values

Under the definition currently used by most institutions (apart from the IMF), the structural balance corresponds to the cyclically adjusted balance less the impact of temporary measures and other one-off factors.

Conceptually, temporary measures are easy to describe. Indeed, they may be defined as measures that increase the observed balance over a very limited time, one year for example (one--off measures), or that basically modify their time profile in the medium to long term (self--reversing measures), but with no impact on the underlying budgetary position, i.e. without improving the sustainability of public finances. Temporary measures that worsen the budget balance must be identified with caution, as they may create perverse incentives for policy-makers. In this vein, only measures or factors that were not the direct result of policy decisions are normally considered (like for example the impact of natural disasters or judicial decisions). Borderline cases include the effects of past events whose full impact is recorded in the present balance (like debts from previous years not recorded in their respective years in national accounts), deliveries of large-value military equipments and the budgetary impact of the support to the financial system as has been the case in the recent crisis. Thus in practical

Chart 3 • Output gap: level and change | Portugal



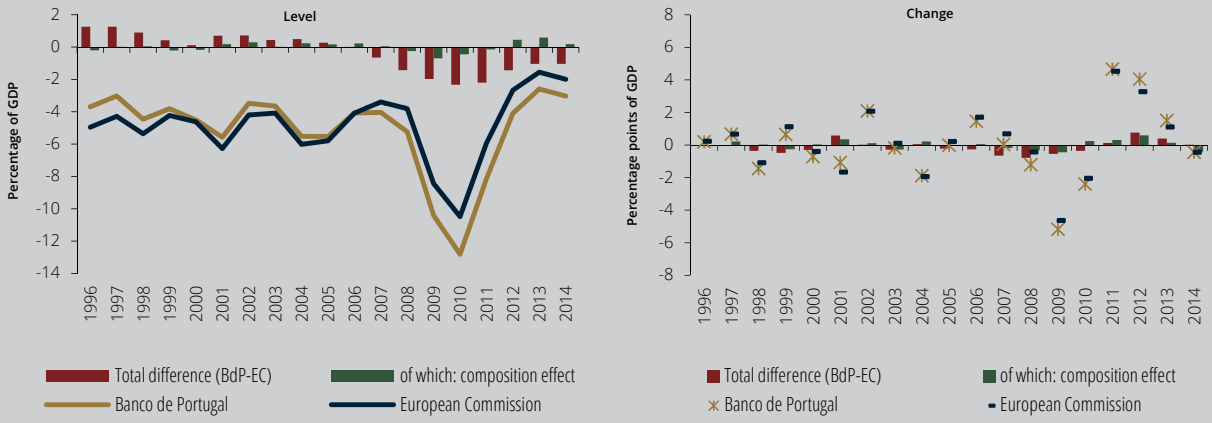
Sources: European Commission (*Spring 2015 Economic Forecasts*), IMF (*World Economic Outlook April 2015*), OECD (*Economic Outlook June 2015*) and Banco de Portugal.

terms the identification and quantification of the effects of temporary measures have important limitations and require particular care in the context of fiscal policy analysis.

Regarding the multilateral budgetary surveillance mechanism, in a November 2002 communication[11] the European Commission proposed that the Stability and Growth Pact's requirement of a budgetary position *close to balance or in surplus* be defined in underlying terms over the economic cycle, i.e. net of transitory effects and in particular net of the effects of cyclical fluctuations on the budget balance. Beyond the cyclical impact, the ECOFIN Council of March 2003 recognised the potential importance of taking into account other temporary factors, after concluding that assessing the improvement of the cyclically adjusted budgetary position should consider one-off measures on their own merit and on a case-by-case basis. In 2004, the European Commission published a list of non-cyclical transitory factors to take into account when analysing budgetary developments, which was not intended to be very specific or exhaustive.[12] As mentioned above, the reform of the Stability and Growth Pact of 2005 placed emphasis on the structural balance concept and the revised Code of Conduct defined temporary measures as all measures that have a transitory effect and that do not lead to a sustained change in the intertemporal budgetary position. In 2006, the European Commission revised the indicative list of measures[13] and defined four principles to take into account for their identification: (i) the impact must be concentrated in one or a very limited number of years; (ii) the budgetary effect must be significant, i.e. above 0.1 per cent of GDP; (iii) the measures must be non-recurrent, and this criterion must be assessed in the context of related measures; (iv) as a rule, deficit--increasing measures should be not be considered.[14] Currently the European Commission releases the overall amount of temporary measures included in total revenue and expenditure for each Member State, but without a breakdown by measure and only from 2010. In a first phase, each country expert is responsible for their identification after contacting the national authorities.

The definition adopted at the Eurosystem level shares the basic principles defined by the European Commission. In 2013, the concept was changed to include the budgetary impact of the support to the financial system. Furthermore,

Chart 4 • Cyclically adjusted balances: level and change | Banco de Portugal and European Commission



Sources: European Commission (*Spring 2015 Economic Forecasts*) and Banco de Portugal.

the current definition does not prevent other deficit-increasing measures from being considered temporary, where these are duly recognised as such in the context of the Eurosystem. In its publications, Banco de Portugal has considered as special factors one-off transactions that increase the general government deficit, but that may not be treated as temporary measures under the Eurosystem definition.[15] Annex 2 presents a detailed list of the temporary measures and special factors along with a quantification of their impact as currently considered by Banco de Portugal in the public finances' analysis. In practical terms, identification of temporary measures by the European Commission has proved to be very similar despite the lack of distinction between the two concepts.

The OECD has also approached the temporary measures topic. Indeed, one of the first articles on the topic was published in 2005 and included a list of the temporary measures in the 15 (at the time) European Union countries for the period 1993-2003 (Koen and van den Noord (2005)). In 2008, Joumard *et al.* (2008) proposed an alternative methodology to avoid the individual identification of temporary measures in the various countries, essentially by deriving the deviations from the trend in net capital transfers. Currently, the OECD uses this methodology, complementing it with the identification of other transitory factors that are not recorded under net capital transfers. The overall value for temporary measures may be derived from the difference between the headline balance and the cyclically adjusted balance in each year in the different countries.

Regarding the IMF estimates, as mentioned above, it is impossible to derive the value of temporary measures used in the structural balance computation. However, where relevant, they are often identified in texts or notes of the various publications.

Chart 5 presents the impact of temporary measures and other transitory factors as a percentage of GDP in Portugal as considered by the European Commission, Banco de Portugal and the OECD for 2000-2014 (apart from the European Commission that only provides values from 2010). The estimates considered by the OECD are significantly different in certain years, while in the five years available for comparison, the Banco de Portugal and European Commission estimates are very close.

3.3. The structural balance

The differences in cyclical components and the temporary measures analysed above are reflected directly in the structural balance estimates, as shown in Chart 6 and Table 2. Focusing on the latest period, the 2014 structural balance level in Portugal shows substantial differences across the estimates from the four institutions: from 0.8 per cent of GDP under the European Commission methodology to 2.2 per cent of GDP as calculated by Banco de Portugal. This divergence is explained to a large extent by the discrepancy in the estimates for the balance's cyclical component, as the contribution made by the difference in the impact of temporary measures is only 0.3 per cent of GDP.

In terms of deriving the fiscal adjustment effort, the main indicator is usually the change in the structural (primary) balance.[16] The change in the structural balance, both year-on-year and cumulatively over the last four years, presents much smaller differences. The OECD estimates for the changes in 2012 and 2013 are the main exception, which are essentially explained by the quantification of temporary measures. According to these values, the public finances' underlying position in Portugal improved from 6.9 to 7.9 p.p. of GDP between 2010 and 2014. Taking into account that in this period interest expenditure as a percentage of GDP increased 2.0 p.p., the improvement in the structural primary balance is even more significant.

Table 2 • Structural balance in Portugal | As a percentage of GDP

	2010	2011	2012	2013	2014	2011	2012	2013	2014	2010-2014
	levels					changes				
Banco de Portugal	-10.0	-8.0	-4.1	-2.9	-2.2	2.1	3.9	1.2	0.7	7.9
European Commission	-7.7	-5.8	-2.6	-1.8	-0.8	1.9	3.3	0.7	1.0	6.9
OECD	-8.6	-6.4	-4.7	-2.0	-1.0	2.2	1.7	2.6	1.0	7.6
IMF	-8.2	-6.3	-3.2	-2.2	-1.2	1.9	3.1	1.0	1.0	7.0

Sources: European Commission (*Spring 2015 Economic Forecasts*), IMF (*World Economic Outlook April 2015*), OECD (*Economic Outlook June 2015*) and Banco de Portugal.

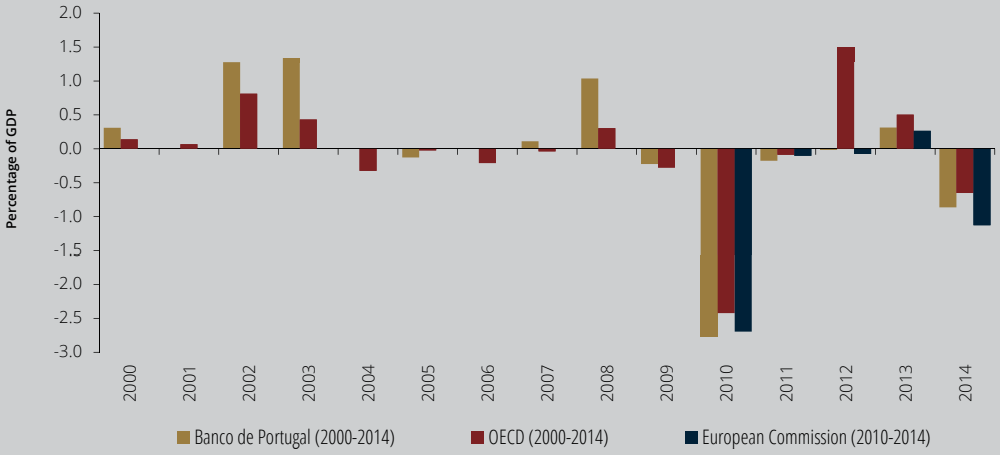
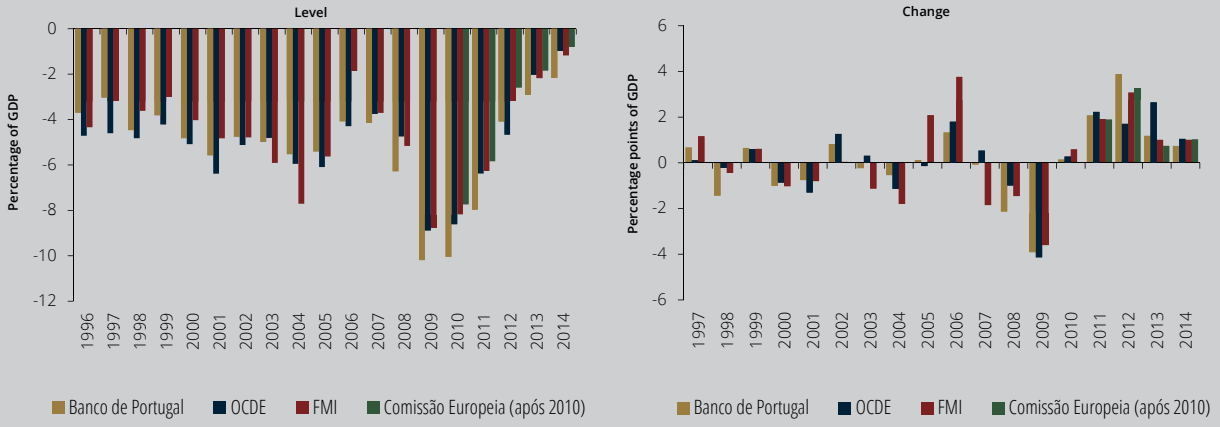


Chart 5 • Temporary measures and other one-off factors | Portugal

Sources: European Comission (*Spring 2015 Economic Forecasts*), OECD (*Economic Outlook June 2015*) and Banco de Portugal.

Chart 6 • Structural balance in Portugal: level and change | Banco de Portugal, European Commission, OECD and IMF



Sources: European Comission (*Spring 2015 Economic Forecasts*), IMF (*World Economic Outlook April 2015*), OECD (*Economic Outlook June 2015*) and Banco de Portugal.

Portugal has been subject to an EDP since December 2009. In June 2013, the Council defined a new deadline for correcting the excessive deficit – 2015 – and also set targets for the actual deficit of 5.5, 4.0 and 2.5 per cent of GDP in 2013, 2014 and 2015 respectively, which would be compatible with a structural balance improvement of 0.6, 1.4 and 0.5 per cent of GDP in 2013, 2014 and 2015. In July 2014, the Council issued new recommendations to Portugal, which did not change the targets set previously. Compliance with the objectives for the change in the structural balance was last evaluated in May 2015, as part of the European Commission's assessment of the Stability Programme update. The results of this assessment are presented in Table 3. As the table shows, the requirement for the change in the structural balance was not met in 2014, either in annual terms or cumulatively since 2013. The structural balance in 2015 is set to deteriorate in both the European Commission's forecasts (Spring 2015 Forecast) and the Stability Programme update (recalculated by the Commission). Assessing the change in the structural balance based on the adjusted concept suggests a smaller consolidation effort in this period.

The traditional approach that uses the change in the structural balance as an indicator of the budgetary policy stance is well documented in the literature. However, it has been criticised, not only due to the revisions issue outlined above, but also due to the high fluctuations of the tax burden over the economic cycle, which hampers the estimation of the cyclical component from the observed data. In this regard, literature has arisen recently (since 2010 in particular), which proposes the use of bottom-up indicators built on a metric for the discretionary measures adopted by the fiscal authorities. This approach, called 'narrative', also presents substantial calculation difficulties, in particular on the expenditure side where the impact of the policy measures is harder to identify. Indeed, even the official quantifications of tax policy changes generally lack confirmation by an independent entity and are rarely updated after implementation.

Table 3 • Assessment of the fulfilment of the requirements of the corrective arm of the Pact in Portugal | As a percentage of GDP

	2013	2014	2015	
	European Commission	European Commission	Stability Programme	European Commission
Budget balance				
Actual balance	-4.8	-4.5	-2.7	-3.1
EDP requirement	-5.5	-4.0	-2.5	
Fiscal effort – Change in structural balance				
Fiscal effort	0.7	1.0	-0.3	-0.8
Cumulative change since 2013	0.7	1.7	1.4	0.9
EDP requirement	0.6	1.4	0.5	
Cumulative EDP requirement since 2013	0.6	2.0	2.5	
Adjusted fiscal effort – Adjusted change in structural balance				
Adjusted fiscal effort	-0.8	0.8	–	-1.2
Cumulative adjusted change since 2013	-0.8	0.0	–	-1.2
EDP requirement	0.6	1.4	0.5	
Cumulative EDP requirement since 2013	0.6	2.0	2.5	

Source: European Commission.

Note: The adjusted fiscal effort in 2013 was obtained as the difference between the cumulative adjusted change in 2014 and the 2014 value.

Furthermore, an indicator based exclusively on measuring policy measures does not capture other relevant effects for the public finances' underlying position, like for example the impact of demographic variables. Finally, on a cross--countries analysis it may become difficult to ensure comparability of the results, given the almost inevitable emphasis on official estimates for the impact of fiscal measures. In an attempt to solve some of these limitations, in 2013 the European Commission proposed a mixed indicator (European Commission (2013)), called Discretionary Fiscal Effort (DFE), which in general terms uses the narrative approach for revenues and the traditional approach for expenditure. According to the results published in 2015 for 2004-2013 (Carnot and Castro (2015)), the DFE implies as an annual average a value very close to that derived using the change in the structural primary balance in Portugal's case, with a small difference in the three subperiods considered (2004-2007, 2008-2010 and 2011-2013).

4. Final remarks

The analysis undertaken in this article has revealed that the differences between the current estimates of the structural balance in Portugal computed by the European Commission, the IMF, the OECD and Banco de Portugal are very significant. However, these differences narrow sharply when the annual changes are considered instead of the indicator's levels. Furthermore, the description presented made it clear that the structural balance computation is a relatively complex issue, where not all the underlying information is available. As in so many other economic areas, greater transparency could perform a very important role in boosting the credibility and the degree of utilisation of the indicator.

Despite the importance of public debt in assessing fiscal sustainability, the concept of structural balance has gained importance in the analysis of public finances. Indeed, even having in mind all its inherent limitations, this is undoubtedly a fundamental indicator whose usefulness goes far beyond the assessment of the Stability and Growth Pact requirements. Using this indicator to assess fiscal policy does not replace the need however to undertake complementary analysis of the actual balance, based on information that is as granular as possible. On the other hand, the quality of the analysis undertaken depends on the knowledge of the methodologies and limitations underlying its computation.

Annex 1

Computing the semi-elasticity of the budget balance to GDP under the European Commission methodology

Under the European Commission methodology, the computation of the budget balance semi-elasticity to GDP is decomposed into the weighted sum of individual elasticities of five revenue components (personal income taxes, corporate income taxes, indirect taxes, social security contributions and non-tax revenue) and two expenditure components (unemployment outlays and other expenditure) according to the following formula:

The individual elasticities correspond to those calculated by the OECD under the supervision of the Member States (published in Price *et al.* (2014)) and the weighting parameters are those considered by Mourre *et al.* (2013), which are based on averages for the 2002-2011 period. The individual elasticities are updated regularly (in the recent past in 2000 and 2005[17]) and the weighting parameters should be updated every six years, i.e., every second update of the MTOs (the previous version used the 1995-2004 average). The next table presents the most recent values for Portugal.

$$\varepsilon_{BB_{\%\,\mathrm{GDP}},\mathrm{GDP}} = \varepsilon_{R_{\%\,\mathrm{GDP}},\mathrm{GDP}} - \varepsilon_{E_{\%\,\mathrm{GDP}},\mathrm{GDP}} = \left(\sum_{i=1}^{5}\left(\varepsilon_{R_i,\mathrm{GDP}} - 1\right)\frac{R_i}{R}\right)\frac{R}{GDP} - \left(\sum_{i=1}^{2}\left(\varepsilon_{E_i,\mathrm{GDP}} - 1\right)\frac{E_i}{E}\right)\frac{E}{GDP}$$

where

R_i – revenue item i

R – Total revenue

E_i – Expenditure item i

E – Total expenditure

$\varepsilon_{R_i,\mathrm{GDP}}$ – Elasticity of revenue item i to GDP

$\varepsilon_{E_i,\mathrm{GDP}}$ – Elasticity of expenditure item i to GDP

$\varepsilon_{R_{\%\,\mathrm{GDP}},\mathrm{GDP}}$ – Semi-elasticity of total revenue as a percentage of GDP relative to GDP

$\varepsilon_{E_{\%\,\mathrm{GDP}},\mathrm{GDP}}$ – Semi-elasticity of total expenditure as a percentage of GDP relative to GDP

$\varepsilon_{BB_{\%\,\mathrm{GDP}},\mathrm{GDP}}$ – Semi-elasticity of the budget balance as a percentage of GDP relative to GDP

Table 1 • Decomposition of the semi-elasticity of the budget balance as a percentage of GDP relative to GDP | European Commission methodology

	Individual elasticities (relative to GDP)[a]	Weights (%)[b]	Semi-elasticities[c]
Revenue		41.08	-0.02
Taxes on households income	1.97	14.02	0.06
Taxes on firms income	1.33	7.91	0.01
Indirect taxes	1.00	34.21	0.00
Social contributions	0.79	29.09	-0.03
Other revenue	0.00	14.77	-0.06
Expenditure		46.42	-0.53
Unemployment benefits	-6.04	2.18	-0.07
Other expenditure	0.00	97.82	-0.45
Budget balance			0.51

Sources: Mourre *et al.* (2014) and Banco de Portugal.

Notes: (a) The elasticities of each budgetary item relative to GDP represent the percentual impact on the item resulting from an increase by 1 per cent of real GDP. In their calculation there is a decomposition between the elasticity of the budgetary item relative to the respective macro base and the elasticity of the macro base relative to GDP. (b) In the case of single items, the weights represent the percentage in total revenue and expenditure. Regarding total revenue and expenditure, the value presented is the ratio to GDP. (c) The semi-elasticities represent the change in the budgetary items as a ratio to GDP stemming from an increase by 1 per cent in real GDP.

Annex 2

Temporary measures and special factors in Portugal | Impact in the budget balance as a percentage of GDP

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Tax amnesties (2002/2003 e 2013)	.	.	0.8	0.1	.	.	.	.	.	.	.	.	.	0.7	.
Securitisation of tax arrears 2003	.	.	.	1.2	.	.	.	.	.	.	.	.	.	.	.
Personal income tax surcharge 2011	.	.	.	.	.	.	.	.	.	.	.	0.4	0.1	.	.
Exceptional taxation scheme for capital held abroad (*RERT*)	.	.	.	.	.	.	.	.	.	.	0.0	.	0.2	.	.
EU contribution relative to previous years (2005)	.	.	.	.	.	-0.1	.	.	.	.	.	.	.	.	.
Auction for UMTS licences (2000)	0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Other concessions	.	.	0.5	.	.	.	.	0.1	1.0	.	0.1	.	0.2	.	.
BPN	.	.	.	.	.	.	.	.	.	.	-1.0	-0.3	-0.1	.	-0.1
Execution of a guarantee granted to *BPP*	.	.	.	.	.	.	.	.	.	.	-0.3	.	.	.	.
Reclassification of the equity injection in *CGD*	.	.	.	.	.	.	.	.	.	.	.	.	-0.4	.	.
Reclassification of the equity injection in *Banif*	.	.	.	.	.	.	.	.	.	.	.	.	.	-0.4	.
Delivery of military equipment	.	.	.	.	.	.	.	.	.	-0.2	-0.7	.	.	.	.
Transfer of PPP's assets to GG	.	.	.	.	.	.	.	.	.	.	-0.4	-0.1	.	.	.
Recording of Madeira debt	.	.	.	.	.	.	.	.	.	.	-0.5	.	.	.	.
Reclassification of *Via Madeira*	.	.	.	.	.	.	.	.	.	.	.	-0.2	.	.	.
Reclassification of debt of two public transport corporations (*Carris* and *STCP*)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-0.7
Assumption of guaranteed debt of *Fundo de Contragarantia Mútuo*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-0.1
Total	0.3	–	1.3	1.3	–	-0.1	–	0.1	1.0	-0.2	-2.8	-0.2	0.0	0.3	-0.9

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

References

Beffy, P., Ollivaud, P., Richardson, P. and Sédillot, F., 2006, 'New OECD methods for supply-side and medium term assessments', *OECD Economics Department Working Papers*, no. 482, OECD Publishing.

Bornhorst, F., Dobrescu, G., Fedelino, A. Gottschalk, J. and Nakata, T., 2011, 'When and how to adjust beyond the business cycle? A guide to structural fiscal balances', *IMF Technical Notes and Manuals*, no. 2.

Bouthevillain, C., Cour-Thimann, P., Van Den Dool, G., Hernández de Cos, P., Langenus, G., Mohr, M., Momigliano, S. and Tujula, M., 2001, 'Cyclically adjusted budget balances: an alternative approach', *European Central Bank working paper series* no.77, September.

Braz, C. (2006), 'The calculation of cyclically adjusted balances at Banco de Portugal: an update', *Economic Bulletin – Winter 2006*, Banco de Portugal.

Carnot, N. e de Castro, F., 2015, 'The Discretionary Fiscal Effort: an assessment of fiscal policy and its output effect', European Economy, *Economic Papers 543*, European Commission.

D'Auria, F., Denis, C., Havik, K., Mc Morrow, K., Planas, C., Raciborski, R., Roger, W. and Rossi, A., 2010, 'The production function approach for calculating potential growth rates and output gaps', European Economy, *Economic Papers 420*, European Commission.

Denis, C., Mc Morrow, K. e Roeger, W., 2002, 'Production function approach to calculating potential growth and output gaps – estimates for the EU Member States and the US', European Economy, *Economic Papers 176*, European Commission.

Denis, C., Grenouilleau, D., Mc Morrow, K. and Roeger, W., 2006, 'Calculating potential growth rates and output gaps – a revised production function approach', European Economy, *Economic Papers 247*, European Commission.

European Commission, 2003, 'Public Finances in EMU- 2003', *European Economy no. 4*.

European Commission, 2004, 'Public Finances in EMU- 2004', *European Economy no. 3*.

European Commission, 2006, 'Public Finances in EMU- 2006', *European Economy no. 3*.

European Commission, 2013, 'Vade mecum on the Stability and Growth Pact', European Economy, *Occasional Papers 151*, European Commission

Giorno, C., Richardson, P., Roseveare, D. and van den Noord, P., 1995, 'Estimating potential output, output gaps and structural budget balances', *OECD Economics Department Working Papers*, no. 152, OECD Publishing.

Girouard, N. and André, C., 2005, 'Measuring cyclically-adjusted budget balances for OECD countries', *OECD Economics Department Working Papers*, no. 434, OECD Publishing.

Hagemann, R., 1999, 'The structural budget balance: the IMF's methodology', *IMF Working Paper no. 95*, July.

Havik, K., Mc Morrow, K., Orlandi, F., Planas, C.,Raciborski, R., Roger, W., Rossi, A., Thum-Thysen, A. and Vandermeulen, V. 2014, 'The production function methodology for calculating potential growth rates and output gaps', European Economy, *Economic Papers 535*, European Commission.

Joumard, I., Monegishi, M., André, C., Nicq, C. and Price, R., 2008, 'Accounting for one-off operations when assessing underlying fiscal positions', *OECD Economics Department Working Papers*, no. 642, OECD Publishing.

Koen, V. and van den Noord, P., 2005, 'Fiscal gimmickry in Europe: one-off measures and creative accounting', *OECD Economics Department Working Papers*, no. 417, OECD Publishing.

Kremer J., Braz, C., Brosens, T., Langenus, G., Momigliano, S. and M. Spolander, 2006, 'A disaggregated framework for the analysis of structural developments in public finances', *European Central Bank working paper series*, nº. 579.

Lendvai, J., Moulin, L., Turrini, A., 2011, 'From CAB to CAAB? Correcting indicators of structural fiscal positions for current account imbalances', European Economy, *Economic Papers 442*, European Commission.

Mourre, G., Isbasoiu, G.-M., Paternoster, D. and Salto, M., 2013, 'The cyclically-adjusted budget balance used in the EU fiscal Framework:

an update', *European Economy, Economic Papers 478*, European Commission.

Mourre, G., Astarita, C. and Princen, S. ,2014, 'Adjusting the budget balance for the business cycle: the EU methodology', European Economy, *Economic Papers 536*, European Commission.

Price, R. W., Dang, T. and Guillemette, Y., 2014, 'New tax and expenditure elasticity estimates for EU budget surveillance', *OECD Economics Department Working Papers, no. 1174*, OECD Publishing.

Teranu, E., Tuladhar, A., and Simone, A. ,2014, 'Structural balance targeting and output gap uncertainty', *IMF Working Paper*, no.107.

Van den Noord, P., 2000, 'The size and role of automatic fiscal stabilizers in the 1990s and beyond', *OECD Economics Department Working Papers*, no. 230, OECD Publishing.

Notes

1. This article was written using information available up to the middle of September, therefore it excluds data regarding the September 2015 EDP notification.

2. All apart from the Czech Republic and the United Kingdom. The Treaty came into force on 1 January 2013 for the 16 Member States that finalised its ratification by that date.

3. European Commission (2013) is also recommended for a systematisation and explanation on the working of the Stability and Growth Pact.

4. The expenditure aggregate considered excludes interest expenditure, expenditure on European Union programmes fully financed by Community funds and non-discretionary changes in unemployment benefits expenditure.

5. The *HP* filter calculates the trend component of any time series through a weighted bilateral moving average process, based on a minimised quadratic loss function. Minimising this function involves choosing a value for the smoothing parameter which imposes a penalty on sharp fluctuations of potential output: a high value leads to a smoother profile for potential output and an output gap with a larger amplitude, and the inverse for lower values. The *HP* filter has several advantages, which have resulted in widespread usage, including the fact that it ensures the stationarity of the output gap and is relatively easy to implement. However, the method has certain limitations. Firstly, the choice of the parameter is largely discretionary, with a lack of consensus over the best value to adopt for different data frequencies. Secondly, there is a problem of bias from the end of the sample, common to all bilateral filters, in which the weight of the last available observations increases as the objective is to estimate the value of the trend for periods nearest to the end of the sample.

6. Previous versions of the methodology were presented in Denis *et al.* (2002), Denis *et al.* (2006) and D'Auria *et al.* (2010).

7. In the latest projection exercises, the European Commission has used a smoothing parameter of 10 instead of the previous value of 100.

8. Bouthevillain *et al.* (2001).

9. Braz (2006).

10. Analysis undertaken within the Eurosystem has shown that the output gaps obtained by applying the *HP* filter behave similarly, in terms of revisions of the values obtained in real time, to those calculated by the other institutions based on production functions. The latest analyses available do not include the recent crisis period however.

11. *Strengthening the coordination of budgetary policies.*

12. European Commission (2004).

13. This list considered the following as deficit-reducing temporary measures: (i) tax amnesties implying a one-off payment; (ii) sales of non-financial assets (real estate, publicly owned licences and concessions); (iii) temporary legislative changes in the timing of outlays or revenues, with a positive impact on the general government balance (including transitional modifications in tax rates); (iv) exceptional revenues linked to the transfer of pension obligations (currently not relevant given the accounting treatment of these transfers in ESA2010); (v) changes in revenue or expenditure consecutive to court or other authorities rulings; (vi) securitisation operations (whose relevance has also diminished given the change in the statistical treatment); and (vii) exceptional revenues from state-owned companies. Regarding deficit-increasing measures, the list included: (i) short-term emergency costs associated with major natural catastrophes or other exceptional events (e.g. military actions); and (ii) changes in revenue or expenditure consecutive to court rulings or to Commission decisions.

14. European Commission (2006).

15. Examples include debts from Madeira (2010), the delivery of military equipment (2009 and 2010), the reclassification of PPPs (2010 and 2011) and the reclassification of public companies' debts (2014).

16. The Stability and Growth Pact only focuses on the total structural balance but in terms of economic analysis the preferred indicator for deriving the consolidation effort is the change in the structural primary balance that excludes the effect of interest expenditure arising from a stock of debt accumulated in the past.

17. Van den Noord (2000) and Girouard e André (2005).